

Oracle® Fusion Middleware

User's Guide for Oracle Business Intelligence Enterprise Edition



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Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Enterprise Edition, 12.2.1.3.0

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Preface

The Oracle Business Intelligence Foundation Suite is a complete, open, and integrated solution for all enterprise business intelligence needs, including reporting, ad hoc queries, OLAP (Online Analytical Processing), dashboards, scorecards, and what-if analysis.

The Oracle Business Intelligence Foundation Suite includes Oracle Business Intelligence Enterprise Edition.

Oracle Business Intelligence Enterprise Edition (Oracle BI EE) is a comprehensive set of enterprise business intelligence tools and infrastructure, including a scalable and efficient query and analysis server, an ad-hoc query and analysis tool, interactive dashboards, proactive intelligence and alerts, and an enterprise reporting engine.

This guide contains information about using Oracle BI EE to organize and present data for making critical and timely business decisions.

Audience

This document is intended for anyone who plans to organize and present data for making critical and timely business decisions using Oracle Business Intelligence, such as a middle tier administrator, report specialist, departmental reporter, or information consumer.

(This guide refers to report specialists and departmental reporters collectively as content designers, and to information consumers as end users.) It also includes users who view analyses on a mobile device.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Related Documentation and Other Resources

There are many places where you can find information about this product.

See the Oracle Business Intelligence documentation library for a list of related Oracle Business Intelligence documents.

In addition:

- Go to the [Oracle Learning Library](#) for Oracle Business Intelligence-related online training resources.
- Go to the Product Information Center support note (Article ID 1267009.1) on My Oracle Support at <https://support.oracle.com>.

Conventions

Specific text conventions are used in this document.

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
<code>monospace</code>	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

New Features for Oracle Business Intelligence Users

Learn about the latest additions to the application.

This preface describes new features in Oracle Business Intelligence Enterprise Edition 12c (12.2.1).

This preface contains the following topic:

- [New Features for Oracle BI EE 12c \(12.2.1\)](#)

New Features for Oracle BI EE 12c (12.2.1)

Learn about the latest features in the application.

New features in Oracle BI EE 12c (12.2.1) include:

- [Enhancements to Graphs](#)
- [Enhancements to Views](#)
- [Enhancements to Analyses](#)
- [Enhancement to Scorecards](#)
- [Enhancements to Dashboards](#)
- [New Home Page](#)

Enhancements to Graphs

In this release, graphs have been enhanced as follows:

- Ability to sort graph views by using a context menu (right-click). A new sort dialog is displayed when you right-click in a graph view in the Results tab of the Analysis editor tab or on a dashboard page. You can right-click legend, data marker, and group-level (X axis) items to display a menu of interactions that includes options such as **Sort** and **Drill**. See [Right-Click Interactions in Views](#).

Enhancements to Views

This release includes enhancements to various view types that can assist a content designer in creating more effective analyses faster, including those in the following list:

- A new view type named heat matrix. Heat matrixes are two-dimensional representations of data in which values are characterized by a gradient of colors. A simple heat matrix view provides an immediate visual summary of information that is well suited for analyzing large amounts of data and identifying outliers. See [Editing Heat Matrix Views](#).

- Ability to sort graph, heat matrix, pivot table, table, treemap, and trellis views by using a context menu (right-click). A new sort dialog is displayed when you right-click in a data view in the Results tab of the Analysis editor or on a dashboard page. See [Right-Click Interactions in Views](#).

Enhancements to Analyses

This release provides, for analyses, the ability to:

- Specify whether to multiply data by a 100 to display it as a percentage when setting the properties of a column. See the **Scale for % (x 100)** component in the Column Properties dialog Data Format tab.
- Add data from an uploaded external source to an analysis. Adding external data is sometimes referred to as mash-up. See [Adding External Data to Analyses](#).

Enhancement to Scorecards

In this release, you can style and customize KPI Watchlists and every watchlist that appears in a scorecard. You can set custom styles for each watchlist and rename and change the order and visibility of the watchlist columns. See [Customizing Watchlists](#).

Enhancements to Dashboards

In this release, you can set advanced page properties to specify incoming navigation parameters you want to set on the current dashboard page. This enables you to control how parameters associated with the navigation actions are applied. See [Setting Advanced Page Properties](#).

New Home Page

In this release, you can access the New Home Page which allows you to find, view, or create visualizations, analyses, and dashboards using BI Ask, Visual Analyzer (VA) , or the OBI Classic interface. See [What Is the New Home Page?](#)

1

Introducing Oracle Business Intelligence Enterprise Edition

This chapter describes how to get started with Oracle Business Intelligence Enterprise Edition and explains how to sign in, sign out, and navigate Oracle BI EE. It also describes the Home page, the global header, how to act for others, how to set preferences, and how Oracle BI EE interacts with other products.

Topics

This chapter includes the following sections:

- [Introduction to Oracle BI Enterprise Edition](#)
- [Where Do I Store and Manage Oracle BI EE Objects?](#)
- [Signing In to Oracle BI Enterprise Edition](#)
- [Signing Out of Oracle BI Enterprise Edition](#)
- [Navigating Oracle BI Enterprise Edition](#)
- [What Is the Oracle BI EE Home Page?](#)
- [What Is the New Home Page?](#)
- [What Is the Oracle BI EE Global Header?](#)
- [Where Can I Get Help or More Information?](#)
- [About Privileges and Permissions](#)
- [About Acting for Other Users](#)
- [Acting for Other Users](#)
- [How Does Oracle BI EE Interact with Other Products?](#)
- [Setting Preferences](#)
- [Downloading BI Desktop Tools](#)
- [Topics of Interest in Other Guides](#)
- [System Requirements and Certification](#)

Introduction to Oracle BI Enterprise Edition

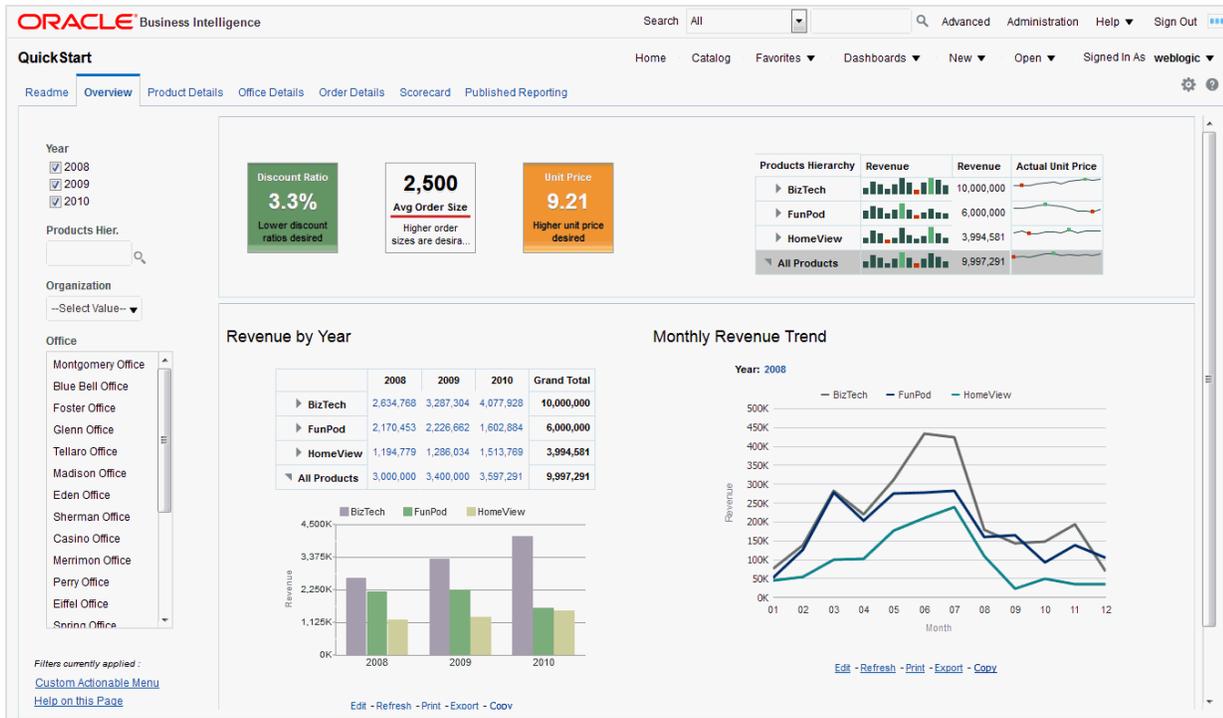
Oracle BI Enterprise Edition is a powerful tool for analyzing and presenting data.

Oracle BI Enterprise Edition (sometimes referred to as Oracle Business Intelligence) provides a full range of business intelligence capabilities that allow you to:

- Collect up-to-date data from your organization
- Present the data in easy-to-understand formats (such as tables and graphs)
- Deliver data in a timely fashion to the employees in your organization

These capabilities enable your organization to make better decisions, take informed actions, and implement more-efficient business processes.

The illustration shows a portion of an example dashboard that presents organizational data in easy-to-understand formats (tiles, tables, graphs, and so on).



In Oracle BI Enterprise Edition, you can work with:

- **Analyses** — (This area of Oracle BI EE is also known as Answers.) Analyses are queries against an organization's data that provide answers to business questions. Analyses allow you to explore and interact with information by presenting data in easy-to-understand formats (such as tables and graphs). You can save, organize, and share the results of analyses.

Your organization might also have purchased prebuilt analyses specific to your industry. You can use prebuilt analyses to suit your business's information needs.

See [Creating Analyses](#).

- **Dashboards** — (This area of Oracle BI EE is also known as Interactive Dashboards.) Dashboards provide personalized views of corporate and external information. A dashboard consists of one or more pages that contain content, such as analyses, links to web sites, Oracle BI Publisher reports, and so on. Dashboards allow you to provide end users with access to analytics information.

Your organization might also have purchased preconfigured dashboards that contain prebuilt analyses specific to your industry.

See [Building and Using Dashboards](#).

- **Filters, Selection Steps, and Prompts** — Filters, selection steps, and prompts allow you to limit or specify the data that is displayed in dashboards and analyses.

See [Filtering and Selecting Data for Analyses](#) and [Prompting in Dashboards and Analyses](#).

- **Agents** — (This area of Oracle BI EE is also known as Delivers.) Agents enable you to automate your business processes. You can use agents to provide event-driven alerting, scheduled content publishing, and conditional event-driven action execution. You can schedule agents and can trigger them with a specific condition, which enables you to deliver timely information to users.

See [Delivering Content](#).

- **Conditions** — Conditions are objects that return a single Boolean value that is based on the evaluation of an analysis or of a Key Performance Indicator (KPI). You use conditions to determine whether something is to be done, for example whether an agent is to deliver its content.

See [Working with Conditions](#).

- **Actions** — Actions provide functionality to navigate to related content or to invoke operations, functions, or processes in external systems. You can include actions in various objects, such as analyses and dashboard pages. Actions allow users to take the proper action based on the business insight that they gained from the data that they received.

See [Working with Actions](#).

- **Scorecards** — (This area of Oracle BI EE is known as Oracle Scorecard and Strategy Management). Scorecards allow you to model the objectives and initiatives that comprise your corporate strategy, evaluate their performance by assigning KPIs, and determine and display overall performance.

See [Scorecarding](#).

- **Other Products** — Oracle BI EE interacts in various ways with other products. For example, with Oracle Hyperion Smart View for Office, you can access and run analyses from Oracle BI EE within your Microsoft Office applications (that is, Excel, Word, and PowerPoint).

See [How Does Oracle BI EE Interact with Other Products?](#)

 **Note:**

These areas of Oracle BI EE (that is, Analyses, Agents, Dashboards, and so on) are sometimes referred to as Presentation Services.

Where Do I Store and Manage Oracle BI EE Objects?

You use the Oracle BI Presentation Catalog to store the objects, such as analyses, dashboards, and KPIs, that you and other users create using Oracle BI EE.

Users have their own personal folder (My Folders), where they can store the objects that they create. You can access the objects in a personal folder and save content into that folder. Users can add sub-folders to their personal folders to organize their content in the way that is the most logical to them.

You can also store objects in shared folders where other users or groups can access the objects. A combination of business logic security, catalog object security, and data level security determines who can view data and objects, edit objects, and delete

objects from the catalog. Your administrator creates and maintains the catalog's shared folder structure.

See [What is the Oracle BI Presentation Catalog?](#), [Managing Objects in the Oracle BI Presentation Catalog](#), and [Configuring and Managing the Oracle BI Presentation Catalog](#) in *System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

Signing In to Oracle BI Enterprise Edition

You need a few pieces of information to sign in to the application.

To access Oracle BI EE, you use a URL, a user ID, and a password that have been provided by your organization. Be sure your web browser is set to accept cookies to track signed-in sessions.

You might not be prompted to enter values in all fields of the Sign In page if you have already signed on using single sign-on (SSO).

1. In the address field of a browser, enter the URL that was provided by your organization.
2. On the Sign In page, select the language in which you want to work.

You can change the default entry for this box by selecting another language in the **User Interface Language** field in the Preferences tab of the My Account dialog. See [Setting Preferences](#).

On Windows, if you select the **Install files for complex script and right-to-left languages (including Thai)** option on the Languages tab of the Regional and Language Options dialog, Hebrew fonts display in the wrong direction, that is left to right rather than right to left. The workaround is to deselect the **Install files for complex script and right-to-left languages (including Thai)** option.

- a. In the Control Panel, click the **Regional & Language Options** button to display the Regional and Language Options dialog.
 - b. Click the **Languages** tab.
 - c. Deselect the **Install files for complex script and right-to-left languages (including Thai)** option.
 - d. Click **OK**.
3. Enter your user ID and password.
 4. Select the **Accessibility Mode** box if you want content for Oracle BI EE to be rendered in a browser in a way that facilitates the use of a screen reader.

If you select this box, then the BI Composer wizard in accessibility mode is used as the analysis editor (rather than the Analysis editor). See [Using BI Composer to Work with Analyses](#) and [What Is the Analysis Editor?](#)

See [Accessibility Features](#).

5. Click **Sign In**. One of the following pages (depending on what has been configured for you) is displayed:
 - Your personal dashboard, named My Dashboard.
 - The Home page. See [What Is the Oracle BI EE Home Page?](#)
 - A dashboard that is specific to your job function (for example, Call Center representative).

A dashboard (whether My Dashboard or one specific to your job function) typically contains analyses and other information for your area of responsibility. [Introduction to Oracle BI Enterprise Edition](#) shows an example of a dashboard.

You can now navigate Oracle BI EE. See [Navigating Oracle BI Enterprise Edition](#).

Once you have signed in, you can select the dashboard to be displayed when you sign in thereafter. See [Setting Preferences](#).

Signing Out of Oracle BI Enterprise Edition

You must sign out properly to completely exit the application.

Do not close the browser window to sign out of Oracle BI EE.

- In the global header, click **Sign Out**.

Navigating Oracle BI Enterprise Edition

The interface provides simple access to the various areas of the application.

After signing in to Oracle BI EE, you are presented with one of the following pages, depending on what has been configured for you:

- Your personal dashboard, named My Dashboard
- The Home page
- A dashboard that is specific to your job function (for example, Call Center representative)

This page is your starting point for working in Oracle BI EE. You can find the analyses, dashboards, and other things that you access frequently on the Home page. If you cannot find what you are looking for, enter the name of the item in the Search box at the top of the page. Or click the **Catalog** link to explore all available content. As you work, you can use the global header and the Home page as the primary ways to navigate Oracle BI EE:

- **The global header** — The global header is displayed at the top of the Oracle BI EE interface and is always available as you work. It enables you to access the functionality that Oracle BI EE provides. For example, you can access the Home page, access dashboards, open objects (such as analyses and dashboard prompts), create new objects, and so on. Privileges determine which functionality is available to you in the global header. Your administrator can modify the global header by changing the order of the links, or by adding links specific to your company or industry. For example, your administrator could add a link to the Oracle Technology Network (OTN). See [What Is the Oracle BI EE Global Header?](#)
- **The Home page** — From the Home page, you can learn how to get started with Oracle BI EE, create and modify objects, and browse and manage objects. See [What Is the Oracle BI EE Home Page?](#)

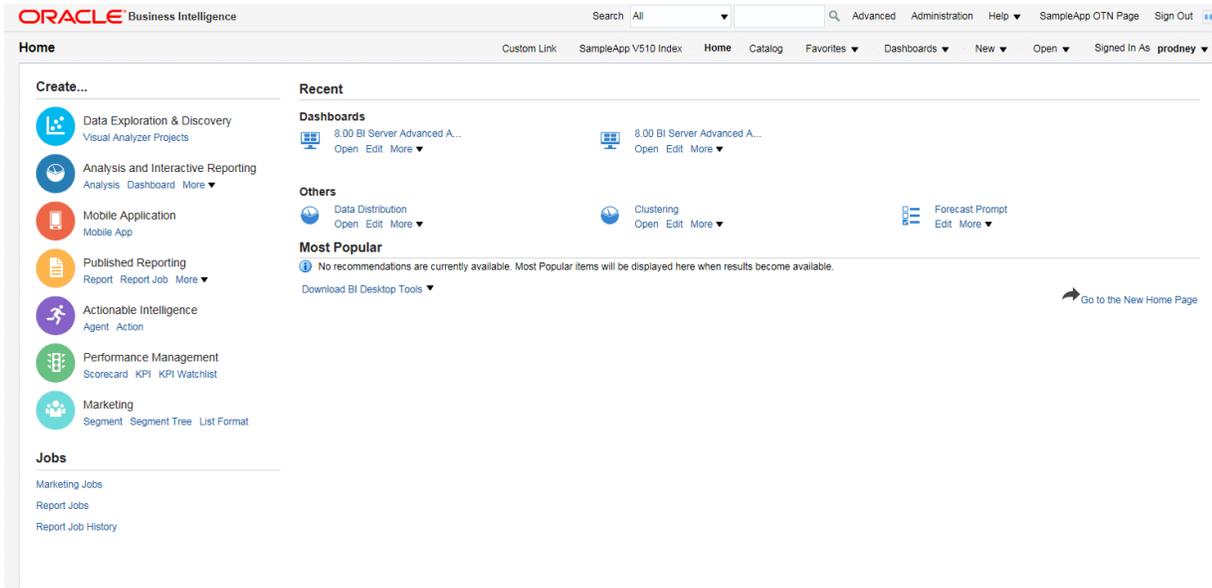
After you have accessed the starting point of a task, the interface then presents you with the page, dialog, or editor that you use to perform the task.

Do not use the browser's **Back** button to navigate Oracle BI EE, unless no other navigation methods are available. The browser **Back** button might not maintain the state of the dashboard upon return. Breadcrumbs are the recommended navigation approach. See [About Navigating With Breadcrumbs](#).

What Is the Oracle BI EE Home Page?

The Home page provides a starting point for performing tasks in Oracle BI EE.

The Home page is divided into sections that allow you to begin a specific task or locate an object. It also includes sections (for example, Recent and Favorites) that allow you to access objects that you have recently viewed, created, or updated, and objects that are accessed the most often by the users assigned to the groups to which you belong.



The illustration shows an example of a Home page.

Depending on what has been configured as your starting page, you might be presented with the Home page when you sign in to Oracle BI EE.

Otherwise, you can always navigate to the Home page by clicking the **Home** page link in the global header. For information on the global header, see [What Is the Oracle BI EE Global Header?](#)

What Is the New Home Page?

The **New Home Page** provides a way to easily work with Visual Analyzer (VA) projects, analyses, and dashboards.

The **New Home Page** includes a variety of functions including BI Ask which allows you to find, view, or create visualizations, analyses, and dashboards.

You can toggle from the **New Home Page** to the OBI Classic page by clicking **Open OBI Classic**. Use the OBI Classic page to create other objects such as alerts, prompts, and BIP Reports.

What Can I Do on the New Home Page?

Creating and Using Data Sources

Data Sources contain the data that you use to create analyses and VA projects. A data source can be either a subject area or a data set. You can create data sets by either uploading an Excel file or by building a connection to Oracle BI Applications or to a database. See [Adding Your Own Data](#).

Using the Catalog

The Display area provides several categories to help you quickly locate analyses, dashboards, and VA projects stored in the catalog. Use **My Folder** or **Shared Folders** to browse the catalog. Or click the **Favorites**, **Recents**, **VA Projects**, **Dashboards**, or **Analyses** category to quickly locate an object that you recently viewed or a specific object by type.

Searching for Objects in the Catalog

You can use keywords to search for the objects in the catalog. Type a search term in the **Find content or visualize** field to see a list of objects that match your search criteria, and click on a row with the magnifying glass icon (located at the top of the dropdown window in the **Search results containing** section). See [Searching for Projects and Visualizations](#).

Visualizing Data with BI Ask

You can use BI Ask to quickly combine existing data objects into an analysis. Type a search term in the **Find content or visualize** field to see a list of objects that match your search criteria, and click on a row with an object icon (located in the **Visualize data using** section of the dropdown window) to start building your visualization. See [Visualizing Data with BI Ask](#).

Creating Objects

You can create a variety of objects from the Create area:

- **VA Project.** See [Typical Workflow for Exploring Content](#).
- **Dashboard.** See [Creating Dashboards](#).
- **Analysis.** See [Specifying the Criteria for Analyses](#).

Getting More Information

You can learn more about the New Home Page functions by clicking **Academy** to access the Oracle BI EE documentation library.

Searching for Projects and Visualizations

From the Home page you can quickly and easily search for saved objects.

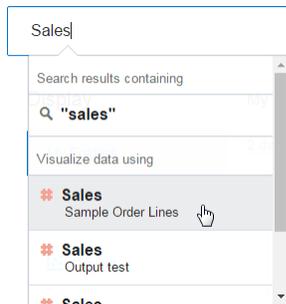
Folders and thumbnails for objects that you have recently worked with are displayed on the Home page. Use the search field to locate other content.

Note that in the search field you can also use BI Ask to create spontaneous visualizations. See [Visualizing Data with BI Ask](#).

1. In the Home Page, click the **Find content or visualize** field.

2. Enter your search criteria by typing either keywords or the full name of an object such as a folder or project. As you enter your criteria, the system builds the search string in the drop-down list. See [Search Tips](#).

The drop-down list contains results that match saved objects, but also can contain BI Ask search results. To see object matches (for example, folders or projects), click the row with the magnifying glass icon (located at the top of the drop-down list in the **Search results containing** section). Note that any BI Ask matches are displayed in the **Visualize data using** section of the drop-down list and are flagged with different icons.



3. In the **Search results containing** section of the drop-down list, click the search term that you want to use.

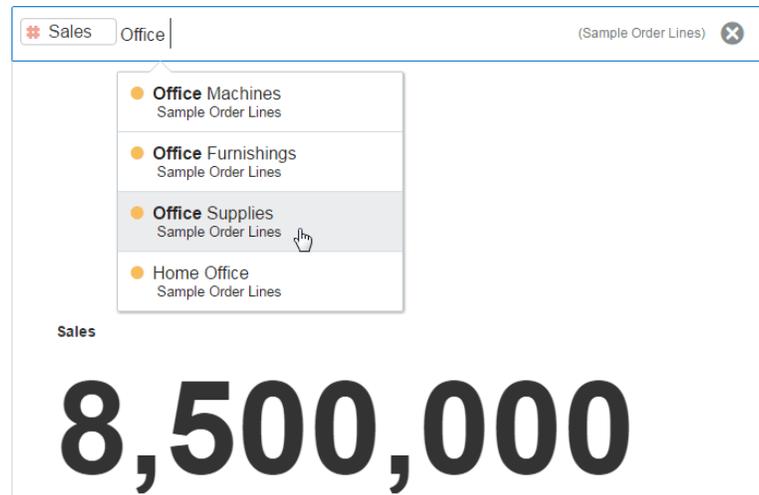
The objects that match your search are displayed in the Home page.

4. To clear the search criteria, in the **Find content or visualize** field, click the **X** icon.

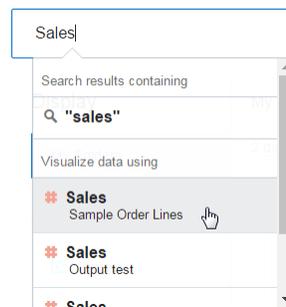
Visualizing Data with BI Ask

Use BI Ask to enter column names into the search field, select them, and quickly see a visualization containing those columns. You can use this functionality to perform impromptu visualizations without having to first build a project.

1. In the Home Page, click the **Find content or visualize** field.
2. Enter your criteria. As you enter the information, the application returns search results in a drop-down list. If you select an item from this drop-down list, then your visualized data is displayed.
 - What you select determines the data source for the visualization, and all other criteria that you enter is limited to columns or values in that data source. The name of the data source you're choosing from is displayed in the right side of the **Find content or visualize** field. Note the following BI Ask search and visualization example:



- You can use the **Find content or visualize** field to search for projects and visualizations or to use BI Ask. When you enter your initial search criteria, the drop-down list contains BI Ask results, which are displayed in the **Visualize data using** section of the drop-down list. Your initial search criteria also build a search string to find projects and visualizations. That search string is displayed in the **Search results containing** section of the drop-down list and is flagged with the magnifying glass icon. See [Search Tips](#).



3. Enter additional criteria in the search field, select the item that you want to include, and the application builds your visualization.
4. Optional. Enter the name of the visualization that you want your results to be displayed in. For example, enter scatter to show your data in a scatter plot chart, or enter pie to show your data in a pie chart.
5. Optional. Click **Change Visualization Type** to apply a different visualization to your data.
6. Optional. Click **Open in Data Visualization** to further modify and save the visualization.
7. To clear the search criteria, in the **Find content or visualize** field, click the **X** icon.

Search Tips

You must understand how the search functionality works and how to enter valid search criteria.

Wildcard Searches

You can use the asterisk (*) as a wildcard when searching. For example, you can specify **forecast* to find all items that contain the word “forecast.” However, using two wildcards to further limit a search returns no results (for example, **forecast**).

Meaningful Keywords

When you search, use meaningful keywords. If you search with keywords such as *by*, *the*, and *in* it returns no results. For example, if you want to enter *by* in the search field to locate two projects called “Forecasted Monthly Sales by Product Category” and “Forecasted Monthly Sales by Product Name,” then it returns no results.

Items Containing Commas

If you use a comma in your search criteria the search returns no results. For example, if you want to search for quarterly sales equal to \$665,399 and enter 665,399 in the search field, then no results are returned. However, entering 655399 does return results.

Date Search

If you want to search for a date attribute, you search using the year-month-date format. Searching with the month/date/year format (for example, 8/6/2016) doesn't produce any direct matches. Instead, your search results contain entries containing 8 and entries containing 2016.

Searching in Non-English Locales

When you enter criteria in the search field, what displays in the drop-down list of suggestions can differ depending upon your locale setting. For example, if you're using an English locale and enter *sales*, then the drop-down list of suggestions contains items named *sale* and *sales*. However, if you're using a non-English locale such as Korean and type *sales*, then the drop-down list of suggestions contains only items that are named *sales* and items such as *sale* aren't included in the drop-down list of suggestions.

For non-English locales, Oracle suggests that when needed, you search using stem words rather than full words. For example, searching for *sale* rather than *sales* returns items containing *sale* and *sales*. Or search for *custom* to see a results list that contains *custom*, *customer*, and *customers*.

What Is the Oracle BI EE Global Header?

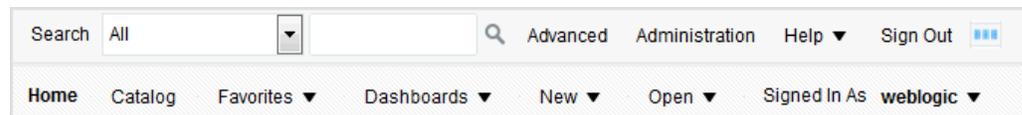
The global header provides quick access to commonly used functions and is always available from the user interface.

For example, you can use the global header to begin a new task, search the Oracle BI Presentation Catalog, access the product documentation, or view a different object,

without having to return to the Home page. The global header also includes the **Home** page link so that you can access the Home page from other pages.

What you see in the global header is determined by privileges. Your administrator can customize the global header by changing the order in which the links display or by adding links to internal or external locations such as Google or Oracle Technology Network (OTN). See *Providing Custom Links in Presentation Services in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

The illustration shows the leftmost portion of the global header.



The global header includes the following components:

- **Search** — Enables you to search the catalog. See [How Can I Search for Objects?](#)
- **Advanced** — Displays the Catalog page in search mode, where you can search for objects in the catalog. In search mode, the Search pane is displayed rather than the Folders pane within the page.
- **Administration** — Available if you are logged in as an administrator. Displays the Administration page, where you perform administration tasks such as managing privileges and metadata for maps. See *Administering Oracle Business Intelligence in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition* and *Understanding the Administration Pages in Security Guide for Oracle Business Intelligence Enterprise Edition*.
- **Help** — Displays the following options:
 - **xxx Help** (where xxx is the name of the page, editor, or tab) — Displays the help topic for the current page, editor, or tab.
 - **Help Contents** — Displays a cascading menu with options that link to the tables of contents for Oracle BI EE, BI Publisher, and Marketing.
 - **Documentation** — Displays the Oracle BI EE documentation library.
 - **OTN** — Displays the Business Intelligence and Data Warehousing Technology Center page on the OTN.
 - **About Oracle BI EE** — Shows the Oracle BI EE version and copyright information.
- **Sign Out** — Signs you out of Oracle BI EE.
- **Alerts** — Available only if one or more alerts have been generated for you. Displays the Alerts dialog, where you can manage your alerts. An alert is a notification that is generated by an agent that delivers personalized and actionable content to specified recipients and to subscribers to the agent.
- **Home** — Displays the Home page. See [What Is the Oracle BI EE Home Page?](#)
- **Catalog** — Displays the Catalog page, where you can locate objects in the catalog and perform tasks specific to those objects.
- **Favorites** — Displays your favorite objects and any categories that you created to organize your favorite objects. Also displays the **Manage Favorites** link that you

can click to access the Manage Favorites dialog, where you can create and manage categories to organize your favorites. See [What Are Favorites?](#)

- **Dashboards** — Contains links to all dashboards that are stored within the `Dashboards` sub-folder of the user's folder or any shared folder. Dashboards that are not saved to the `Dashboards` sub-folders are not displayed from the global header's Dashboards list.
- **New** — Displays a list of the objects that you can create. To create an object, select it from the list. The appropriate dialog or editor is displayed for you to create the object.
- **Open** — Displays the following options:
 - **Open** — Displays the Open dialog, where you can select the object with which you want to work.
 - **Recent objects** — Displays a list of the objects that you have recently viewed, created, or updated. You can use this list to select an object with which you want to work.
 - **Most Popular objects** — Displays a list of the objects that are accessed the most often by the users that are assigned to the groups to which you belong. You can use this list to select an object with which you want to work.
- **Signed In As username** — Displays the following options:
 - **My Account** — Displays the My Account dialog, where you can specify your preferences, such as time zone, delivery devices, and delivery profile. See [Setting Preferences](#).
 - **Act As** — Available only if your organization has enabled this functionality and you have been granted the appropriate permissions. Enables you to act as another user. See [Acting for Other Users](#).

Where Can I Get Help or More Information?

Oracle BI EE provides direct access to guides, context-sensitive help, and libraries that contain conceptual and procedural information to help you understand Oracle BI EE.

Specifically, you can access:

- **Oracle Business Intelligence Enterprise Edition Help** — Each Oracle BI EE user interface page, tab, editor, pane, and dialog has a help topic associated with it. Each of these topics contains overview information, links to related concept and procedures, and an explanation of each component.

To access the online help for a page, editor, tab, or dialog, click its **Help** button.

Alternatively, for a page, editor, or tab, you can select **xxx Help** (where xxx is the name of the page, editor, or tab) from the **Help** menu that is located in the global header. For example, for help on the Catalog page, select **Catalog Page Help**. See [What Is the Oracle BI EE Global Header?](#)

- **Help Tables of Contents for Oracle BI EE, Oracle BI Publisher, and Marketing** — Navigating through these Table of Contents is a good way to get acquainted with the products and access a particular topic of interest.

To access one of these tables of contents, click **Help Contents** on the **Help** menu in the global header and then select the appropriate table of contents.

- **Oracle Business Intelligence Enterprise Edition Documentation Library** — The books in the Oracle BI EE documentation set are included in the Fusion Middleware Documentation Library on the OTN.
To access the Oracle BI EE documentation library, click **Documentation** on the **Help** menu in the global header.
- **Oracle Technology Network (OTN)** — On OTN, you can find information that is specific to Oracle Business Intelligence and information about all other Oracle products. OTN provides services and resources to help developers, database administrators (DBAs), and architects share and find expertise and best practices about how to design, build, deploy, manage, and optimize applications. Examples of the types of items that you find on OTN include information about industry-standard technologies such as JAVA and Linux, all Oracle product documentation, discussion forums, Oracle software, blogs and podcasts, and technical articles that are written by other OTN members.
To access OTN, click **OTN** on the **Help** menu in the global header.

About Privileges and Permissions

User privileges and permissions allow or restrict actions and access within the application.

Privileges and permissions allow you to perform specific actions, such as creating an analysis or editing a scorecard, and entitle you to access and manage objects, applications, and so on. Roles group related privileges together that pertain to specific requirements, enabling continuity and limiting access based on responsibility.

Privileges and roles govern what you can see and access in Oracle Business Intelligence Enterprise Edition. Refer to *Managing Presentation Services Privileges in Security Guide for Oracle Business Intelligence Enterprise Edition* for additional information and refer to [Who Uses the Catalog?](#) to learn more about permissions.

About Acting for Other Users

Acting as another user allows non-administrators to perform other users' functions.

The Act As functionality enables you to act for another user in Oracle BI EE. This functionality is useful, for example, when you must work on another user's dashboard or content, or when IT support staff wants to troubleshoot another user's account.

To use the Act As functionality, the administrator must enable you to act for another user. See *Enabling Users to Act for Others in Security Guide for Oracle Business Intelligence Enterprise Edition*.

When the administrator authorizes you to act for another user, the administrator can grant you full access or restricted access to another user's account:

- **Full access** — When you are granted full access, you inherit the target user's privileges and can change the user's default dashboard and modify the user's content and preferences.
- **Restricted access** — When you are granted restricted access, you maintain your user privileges, but inherit the target user's permission for viewing data. Restricted access enables you only to view the user's data.

You can view a list of the users with access to your account by opening the My Account Dialog: Delegated Users tab. This tab displays a list of the names of the users that have been given access to your account. See [Acting for Other Users](#).

Acting for Other Users

You can act for another user, if you have been authorized to do so.

See [About Acting for Other Users](#).

1. In the global header, click **Signed In As *username***, then select **Act As**.
2. In the Act As dialog, select a user's ID from the list or enter the ID in the box (if available), and click **OK**.

The user's default dashboard is displayed. From this dashboard you can view or modify content, depending upon the access type (full or restricted) that you were granted by the administrator.

3. To return to your account, display the Act As dialog, click **Stop**, then and click **OK**.

Setting Preferences

You and end users can set personal preferences for Oracle BI EE.

While working with Oracle BI EE, you can set account preferences. For example, you might specify a Sales Dashboard for your starting page Sales Dashboard and Pacific Standard Time for your time zone. By specifying a starting page, you can access Oracle BI Enterprise Edition and get working with your dashboard right away. Using the My Account dialog, and depending on your privileges, you can:

- View general account information, such as your display name and user ID.
 - View and modify your preferences, such as language, time zone, and currency.
 - View and modify your preferences for BI Publisher, such as location and time zone.
 - View and modify your preferences for Oracle BI Mobile.
 - View and modify your delivery options for agents.
 - View the roles and groups to which you belong.
1. In the global header, click **Signed In As *username*** and select **My Account**.
 2. In the My Account dialog, complete the appropriate settings.
 3. Click **OK** to save your changes.

Downloading BI Desktop Tools

You can download BI desktop tools that you have permission to access.

Depending on the products that you are eligible to download, you can download various BI desktop tools from the Oracle BI EE Home page, including:

- **Oracle Hyperion Smart View for Office (Smart View)** — This tool lets you access and run Oracle BI EE analyses within your Microsoft Office applications. To learn more about using Smart View after downloading and installing it, see

Oracle Hyperion Smart View for Office User's Guide and *Oracle Hyperion Smart View for Office Developer's Guide*.

- **Oracle Business Intelligence Client Tools Installer** — This tool lets you install the Business Intelligence Administration Tool, the Oracle Business Intelligence Job Manager, and the Oracle Business Intelligence Catalog Manager.
 - **Template Builder For Word Add-in** — This tool lets you design RTF templates for use in published reporting.
1. Navigate to the Oracle BI EE Home page.
 2. In the Get Started section, click the **Download BI Desktop Tools** link, then select one of the following options:
 - **Smart View for MS Office**
 - **Oracle BI Client Installer**
 - **Template Builder for Word**
 3. In the window that opens, select the **Downloads** tab, accept the License Agreement, then click the desktop tool you want to download.
 4. In the Open dialog, click **Save File**.
 5. In the Enter the name of file to save to dialog, specify a location to which you want to download the executable file and click **Save**.
 6. Once you have downloaded the file, for:
 - **Smart View for MS Office**. See Part IX, Using Essbase With Oracle Business Intelligence in *System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*. Then display Windows Explorer and double-click the file that you downloaded to run it. Also see *Oracle Hyperion Smart View for Office User's Guide* and *Oracle Hyperion Smart View for Office Developer's Guide*.
 - **Oracle BI Client Installer**. See [Installing Oracle Business Intelligence Client Tools](#).
 - **Template Builder for Word**, display Windows Explorer and double-click the file that you downloaded to run it.

See *Creating RTF Templates Using the Template Builder for Word* in *Report Designer's Guide for Oracle Business Intelligence Publisher*.

Installing Oracle Business Intelligence Client Tools

Oracle Business Intelligence supports the client tools on 64-bit Windows operating systems.

The following tools are supported:

- Oracle BI Administration Tool
- Oracle Business Intelligence Job Manager
- Oracle Business Intelligence Catalog Manager client tools on 64-bit Windows and Linux operating systems.

About Oracle Business Intelligence Client Tools

When you install Oracle Business Intelligence on a computer running a Linux, or UNIX operating system, the Catalog Manager is the only client tool installed. See *Starting*

the Catalog Manager User Interface in *System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*. However, if you installed Oracle Business Intelligence on a computer running a Linux, or UNIX operating system, or if you installed on a Windows operating system but want to use the client tools on another Windows computer, you must run the Oracle Universal Installer to install the Oracle BI Administration Tool, Job Manager, and Catalog Manager.

Considerations for Installing Oracle Business Intelligence Client Tools

Consider the following before installing the client tools:

- The Oracle BI EE Plus Client Installer installs the Oracle BI Administration Tool , Job Manager, and Catalog Manager.

Oracle BI EE Plus Client installer does not install the Oracle Database Client. To access the Oracle database you must separately install the Database Client on the same machine. Similarly, to access the IBM DB2 database, you must install the IBM DB2 CLI on the same machine. See *About Importing Metadata and Working with Data Sources in Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

- The Oracle BI Administration Tool requires its own system DSN for connecting to the Oracle Business Intelligence system. You create and configure the system DSN after you install the client tools. Your system administrator should supply the details required to create the system DSN.

When running the Oracle BI EE Plus Client Installer, if the install path contains any multi-byte characters, Job Manager and Oracle BI Administration Tool cannot launch. To avoid this issue you must change the install path if it contains any multi-byte characters. Make sure that the install path contains only ASCII characters.

- Oracle Business Intelligence supports multiple instances of the Oracle Business Intelligence client tools on the same computer. That is, if your organization has installed multiple instances of Oracle Business Intelligence, you can install and configure the client tools multiple times, or once for each instance of Oracle Business Intelligence. However, do not install the client tools on the same computers that host your Oracle Business Intelligence server instances, as the client tools are already installed on those computers (as part of the Oracle Business Intelligence installation).

Before running the Oracle BI EE Plus Client Installer, do all of the following:

- Identify a computer running a supported 64-bit Windows operating system where you can install the Oracle Business Intelligence client tools.
- Verify that the computer where you want to install the client tools can access the Linux, UNIX, or Windows computer that hosts your Oracle Business Intelligence system.
- Contact your system administrator to obtain the information necessary to create the system DSN for the Oracle BI Administration Tool.
- Obtain the Oracle BI EE Plus Client Installer file using one of the following methods:
 - Access the Oracle BI EE Plus Client Installer file from the Oracle BI EE home page by selecting the **Download BI Desktop Tools** link. From the **Downloads** tab of the page that opens, select your Oracle BI EE version, accept the license agreement, and click **Oracle Business Intelligence Developer Client Tool**. You can display the Oracle BI EE home page from the following URL:

```
http://<host>:<port>/analytics/saw.dll?bieehome
```

For example:

```
http://computer1:9704/analytics/saw.dll?bieehome
```

- Access the Oracle BI EE Plus Client Installer file on OTN and download it to the computer where you want to install the client tools. You can find the Oracle BI EE Plus Client Installer file on OTN at the following link:

<http://www.oracle.com/technetwork/middleware/bi-enterprise-edition/downloads/index.html>

1. Ensure that you have satisfied the prerequisites.
2. Start the Oracle BI EE Plus Client Installer by accessing and double-clicking the executable installation file obtained in the prerequisites.

If you installed the Oracle Business Intelligence client tools on the current computer, the Manage Instances window opens instead. Click **Install a New Instance**, and then click **OK**.
3. In the Introduction screen, click **Next**.
4. In the Choose Install Folder window, you can accept the default install location or specify another one. Click **Next**.
5. In the Choose Shortcut Folder window, you can specify where you want the installer to create product icons for the Oracle Business Intelligence client tools. Select the appropriate option and click **Next**.
6. In the Pre-Installation Summary window, confirm your installation settings.
 - To change a setting, click **Previous** and return to the screen that contains the setting you want to change.
 - To begin the installation, click **Install**.
7. When the installation concludes, click **Done**.
8. In the ODBC Data Source Administrator dialog, configure a system DSN for the Oracle BI Administration Tool to connect to your Oracle Business Intelligence system.

How Does Oracle BI EE Interact with Other Products?

Oracle BI EE can work with a variety of other products.

Oracle BI EE interacts in various ways with other products. This section contains the following topics:

- [Integration of Oracle BI EE with Oracle BI Publisher](#)
- [Integration of Oracle BI EE with Oracle BI Mobile App Designer](#)
- [Integration of Oracle BI EE with Oracle Business Intelligence Mobile](#)
- [Integration of Oracle BI EE with Oracle Enterprise Performance Management System](#)
- [Interaction of Oracle BI EE with Oracle BI Applications](#)
- [Integration of Oracle BI EE with Microsoft Office](#)

Integration of Oracle BI EE with Oracle BI Publisher

Oracle BI EE and Oracle BI Publisher work together to provide a complete data analysis and presentation tool.

Note:

This guide assumes that Oracle BI EE and BI Publisher have been installed and configured to run as integrated components at your organization. If this is not the case, then some mentions of BI Publisher in this guide might not be applicable to you. For information on running BI Publisher, see *User's Guide for Oracle Business Intelligence Publisher*.

BI Publisher enables you to create highly formatted reports that are suitable for printing. BI Publisher reports are built on top of BI Publisher data models. A BI Publisher data model can consist of data sets from a wide range of sources, such as subject areas from the BI Server or analyses, SQL queries against relational databases, MDX queries against Essbase or other Online Analytical Processing (OLAP) sources, Lightweight Directory Access Protocol (LDAP), Web Services, Microsoft Excel, HTTP feeds, or XML files. BI Publisher supports a wide range of layout types, so you can create the full range of documents that your organization might need. Within Oracle BI EE, you can view, create, edit, and schedule BI Publisher reports and can include them in dashboard pages.

Oracle BI EE includes a fully integrated BI Publisher. All the BI Publisher functionality appears within the Oracle BI EE application, and all reports and related objects are created within Oracle BI EE and saved to the Oracle BI Presentation Catalog. See *Creating Reports and Creating Reports: Process Overview* in *Report Designer's Guide for Oracle Business Intelligence Publisher*.

When using the integrated environment, you see that the following areas are affected by the integration:

- **Editors** — You can create or edit BI Publisher content. When you work with a BI Publisher object, the appropriate BI Publisher editor is displayed. For example, when you work with a data model, the Data Model editor is displayed.
- **Dashboards** — You can embed BI Publisher reports in dashboards. You can also create custom print layouts for high-fidelity printing of dashboard pages and custom export layouts for exporting dashboard content to Excel. See [Building and Using Dashboards](#).
- **Catalog** — The Oracle BI Presentation Catalog contains all BI Publisher objects, such as reports and templates. You can work with BI Publisher objects in the catalog just as you work with other catalog objects, such as analyses or filters.
- **Security** — Single sign-on capability is provided. The Release 11g security model has been extended to include additional BI Publisher-specific permissions, such as `xmlp_template_designer`.

Integration of Oracle BI EE with Oracle BI Mobile App Designer

You can design analyses and presentations for display on mobile devices.

 **Note:**

This guide assumes that Oracle BI EE and Oracle BI Mobile App Designer have been installed and configured to run as fully integrated components at your organization. If this is not the case, then some mentions of Oracle BI Mobile App Designer in this guide might not be applicable to you.

Oracle Business Intelligence Mobile App Designer is a tool for designing purposeful apps for mobile phones and tablets.

The apps you create with Oracle BI Mobile App Designer are platform and device independent. The generated apps are based on the modern HTML5 standard, which means they can run on any modern browser on your mobile device. No client install is required.

Integration of Oracle BI EE with Oracle Business Intelligence Mobile

Oracle Business Intelligence Mobile is an application that enables you to view and interact with Oracle BI EE content on smartphones and tablets.

You can easily access Oracle BI Enterprise Edition analyses and dashboards through Oracle Business Intelligence Mobile. You see the same content, and it is optimized for viewing on your mobile device. You can install Oracle Business Intelligence Mobile on your mobile device from Apple's App Store or from the Google Play store.

For information on Oracle Business Intelligence Mobile, see the Oracle Business Intelligence Mobile Products Documentation Library here:

http://docs.oracle.com/cd/E52471_01/index.htm

Integration of Oracle BI EE with Oracle Enterprise Performance Management System

The Oracle Enterprise Performance Management System helps ensure your suite of applications work efficiently.

Oracle BI EE offers the following integration with Oracle Enterprise Performance Management System:

- You can download Oracle Hyperion Smart View for Office from the Oracle BI EE Home page. See [Integration of Oracle BI EE with Microsoft Office](#).
- Within EPM Workspace, you can work with analyses, agents, dashboards, and BI Publisher reports. See [Oracle Hyperion Enterprise Performance Management Workspace documentation](#).

Interaction of Oracle BI EE with Oracle BI Applications

Oracle BI Applications work with Oracle BI EE to provide an entire suite of integrated data analysis tools.

Oracle Business Intelligence Applications are pre-built business intelligence solutions that are available for Oracle applications such as Oracle Fusion, Oracle E-Business

Suite, JD Edwards, Peoplesoft, and Siebel. Oracle Business Intelligence Applications are built on Oracle BI EE.

Oracle BI Applications consist of industry-specific dashboards and analyses that are built using industry best practices to address key functional areas within an organization. Dashboards and analyses are tailored for each end user's role in an organization.

Typically, Oracle BI Applications are integrated with and accessible from other operational applications, such as Oracle's Siebel CRM applications, to provide business metrics in analyses in the context of an organization's business function and industry. Oracle BI Applications include Extract Transform Load (ETL) routines to extract, transform, and load data into the Oracle Business Analytics Warehouse. Oracle BI Applications also contain metadata that maps to the Oracle Business Analytics Warehouse and a transactional database, and define key measures and metrics for all levels of the organization. These measures and metrics are available to content designers in Oracle Business Intelligence.

Integration of Oracle BI EE with Microsoft Office

There are add-in components that link Oracle BI EE functions with Microsoft Office.

Oracle BI EE offers a set of add-ins to Microsoft Office that can be downloaded and installed to enable integration between components of Oracle Business Intelligence and Microsoft Office. The Get Started section of the Oracle BI EE Home page provides links to install the following add-in components:

- Template Builder for Word
- Oracle Hyperion Smart View for Office

See [Downloading BI Desktop Tools](#).

Topics of Interest in Other Guides

Some topics that might be of interest to content designers and administrators are covered in other guides. The table lists these topics, and indicates where to go for more information.

Topic	Where to Go for More Information
Installing Oracle BI EE	Installing Oracle Business Intelligence in <i>Installing and Configuring Oracle Business Intelligence</i>
Configuring Oracle BI EE	Configuring Oracle Business Intelligence in <i>System Administrator's Guide for Oracle Business Intelligence Enterprise Edition</i>
Integrating Oracle BI EE	Overview of Integrating with Oracle Business Intelligence in <i>Integrator's Guide for Oracle Business Intelligence Enterprise Edition</i>

System Requirements and Certification

The system requires specific certificates, hardware and software to operate properly.

Refer to the system requirements and certification documentation for information about hardware and software requirements, platforms, databases, and other information. Both of these documents are available on Oracle Technology Network (OTN).

The system requirements document covers information such as hardware and software requirements, minimum disk space and memory requirements, and required system libraries, packages, or patches:

<http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-requirements-100147.html>

The certification document covers supported installation types, platforms, operating systems, databases, JDKs, and third-party products:

<http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html>

2

Creating Analyses

This chapter describes how to create analyses in Oracle Business Intelligence Enterprise Edition, including how to specify the criteria for analyses, display the results, and examine the SQL statements. It also explains subject areas and columns, the double column feature, and variables.

 [Video](#)

 [Video](#)

Topics

This chapter includes the following sections:

- [What Is an Analysis?](#)
- [What Are Subject Areas and Columns?](#)
- [Understanding the Double Column Feature](#)
- [What Is the Analysis Editor?](#)
- [What Is the Process for Constructing Analyses?](#)
- [Creating New Analyses](#)
- [Specifying the Criteria for Analyses](#)
- [Saving Columns to the Catalog](#)
- [Changing the Sort Order of Subject Areas and Subject Area Folders](#)
- [Displaying the Results of Analyses](#)
- [Adding Prompts to Analyses](#)
- [Examining the Logical SQL Statements for Analyses](#)
- [Saving Analyses](#)
- [Creating Agents from Analyses](#)
- [Editing Analyses](#)
- [About Embedding an Analysis in a Dashboard](#)
- [Working with Direct Database Requests](#)
- [Using Variables](#)
- [Where Can I Reference Variables?](#)
- [What Is the Syntax for Referencing Variables?](#)
- [What Predefined Presentation Variables Are Available?](#)
- [Example of Referencing a Variable in a Title View](#)

What Is an Analysis?

An analysis is a query against an organization's data that provides answers to business questions.

Analyses let you explore and interact with information by visually presenting data in tables, graphs, pivot tables, and so on. You can save, organize, and share the results of analyses.

Analyses that you create can be saved in the Oracle BI Presentation Catalog and integrated into any Oracle BI EE dashboard. You can enhance analyses through features such as graphs, result layout, calculated items, and drilling.

How Do I Work with an Analysis?

You use an editor to work with an analysis.

To work with an analysis, you use one of the following editors:

- The Analysis editor — A feature-rich editor that allows you to explore and interact with information by visually presenting data in tables, graphs, pivot tables, and so on. See [What Is the Analysis Editor?](#)

You have access to this editor if you have been granted the Access to Analysis privilege by the administrator.

- The BI Composer wizard — A simple-to-use wizard that allows you to create, edit, or view analyses without the complexities of the Analysis editor. See [Using BI Composer to Work with Analyses](#).

You have access to this editor only if you have been granted the Access to BI Composer privilege by the administrator.

You specify which editor you want to use on the Preferences tab of the My Account dialog. However, if you have turned on accessibility mode either in the Sign In page or the Preferences tab of the My Account dialog, then the BI Composer wizard in accessibility mode is used as the analysis editor, regardless of your choice.

How Is an Analysis Processed?

When an analysis is processed, the request is sent in the form of logical SQL statements to the Oracle BI Server.

The BI Server then generates queries against the appropriate data sources. When the BI Server receives the query results, they are in a format that is not yet suitable for returning to the user. The BI Server merges the results and applies any additional calculations or filters that pertain to the results. The BI Server then sends the data to Oracle BI Presentation Services to format the results for display.

How Can I Always See the Most Current Results of an Analysis?

Embedding an analysis in a dashboard causes it to execute automatically and display the most current results every time the dashboard is accessed.

For example, if you are a sales executive whose company captures sales data on a daily basis, then you might want to have the dollar volume of product that was sold today be displayed on the front page of your dashboard.

You can embed a saved analysis by using the Dashboard editor. See [Adding Content to Dashboards](#).

What Are Subject Areas and Columns?

Subject areas and columns are the building blocks for an analysis.

A subject area contains folders, measure columns, attribute columns, hierarchical columns, and hierarchy levels that represent information about the areas of an organization's business or about groups of users with an organization. Subject areas usually have names that correspond to the types of information that they contain, such as Marketing Contracts, Service Requests, and Orders.

A subject area corresponds to the presentation layer in an Oracle BI metadata repository. In a repository, the subject area is the highest-level object in the presentation layer and represents the view of the data that end users see when they create or edit an analysis.

A related subject area is an external data source that is connected to a primary subject area in an analysis.

Individuals who design and build metadata repositories (such as a Business Intelligence strategist, metadata provider, or Extract Transform Load (ETL) developer) create subject areas using the Oracle BI Administration Tool. Generally, rather than creating one large subject area for their company's data, they create multiple smaller subject areas. This enables them to provide a particular group of users or a particular area of a company with the most important data that they need in one small subject area and the less important data in one or more related subject areas created from the same business model layer. Having these smaller subject areas makes it easier for users to find the data they need. It also makes it easier to maintain the data. See *Creating Subject Areas in Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

The individuals who design and build metadata repositories can specify that a subject area, folder (and its children), or column (both attribute and hierarchical) is to be hidden. A hidden subject area, folder, or column is not visible in the Subject Areas pane but is visible elsewhere, such as in an analysis or saved filter contents. (Because the object is still visible elsewhere, hiding a subject area, folder, or column in this way is not a solution for security or access control.) If the criteria of an existing analysis include a subject area, folder, or column that is subsequently hidden, the analysis is still accessible but the subject area, folder, or column is no longer visible in the Subject Areas pane of the Criteria tab Analysis editor.

Columns contain the individual pieces of data that an analysis returns. Columns usually have names that indicate the types of information that they contain, such as Account or Contact. Together with filters and selection steps, columns determine what data an analysis contains.

When you create an analysis, filter, or dashboard prompt, you first select the subject area with which you want to work. This is known as the primary subject area and is displayed in the Subject Areas pane. If, as you work, you find that you need more data, you can add additional subject areas that are related to the primary subject area that you have chosen. (You can add related subject areas only if they are available for

the primary subject area and only if you have permission to access them.) You can add your own data to analyses too. See [Adding External Data to Analyses](#).

Typically, when you query a single subject area, all the measure columns that are exposed in that subject area are compatible with all the attribute columns and hierarchical columns that are exposed in the same subject area. However, when you combine columns from multiple subject areas, you must ensure that you do not include combinations of measure columns with attribute columns and hierarchical columns that are incompatible with one another.

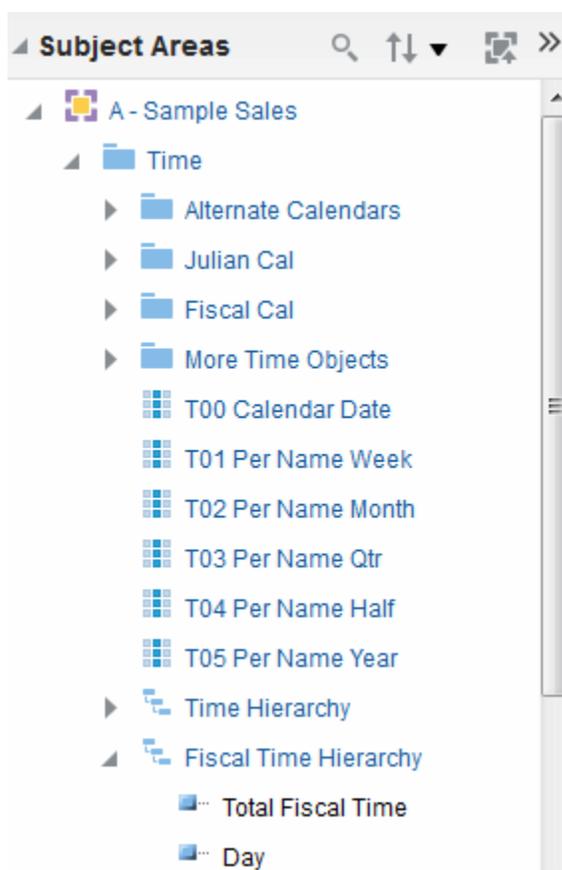
For example, a measure column in one subject area might not be associated with the Project attribute column. If measure columns associated with the Project attribute column from another subject area are added to the analysis along with columns that are not associated with Project, then the query might fail to return results, or cause the BI Server error `No fact table exists at the requested level of detail: XXXX`.

For an analysis to return data, you must select at least one column to include in the analysis.

What Are the Types of Columns?

Different types of columns are used in different situations. Subject areas contain the following types of columns:

- **Attribute Column** — Holds a flat list of values that are also known as members. No hierarchical relationship exists between these members, as is the case for members of a hierarchical column. An attribute column was referred to as a presentation column in previous releases.
Examples include `ProductID` or `City`.
- **Hierarchical Column** — Holds data values that are organized using both named levels and parent-child relationships. This column is displayed using a tree-like structure. Individual members are shown in an outline manner. Hierarchies allow you to drill deeper into the data, to view more detailed information. Examples include `Time` or `Geography`. The illustration shows the `Time` folder and the `Time` and `Fiscal Time` hierarchies expanded in the Subject Areas pane.



A hierarchical column is one of the following kinds:

- **Level-based hierarchy** — Consists of an ordered set of two or more levels. For example, a Time hierarchy might have three levels for Year, Quarter, and Month. Level-based hierarchies can also contain parent-child relationships.
- **Parent-child hierarchy** — Consists of values that define the hierarchy in a parent-child relationship and does not contain named levels. For example, an Employee hierarchy might have no levels, but instead have names of employees who are managed by other employees. Employees can have titles, such as Vice President. Vice Presidents might report to other Vice Presidents and different Vice Presidents are at different depths in the hierarchy.

In addition to being level-based or parent-child, hierarchical columns are one of the following:

- **Ragged** — A hierarchy in which all the lowest-level members do not have the same depth. For example, a Time hierarchy might have data for the current month at the day level, the previous month's data at the month level, and the previous 5 years' data at the quarter level. This type of hierarchy is also known as an unbalanced hierarchy.
- **Skip-level** — A hierarchy in which certain members do not have values for certain higher levels. For example, in the United States, the city of Washington in the District of Columbia does not belong to a state. The expectation is that users can still navigate from the country level (United States) to Washington and below without the need for a state.

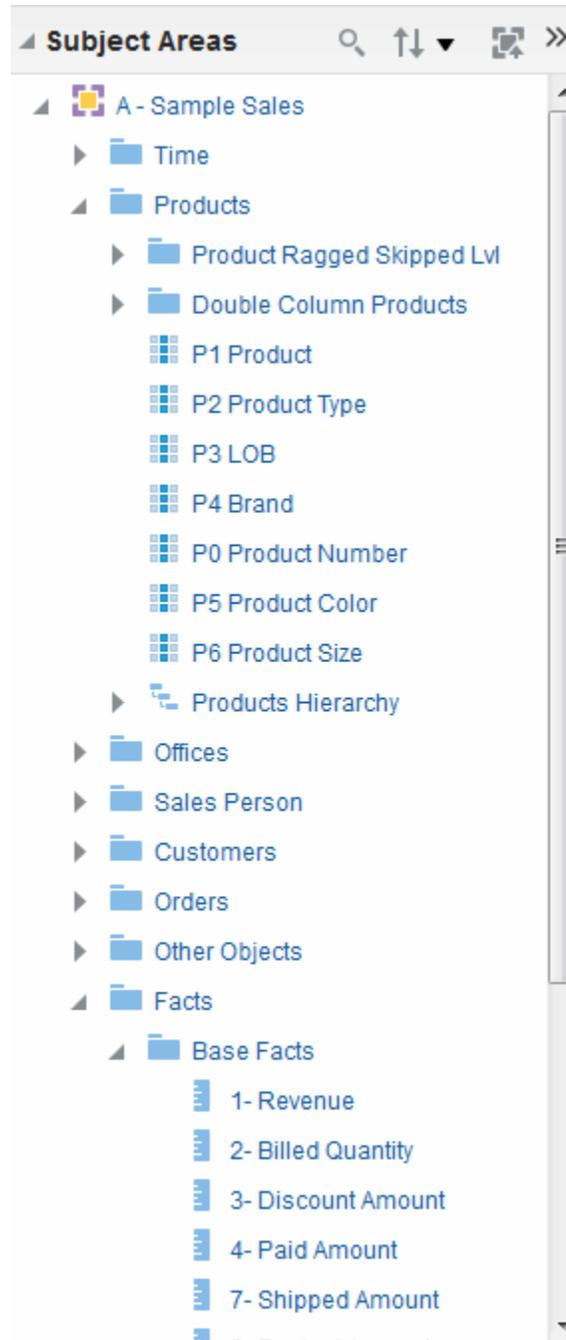
- **Measure Column** — Holds a simple list of data values. It is a column in an Oracle BI EE repository, usually in a fact table, that can change for each record and you can add up or aggregate in some way. Examples include Revenue or Units Sold.

Throughout this guide, the term **column** on its own generally refers to all three types. Names for specific types of columns are included where necessary.

How Are Columns Indicated Visually?

Each type of column is indicated by its own icon in places such as the Subject Areas pane and Layout pane.

You can expand level-based hierarchies and see their levels. Parent-child hierarchies are shown as hierarchical columns that have no levels. The illustration shows the icons and names of various columns.



Understanding the Double Column Feature

Double columns need to be configured before they can display code columns and display columns for data.

Oracle BI EE provides a feature called double columns. When a repository is configured for the double column feature, column data includes a display column that has a code column mapped to it (that is, it has double columns). A **display column** contains the display values for the column data, for example, Excellent, Good, and Poor. A **code column** contains code values that uniquely identify display values and

are consistent across users or locales, for example, the code values 1 (uniquely identifying Excellent), 2 (uniquely identifying Good), and 3 (uniquely identifying Poor).

When Oracle BI EE processes a double column, for example, as part of the criteria of an analysis or as the basis for a filter, it generates and issues SQL statements to the Oracle BI Server that use code values rather than display values, thereby making the filter language independent.

The double column feature lets you:

- Build internationalized analyses that are automatically filtered by language independent codes. (In previous releases (prior to 11g), filters were not language independent.) For example, you can build one filtered analysis that you can use with both French-language users and English-language users.
- Build common analyses that you can share among groups even if the groups require different display values. For example, you can build a common analysis that displays for a Status field the values Excellent, Good, and Poor to one group, and Superb, Okay, and Bad to another group.
- Change display values without breaking existing analyses. For example, suppose that you have an analysis that is filtered on the display value Excellent. If it is a double column, then the filtering is performed on its code column with the code value for `Excellent` rather than the display value of `Excellent`. This means that you can change the display value Excellent to Superb without breaking the existing analysis.

In addition, if your organization allows the display of code values within Oracle BI EE, you can use code values rather than the display values in some dialogs, such as the New Filter dialog. This means, for example, when specifying the values to use when applying a filter, you can specify code values rather than display values.

Before you can take advantage of the double column feature, your administrator must configure your repository by mapping code columns to display columns. Check with the administrator to see if your repository is configured for double columns.

What Is the Analysis Editor?

The Analysis editor lets you explore and interact with information by visually presenting data in tables, graphs, pivot tables, and so on.

You can include the views that you create in an analysis for display in dashboards.

The Analysis editor contains the following tabs:

- **Criteria tab** — Lets you specify the criteria for an analysis, including columns, and filters. You can specify the order in which the results should be returned, formatting (such as headings, number of decimal places, styles such as fonts and colors, and conditional formatting), and column formulas (such as adding a Rank or Percentile function). Additionally, you can change the sort order of the subject area and subject area folders. See [Changing the Sort Order of Subject Areas and Subject Area Folders](#).
- **Results tab** — Lets you create different views of the analysis results such as graphs, tickers, and pivot tables. You can also add or modify selection steps.
- **Prompts tab** — Lets you create prompts that allow users to select values to filter an analysis or analyses on a dashboard. Prompts allow users to select values that dynamically filter all views within the analysis or analyses. You can also create

prompts for use with selection steps, both for member selection steps and qualifying condition steps.

- **Advanced tab** — Lets you edit XML code and examine the logical SQL statement that was generated for an analysis. You can use the existing SQL statement as the basis for creating a new analysis.

The tabs of the Analysis editor are organized into various panes and areas. As you work, you can manage these panes to suit your needs. See [Managing Panes in the Analysis Editor Tabs](#).

You access the Analysis editor when you create (or edit) an analysis. See [Creating New Analyses](#).

 **Note:**

If you are using Oracle BI EE in accessibility mode, then, when you create (or edit) an analysis, the Analysis editor is replaced by the BI Composer wizard. For more information on BI Composer, see [Using BI Composer to Work with Analyses](#). See [Accessibility Features](#).

Managing Panes in the Analysis Editor Tabs

Each of the tabs in the Analysis editor consists of several panes.

For example, the Results tab consists of the Subject Areas pane, the Catalog pane, the Views Pane, the Compound Layout, and the Selection Steps pane.

As you work, you can manage these panes to give yourself the most efficient work area for the task that you are performing. For example, if you add multiple views to the compound layout on the Results tab, then you might want to hide the other panes in the Results tab to maximize the area in which to see the views that you are adding. You can:

- Show or hide the panes that are displayed on the left side of the Analysis editor by clicking the sideways triangle button that is displayed between the left and right sides.
- Expand or collapse an individual pane by clicking the plus or minus button in the title bar of the pane.
- Resize an expanded pane by dragging its splitter. For example, you can drag the splitter on top of the Catalog pane up to increase the height of the pane.
- Show or hide a pane by clicking its show/hide button, if one is available for the pane on the toolbar. For example, you can show or hide the Filters pane in the Criteria tab by clicking **Show/Hide Filters pane** on the toolbar.

What Is the Process for Constructing Analyses?

Creating useful analyses requires several steps.

 **Note:**

If you are using Oracle BI EE in accessibility mode or you have selected **Wizard (limited functionality)** as the analysis editor, then you use the BI Composer wizard rather than the Analysis editor to construct analyses. See [Using BI Composer to Work with Analyses](#) and [Accessibility Features](#).

The process for constructing an analysis includes the following steps:

1. [Creating New Analyses](#)
2. [Specifying the Criteria for Analyses](#)
3. [Saving Columns to the Catalog](#)
4. [Changing the Sort Order of Subject Areas and Subject Area Folders](#)
5. [Displaying the Results of Analyses](#)
6. [Adding Prompts to Analyses](#)
7. [Examining the Logical SQL Statements for Analyses](#)
8. [Saving Analyses](#)

Creating New Analyses

This is one step in the process for constructing an analysis.

See [What Is the Process for Constructing Analyses?](#)

Creating an analysis allows you to add that analysis to dashboards.

- In the global header, click **New**, then **Analysis**, then one of the following options:
 - Select a subject area. If you purchased Oracle Business Intelligence Visual Analyzer, you can also select an external data source (uploaded Microsoft Excel file).
The Analysis editor is displayed. You can now specify the criteria for the analysis.
 - **Create Direct Database Query**
See [Working with Direct Database Requests](#).
 - **Create Analysis from Simple Logical SQL**
The Analysis Simple SQL Statement dialog is displayed in which you enter SQL statements for creating an analysis. You can display and manipulate within the Analysis editor, and subsequently incorporate, and subsequently incorporated into dashboards and agents.

Specifying the Criteria for Analyses

This procedure is a step in the process for constructing an analysis.

See [What Is the Process for Constructing Analyses?](#)

You use the Criteria tab of the Analysis editor to specify the criteria for an analysis, including columns, filters, and selection steps. You also can specify:

- The default order in which columns are to be displayed in the analysis results
- The default sorting for the values that are displayed in views
- The default formatting (such as headings, number of decimal places, conditional formats, and system-wide defaults)
- Column formulas (such as adding a Rank or Percentile function)
- The aggregation rules for column totals
- The sort order for subject area folders and folder objects within the Subject Areas pane

1. In the Criteria tab, select the columns to be included in the analysis by doing one of the following:

- Double-clicking the columns in the Subject Areas pane.
- Dragging and dropping the columns from the Subject Areas pane to the Selected Columns pane. To select multiple non-contiguous columns, press and hold the Ctrl key, then click each column to include.
- Dragging and dropping saved columns from the Catalog pane.

The selected columns are displayed in a box in the Selected Columns pane. Each column box has two sections. The upper section shows the name of the folder that contains the column, for example, Customers. The lower section shows the name of the column, for example, Customer Name.

If you want to:

- Initiate a search within the subject areas that are displayed in the Subject Areas pane, click the **Search** button.
- Change the sort order of the subject area folders and objects within each folder, click the **Sort Subject Area** button. Clicking the button executes the sort and closes all subject area folders except the primary subject area.
- Add or remove related subject areas from which to select columns, click the **Add/Remove Subject Areas** button in the Subject Areas pane to display the Add/Remove Subject Areas dialog.

If you add a related subject area but do not add any columns from that subject area to the analysis, then the subject area is not related to the analysis after you close and re-open the analysis.

- A check mark beside a subject area identifies a related subject area that has been added. A grayed out check mark identifies the primary subject area or a related subject area whose data is currently being used in the analysis, named filter, or column prompt. You cannot remove a primary subject area. You can remove a related subject area only if its data is not currently being used.
- Refresh the content in the Subject Areas pane, click the **Refresh** button on the Subject Areas pane or click the arrow beside the button.

Clicking the button executes the default behavior of **Refresh Display**. Clicking the arrow enables you to select **Refresh Display** or **Reload Server Metadata** to refresh the subject area's metadata.

2. Modify the columns or levels of hierarchical columns as needed using the Selected Columns pane:

- Click the **Options** button to the right of a column name in the Selected Columns pane to display options to:

- Specify the sort order for columns. (You cannot specify the sort order for hierarchy levels.)
 - Edit formulas for attribute columns and measure columns, including customizing headings, and specifying the aggregation rule. (You cannot customize headings, specify the aggregation rule, or edit the formulas for hierarchical columns or for hierarchy levels.)
 - Edit column properties to control the formatting and interaction of columns and hierarchy levels.
 - Add filters for attribute columns and measure columns. (You cannot add filters for hierarchical columns or hierarchy levels.)
 - Delete the columns from the analysis. (You cannot delete hierarchy levels.)
- Click the **Remove all columns from criteria** button in the Selected Columns pane to remove all columns from the analysis.
 - Click the **Combine results based on union, intersection, and difference operations** button in the Selected Columns pane to combine the results of two or more analyses into a single result.
 - Use the **Drag Column** buttons in the Selected Columns pane to place the columns in the default order for display in the analysis results.
3. Add and edit inline filters as needed using the Filters pane.
 4. Create or edit selection steps as needed using the Selection Steps pane.
 5. Add named filters, calculated items, and groups from the Oracle BI Presentation Catalog as needed using the Catalog pane.
 6. Use the buttons on the toolbar for the Criteria tab, as needed, to show or hide the Filters pane, to show or hide the Selections Steps pane, and to edit the properties of the analysis, such as the type of message (default or custom) to be displayed if no results are available.

You can now add views to the analysis.

Bear these guidelines in mind:

- In general, an analysis should contain at least one measure column. Measure columns are the key additive measurements of business performance, such as dollar sales per store, or the number of service requests opened and closed each day. An analysis without any measure columns generally is not meaningful, and can cause poor query performance or unexpected results. If you want to build an analysis without any measure columns, then first consult the administrator.
- Generally, you should avoid including both a hierarchical column and an attribute column that is also a lower level in the hierarchical column in the same analysis, unless you have selection steps that limit the data in the analysis to only the same level as the attribute column. If you do so, the data for all levels above the level that is the same as the attribute column will not be correct.

For example, suppose you have a hierarchical column named Merchandise Hierarchy that has these levels:

```
Total Product
  Brand
    LOB
      Product Type
        Product
```

And you have another attribute column named Product Name, which is the same level as the Product level. If you include both Merchandise Hierarchy and the Product Name attribute column in the same analysis, the data above the Product level will not be correct.

- If you add a column from the Subject Areas pane to the Selected Columns pane after displaying the analysis results, then the column is either included (that is, displayed in the view) or excluded from existing views, depending on the setting of the **Display of Columns Added in Criteria tab** option in the Data tab of the Analysis Properties dialog:
 - The column is included in existing views as well as in any new views that you add, if the **Display in existing and new views** option is selected for the **Display of Columns Added in the Criteria tab** option.
 - The column is excluded from existing views (that is, it is placed in the Excluded drop target of the Layout pane) but included in any new views that you add, if the **Exclude from existing views, but display in new views** option is selected for the **Display of Columns Added in the Criteria tab** option. See [Understanding Drop Targets](#).

Understanding Null Suppression

Content designers need to specify if null values will be presented.

By default, null measure values are suppressed for all analyses. As a content designer sometimes you may want to include null values in an analysis to contribute to the overall understanding of the data. You can set null values to display for the data at both analysis and view levels by selecting the **Include Null Values** option.

Turning null suppression off may increase the volume of the data returned and impact performance. Contact your administrator for additional information. If results for analyses that include null values are not as you expect, ensure that data in your sources is consistent. See *Ensuring That Data in Multiple Sources Is Consistent in Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

The following applies to an analysis or a view when the **Include Null Values** option is selected:

- Column members display.
- When drilling a column on the edge (one with null suppression turned off), null suppression is turned off for all columns on the edge.
- Member selection and conditions are applied to the edge and are filtered first. Nulls might not display due to the applied condition.
- Calculated items, groups, totals, grand totals, showing data as a percentage, and server running aggregates, such as a running sum, are not affected by the **Include Null Values** setting.
 - Oracle BI Presentation Services sorts null values based on the `NULL_VALUES_SORT_FIRST` setting located in the `NQSCfg.INI` file.
 - Null values will be suppressed in a table view if you have a criteria filter set on a measure.

You cannot turn off null suppression for the following:

- Direct Database Requests. See [Working with Direct Database Requests](#).

- Analyses that have been combined. See [Combining Columns Using Set Operations](#).
- Hand-coded logical SQL analyses or any analysis that has been converted by using the Advanced Logical SQL settings. See [Examining the Logical SQL Statements for Analyses](#).

To turn off null suppression at the analysis level:

1. In the Criteria or Results tab, click the **Analysis Properties** button.
2. Select the **Include Null Values** option to turn off null suppression for all views.

Null suppression can be overridden at the view level for funnels, gauges, graphs, tables, pivot tables, and trellises.

To turn off null suppression at the view level for funnels, gauges, graphs, tables, pivot tables, and trellises:

1. Display the Results tab for the specific view. See [Editing Views](#).
2. Click the **Properties** button.
3. Select the appropriate **Include Null Values** options for the view. For example, if you want to turn off null suppression for both rows and columns in a pivot table, select the **Include rows with only Null values** and **Include columns with only Null values** check boxes. This setting displays corresponding dimensions that have data, as well as null values.

If the view contains prompts or section edges, they also inherit the null suppression value from either the row or column edge.

Example 1: Adding a Filter to a Row Edge on a Measure When Null Values Are Included

This example shows pivot tables with different row edge filtering options.

Suppose that you have a pivot table with Year on the row edge and **Include Null Values** selected in the Pivot Table Properties dialog (that is, nulls are not suppressed).

The illustration shows an example of T05 Per Name Year on the row edge with null values not suppressed.

T05 Per Name Year	1- Revenue
2008	
2009	
2010	23,500,000
2011	23,000,000
2012	23,500,000
2013	
2014	

Filters
Analysis contains no filters

The illustration shows an example of T05 Per Name Year on the row edge with null values not suppressed and a Criteria filter set to 2011 and 2012. When the Criteria filter is set for the attribute column, the filter is applied and the corresponding rows are removed from the analysis.

T05 Per Name Year	1- Revenue
2011	23,000,000
2012	23,500,000

Filters
T05 Per Name Year is equal to 2011, 2012

Example 2: Adding a Filter to a Row Edge on a Measure When Null Values Are Included

This example shows a pivot table with a filter applied to table data that includes nulls.

Suppose that you have the same pivot table with Year on the row edge and null values selected in the Pivot Table Properties dialog (the same criteria as indicated in [Example 1: Adding a Filter to a Row Edge on a Measure When Null Values Are Included](#)). This time however, you set the filter on the measure, 1 - Revenue, where the value is "greater than 23,000,000."

The illustration shows an example of the results. The Oracle BI Server returns all years (regardless of the measure filter) for unsuppressed edge queries. Because the

measure value for T05 Per Name Year is equal to 23,000,000, the value for the row is filtered out, but the row still displays.

Pivot Table [A] XYZ [edit] [close]

T05 Per Name Year	1- Revenue
2008	
2009	
2010	23,500,000
2011	
2012	23,500,000
2013	
2014	

Filters [A] [edit] [close]

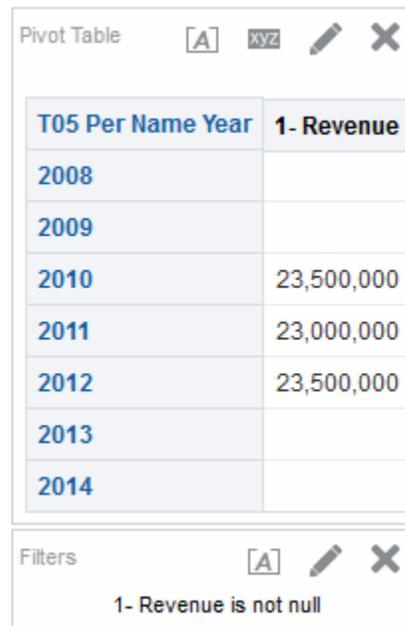
1- Revenue is greater than 23000000

Example 3: Adding a Not Null Filter to a Row Edge on a Measure When Null Values Are Included

This example shows what is presented when a not null filter is applied to a pivot table with null values.

Suppose that you have the same pivot table with Year on the row edge and **Include Null Values** selected in the Pivot Table Properties dialog (the same criteria as indicated in [Example 1: Adding a Filter to a Row Edge on a Measure When Null Values Are Included](#)). This time however, you set the filter on the measure, 1 - Revenue, to *not null*.

The illustration shows an example of the results. The Oracle BI Server returns all values and honors the **Include Null Values** option for the member. Therefore, all rows with null values are displayed.



The screenshot shows a Pivot Table window titled "Pivot Table". The table has two columns: "T05 Per Name Year" and "1- Revenue". The rows represent years from 2008 to 2014. The "1- Revenue" column contains values for 2010, 2011, and 2012. Below the table is a "Filters" section with the filter "1- Revenue is not null".

T05 Per Name Year	1- Revenue
2008	
2009	
2010	23,500,000
2011	23,000,000
2012	23,500,000
2013	
2014	

Filters
1- Revenue is not null

Editing the Formula for a Column

You can edit the formulas for attribute columns and measure columns when you specify the criteria for an analysis.

This editing affects the column only in the context of the analysis and does not modify the formula of the original column in the subject area. You can also customize table and column headings and specify the aggregation rule for column totals. This functionality is not available for hierarchical columns.

You cannot mix attributes and measures in a single expression unless all attributes from the expression are independently (standalone) projected in the `SELECT` list.

A column formula specifies what the column values represent. In its most basic form, such as "Base Facts"."1 - Revenue", a column takes the data from the data source as is. You can edit the formula to add functions, conditional expressions, and so on. This editing enables you to present analysis results in a variety of ways. For example, suppose that you want to perform what-if analysis and show what the revenue might be by product if you increased revenue by 10%. You can see this increase by changing the formula for the 1 - Revenue column to show the revenue increased by 10%. The illustration shows an analysis in a pivot table that includes the 1 - Revenue column (which shows the revenue in the data source) and the 1 - Revenue Increased by 10% column, where the formula for the 1 - Revenue column was edited to calculate revenue increased by 10%.

T05 Per Name Year	1- Revenue	1- Revenue Increased by 10%
2010	23,500,000	25,850,000
2011	23,000,000	25,300,000
2012	23,500,000	25,850,000

Filters

Analysis contains no filters

1. In the Selected Columns pane, click the **Options** button beside the column whose formula you want to edit and select **Edit Formula**.
2. Use the Column Formula tab of the Edit Column Formula dialog to perform various tasks such as creating customized headers and creating or editing the formula for the column. You can build a simple mathematical formula using operator and character buttons, such as "Base Facts"."1 - Revenue"*1.10.
3. Optionally, use the Bins tab of the Edit Column Formula dialog to combine values for the column into sets.
4. Click **OK**.

The column formula is saved with the analysis with which it is used.

Combining Columns Using Set Operations

You can display data in a different way by combining columns with set operations.

After you have selected a subject area for an analysis, you can combine columns from one or more subject areas using Set operations such as Union or Intersect. By combining columns, you create a column for displaying the data in a different way.

Guidelines for Selecting Columns to Combine

You can combine columns if certain guidelines are met.

When selecting columns to combine, keep the following guidelines in mind:

- The number and data types of the columns to combine must be the same. The number of rows that are returned for each column can differ.
- You can select columns from the same subject area or from a different subject area, but the columns must have some commonality.
- You can specify one Set operation for one collection of criteria. For example, if you create criteria from the A-Sample Sales subject area, you can apply only one Set operation to those columns. You cannot apply different Set operations to different columns in the collection of criteria.
- You cannot use hierarchical columns, selection steps, or groups when you combine criteria.

Difference Between Combining Columns Using Set Operations and Adding Columns from Related Subject Areas

There are critical differences between Set operations and adding columns.

Combining columns using Set operations produces different results than adding columns from related subject areas:

- When you combine columns using Set operations, the analysis results show a single newly combined column governed by a Set operation. See [Example: Combining Columns from One Subject Area](#).
- When you add columns from related subject areas to an analysis, the results show each added column individually. For example, if you have the appropriate permissions, then you can create an analysis by selecting one column from a primary subject area and selecting another column from a related subject area.

See [What Are Subject Areas and Columns?](#)

Example: Combining Columns from One Subject Area

You can combine two columns from a single subject area to create comprehensive data sets.

The A-Sample Sales subject area contains the Offices folder, which contains the D1 Office and D2 Department columns. You can combine these two columns and create a column called Offices & Departments. You can include the Union All Set operation to specify that this new column shows all the values from both columns in a single column in a table.

Combining Columns from One or More Subject Areas

You can combine columns from one or more subject areas.

Some steps include references to the example of creating the Offices & Departments column with the A-Sample Sales subject area.

Combining columns from multiple subject areas allows you to blend data so that it is more meaningful to users.

Data formatting that has been saved as the system wide default for a column is not reflected in a combined column. If you want the data formatting in the combined column, then you must reapply it to the combined column. See the Data Format tab of the Column Properties dialog.

1. In the Analysis editor, create an empty analysis that uses a subject area such as A-Sample Sales.
2. In the Criteria tab, select the columns to include in the analysis. For example, select D1 Office from the Offices folder and 1 - Revenue from the Base Facts folder.
3. In the Selected Columns pane, click the **Combine results based on union, intersection, and difference operations** button to display the Select Subject Area menu.
4. Select a subject area that contains the columns to combine with the columns that you have previously included. For example, click **A-Sample Sales**.

The Set Operations area is displayed in the Selected Columns pane. The boxes with dotted line borders that are displayed below the criteria indicate the kind of column that you must combine with those that you have previously included. For example, the boxes might include "Add Column (D1 Office)" and "Add Column (1 - Revenue)". This text indicates that the columns that you include in each of those boxes are combined with the previously selected D1 Office and 1 - Revenue columns using a Set operation to form a new column. When you combine measure columns, no arithmetic operations are performed.

5. In the Subject Areas pane, select the columns to combine with the originally selected columns. For example, from the Offices folder, select D2 Department and from the Base Facts folder, select 1 - Revenue.

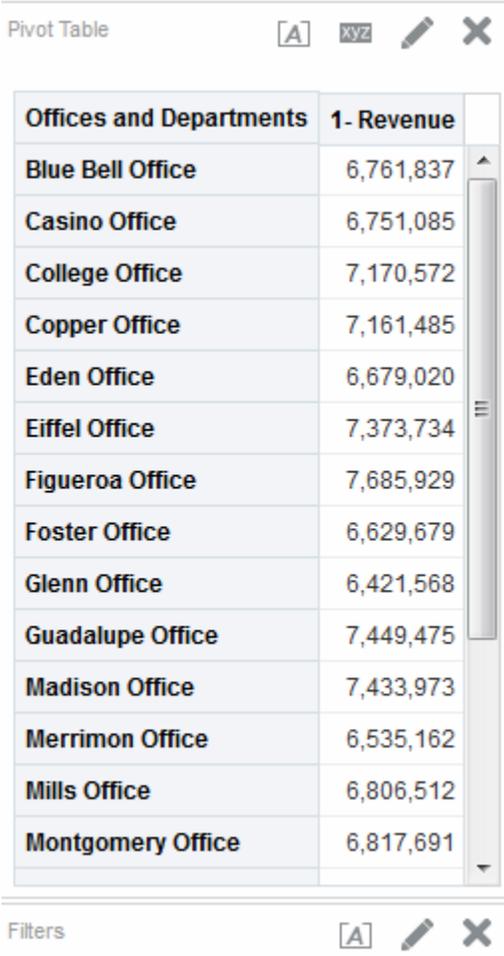
The boxes that previously had dotted line borders now hold the columns that you have just selected. You have now specified the columns to combine.

6. Click the **Union** button under the **Result Columns** link. Select the operation type to use for combining the columns. For example, select the **Union All** type.

The result columns are those that are displayed in views after applying the set operation of the derived columns.

7. Click the **Result Columns** link. The Selected Columns pane is updated to show the newly combined columns that you have just created. You can work with these columns as you do other columns in this pane. For example, you can rename the first column (that is the single newly combined column) by following these steps:
 - a. Click the **Options** button for the D1 Office column.
 - b. Select **Column Properties**.
 - c. Select **Column Format**.
 - d. Ensure that **Custom Headings** is selected.
 - e. In the **Column Heading** box, enter *Offices & Departments*.
 - f. Click **OK**.
8. Click the **Results** tab to view the columns in a table in the Compound Layout.

This figure shows how the combined Offices & Departments column is displayed in a table.



The screenshot shows a window titled "Pivot Table" with a toolbar containing icons for a list, keyboard shortcuts (A, XYZ), a pencil, and a close button (X). Below the toolbar is a table with two columns: "Offices and Departments" and "1- Revenue". The table lists 15 different offices and their corresponding revenue values. A vertical scrollbar is visible on the right side of the table. Below the table is a "Filters" section with a toolbar containing icons for a list, a pencil, and a close button (X).

Offices and Departments	1- Revenue
Blue Bell Office	6,761,837
Casino Office	6,751,085
College Office	7,170,572
Copper Office	7,161,485
Eden Office	6,679,020
Eiffel Office	7,373,734
Figueroa Office	7,685,929
Foster Office	6,629,679
Glenn Office	6,421,568
Guadalupe Office	7,449,475
Madison Office	7,433,973
Merrimon Office	6,535,162
Mills Office	6,806,512
Montgomery Office	6,817,691

Viewing Metadata Information from the Subject Areas Pane

You can view metadata information for subject areas, folders, columns, and hierarchy levels.

Metadata information is helpful, for example, if you need a full description of one of these objects when creating an analysis.

Metadata information is contained in a metadata dictionary. A metadata dictionary is a static set of XML documents. Each XML document describes a metadata object, such as a column, including its properties and relationships with other metadata objects.

1. In the Subject Areas pane in the Criteria tab or the Results tab, select the subject area, folder, column, or hierarchy level for which you want to view metadata information.
2. Click **Show More Buttons** on the toolbar and then click **Open Metadata Dictionary**.

The metadata dictionary information for the object is displayed either in a new browser window or in a tab, depending on the browser setting. If the metadata dictionary information does not display in the browser, then ensure that the browser setting to access data sources across domains is enabled.

Saving Columns to the Catalog

You can save a column to the catalog for reuse in other analyses.

Saving a column is helpful for example, if you have edited the formula of a column or set column properties that you would like to save and reuse in other analyses.

When you save a column to the catalog:

- Oracle recommends that you save the column to the subject area folder. If a subject area folder does not exist in your `/My Folders` folder or within the `/Shared Folders` folder, then Oracle BI EE creates a subject area folder and the Save As dialog defaults a save path to `/My Folders/Subject Area Contents/<subject area>`. Saving the column to the subject area folders ensures that it is available when you build an analysis for the same subject area.
- Selections, filters, conditional actions links, and conditional formatting are not saved.
- References to the column are changed from the subject area to the catalog.
- You can reuse the saved column in another analysis by dragging and dropping it from the Catalog pane.
- You can edit the saved column from the Catalog pane, from the Catalog page, or within an analysis in which you reuse it.

Changes that you make from the Catalog pane and Catalog page apply to all versions of the saved column. Edits that you make within an analysis apply only to that analysis.

To save columns to the catalog, you must have been granted the Save Column privilege by the administrator.

To save a column to the catalog:

1. In the Selected Columns pane, click the **Options** button beside the column that you want to save and select **Save Column As**. The Save As dialog is displayed.
2. Complete the dialog to save the column to the catalog.

Changing the Sort Order of Subject Areas and Subject Area Folders

You can alter the sort order of folders in the Subject Areas pane.

Subject area folders are displayed in the Subject Areas pane in the sort order specified in the Preferences tab of the My Account dialog by default. You can change this sort order for subject areas, subject area folders, and the columns within the subject area folders for all analyses (established in the Oracle BI metadata repository and initially set by the administrator) by modifying the **Subject Area Sort Order** option in the Preferences tab. See [Changing the Sort Order of Subject Areas and Subject Area Folders](#).

You can change the sort order for subject area folders and objects within each folder for the current analysis that you are creating or modifying.

- **Sort A to Z** (ascending)

- **Sort Z to A** (descending)
- **Sort in Saved Order** (The subject areas sort order specified in an analysis is saved as the default and subsequently used as the default sort order.)
- **Default - Sort in Saved Order** (The subject areas sort order is originally defined in the repository.)

The primary subject area specified when creating the analysis is always fixed at the top; that is, it will always display as the first subject area in the Subject Areas pane. For example, if you have three subject areas (A - Sample Sales, B - Sample Quotas, and C - Sample Headcount) participating in the analysis with C - Sample Headcount as the primary subject area, and the sort order is ascending, then the subject areas display as follows:

- C - Sample Headcount
- A - Sample Sales
- B - Sample Quotas

Subject area sorts are not case-sensitive.

1. To change the sort order for the subject area, click **Signed In As username** in the global header, and select **My Account**.
 - a. In the Preferences tab, click the **Subject Area Sort Order** list, and then select a sort order.
 - b. Click **OK** to save your changes.
2. To change the sort order for subject area folders and objects within each folder, add the appropriate subject areas in the Subject Areas pane, .
 - a. Click the **Sort Subject Area** button, and then select a sort order
 - b. Complete your analysis.

Where Else is the Subject Areas Sort Order Reflected?

The Subject Areas sort order is shown in several parts of the interface.

In addition to seeing the subject areas sort order in the Subject Areas pane in the Criteria tab, you can also see the subject areas sort order that you configured in the Subject Areas pane reflected in the following places:

- Select the **More columns** option in the Filters pane to display the Select Column dialog. See [Creating Column Filters](#) .
- Select the **More options** in the Filters pane and select **Add EVALUATE_PREDICATE function** to display the New EVALUATE_PREDICATE Function dialog. See [Working with the EVALUATE_PREDICATE Function](#).
- Select the **More options** button for a column in the Criteria tab, the Available pane displays in the Column Formula tab of the Edit Column Formula dialog. See [Editing the Formula for a Column](#).
- Select the **More options** button for a column in the Criteria tab, the Column Formula tab of the Edit Column Formula dialog displays. Click the **Filter** button to display the Insert Filter dialog. See [Editing the Formula for a Column](#).
- Select the **Prompts** tab of the Analysis editor, and then click the **New** button and select **Column Prompt - More Columns** to display the Select Column dialog. See [Adding Prompts to Analyses](#).

- Click the **Show/Hide Selection Steps Pane** button to display the Selection Steps pane. Click **Then New Step** and select **Apply a Condition**. From the New Condition Step dialog, select a Condition Type to display the Measure drop-down list. See [Creating Selection Steps](#).

You can also see the subject areas sort order in the subject areas pane within the Results tab. The Results tab reflects the subject areas sort order, but the values for columns are not sorted. The illustration shows an example of A - Sample Sales sorted in descending order. The values for D52 Country Name (for example, Australia, Brazil, China, and so on) are sorted in descending order.

D52 Country Name	1- Revenue	2- Billed Quantity
Australia	14,557,050	1150251
Brazil	3,380,918	279347
China	3,339,510	264924
France	3,210,784	269829
India	3,403,022	277827
Italy	3,295,579	265217
Mexico	3,314,839	281633
South Africa	3,408,846	272968
Ukraine	3,716,987	287785
United Kingdom	14,422,881	1169718
United States	13,949,584	1137722

Displaying the Results of Analyses

This procedure is a step in the process for constructing an analysis.

See [What Is the Process for Constructing Analyses?](#)

You use the Results tab of the Analysis editor to add different views of the results such as graphs, tickers, and pivot tables. See [What Types of Views Are Available?](#)

When you create an analysis and display the Results tab, you see in the Compound Layout a title view and either a table or pivot table view by default, based on the following:

- If the analysis contains only attribute columns and measure columns, then a table is displayed by default.
- If the analysis contains at least one hierarchical column, then a pivot table is displayed by default.

The administrator might have configured different views to display by default in the Results tab.

You can combine views and position them anywhere in the Compound Layout. For example, you can create side-by-side pivot tables that reflect different views of the data, graphs that allow you to explore interrelationships in depth, and filters that limit the results.

Together all of these views are called a compound layout. See [Creating Additional Compound Layouts](#).

1. Click the **Results** tab.
The results of the analysis are displayed in a table or pivot table.
2. (Optional) Edit the table or pivot table or add additional views.

Creating Additional Compound Layouts

As you work with an analysis, you can create multiple compound layouts that use different combinations of views.

For example, one layout might include a graph and a title, and another layout might include a graph and a narrative view. When you add the analysis to a dashboard page, you can select which layout you want to include on that page.

1. Click the **Results** tab of the Analysis editor.
2. Create another compound layout by clicking one of the following buttons on the toolbar of the Results tab:
 - **Create Compound Layout** — Creates a new instance of the compound layout.
 - **Duplicate Compound Layout** — Creates a copy of the current compound layout, with the same views.

Alerting Users to No Data in the Results of Analyses

You may want to change the default message for `No Results` to a user.

When the results of an analysis return no data, the following default message is displayed to users:

```
No Results The specified criteria didn't result in any data. This is often caused by applying filters and/or selections that are too restrictive or that contain incorrect values. Please check your Analysis Filters and try again. The filters currently being applied are shown below.
```

Rather than display the default message, you can create a customized message to alert users. This message enables you to provide your own explanation for why the analysis returned no data.

1. Edit the analysis to which you want to add a custom message.

2. Click the **Results** tab of the Analysis editor.
3. Click the **Analysis Properties** button.
4. In the **No Results Settings** box of the Analysis Properties dialog, select **Display Custom Message**.
5. In the **Header** field, enter the text of the header for the custom message.
6. In the **Message** field, enter the explanatory text.
7. If you inserted HTML formatting codes as part of the message, then select **Contains HTML Markup**. If you insert the codes without selecting the option, then the codes are displayed as readable text within the message.
8. Click **OK**.

Adding Prompts to Analyses

This procedure is a step in the process for constructing an analysis.

Use the Prompts tab of the Analysis editor to create prompts that allow users to select values to filter an analysis. Prompts allow users to select values that dynamically filter all views within the analysis. See [What Is the Process for Constructing Analyses?](#)

- Click the **Prompts** tab and add the prompt.

Examining the Logical SQL Statements for Analyses

This procedure is an advanced step in the process for constructing an analysis.

See [What Is the Process for Constructing Analyses?](#)

You use the Advanced tab of the Analysis editor to examine the XML code and logical SQL statement that is generated for an analysis and optionally create an analysis based on that SQL statement. Generally you need not use the features of this tab, because the vast majority of functionality for working with analyses is provided through the user interface. The following list provides examples of situations in which you might want to examine SQL statements:

- You can use the Prefix section to override any user variable or session variable that has been marked as available for updating. You can specify multiple variables to update with one line of code.

To override variables, use the following syntax:

```
SET VARIABLE var-name=value
```

For example, you can set the variables that are shown in the following code line:

```
SET VARIABLE "My Variable "=4, DISABLE_CAC THE_HIT = 1, LOGLEVEL = 2;
```

For information on variables, see [Where Can I Reference Variables?](#)

- You can temporarily change the logging level for an analysis for troubleshooting, even when logging is turned off for analyses. In the Prefix section of the Advanced tab, you can specify the following:

```
SET VARIABLE LOGLEVEL=4;
```

This specification runs the analysis at level 4, which facilitates advanced troubleshooting. The default level is 0, which indicates no logging. You can view the logs using the **View Log** link on the Administration: Manage Sessions page.

See Setting Administration Tool Options in *Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

- You can enter your own logical SQL statements. Entering your own statements eliminates many features of Oracle BI EE (such as hierarchical columns, selection steps, groups, and formatting), but enables you to use functions such as SET operations.
- You can create an analysis using the SQL statements from an existing analysis as your starting point.

Before working with the Advanced tab, keep the following important points in mind:

- This procedure is only for advanced users and developers that have the appropriate responsibilities to access the Advanced tab. It is assumed that you understand advanced SQL statements, have expertise working with the Oracle BI Server metadata, are familiar with the SQL information in *Logical SQL Reference Guide for Oracle Business Intelligence Enterprise Edition*, and understand the content and structure of the underlying data sources.
- This tab provides the Advanced SQL Clauses area, which enables you to add clauses to the SQL statements and other similarly advanced features. These features, except for the ability to specify a prefix, are disabled for analyses that contain hierarchical columns, member selections, or groups.

 **Note:**

You can see the logical SQL statement that an analysis is using by inserting a logical SQL view. You can also enter SQL statements using the Administration: Issue SQL page.

1. Click the **Advanced** tab of the Analysis editor.
2. Use the link that corresponds to the analysis name in the Referencing the Results area at the top of the tab to display pages that contain links for working with the results of the analysis.
3. Use the fields in the Analysis XML area to view and modify the XML code, and click **Apply XML**.

If you modify the XML code, then you affect the analysis as it is saved in the Oracle BI Presentation Catalog.

To apply the settings for the **Partial Update** and the **Bypass Oracle BI Presentation Services Cache** boxes, you must also click the **Apply SQL** button at the bottom of the tab.

4. Use the read-only box in the SQL Issued area to examine the SQL statement that is sent to the Oracle BI Server when the analysis is executed.

If you want to create an analysis using the SQL statement from the current analysis as the starting point, then click the **New Analysis** button. Any hierarchical columns, selection steps, groups, or formatting that are specified in the current analysis are removed.

5. Depending on the content of the analysis, use the available fields in the Advanced SQL Clauses area to change the subject area, add GROUP BY or HAVING clauses, and specify DISTINCT processing and a prefix.
6. Click **Apply SQL** to apply your changes.

 **Note:**

Use care when clicking the **Apply SQL** button. When you do, Oracle BI Server creates a new analysis based on the SQL statement that you have added or modified. Therefore, you lose all views, formatting, and so on that you had previously created for the analysis. The XML code is also modified for the new analysis.

Saving Analyses

This procedure is a step in the process for constructing an analysis.

See [What Is the Process for Constructing Analyses?](#)

You can save an analysis to a:

- Personal folder, from which only you can access it.
Your top-level personal folder is called My Folders. Every user with a unique user name has a folder called My Folders. This is designed to hold the analyses that you run most often, and other content that you access frequently.
When you click the **Refresh Display** link at the bottom of the pane, the analysis is listed under the folder in which you saved it.
- Shared folder, from which users with permission to access that folder can access it.
- Lotus Notes database by either:
 - Saving the analysis to a Web Archive file (file extension `.mht`), and then uploading the file to the Lotus Notes database.
 - Saving the analysis and scheduling it to be sent by email automatically to a specific address on a Lotus Notes server using an agent. The Lotus Notes server can then process the email and write it to the database.

See [Creating Agents](#).

1. In the Analysis editor, click the **Save Analysis** button to display the dialog to save the analysis.
2. If you want to save the analysis to a personal or shared folder:
 - a. In the **Save In** box, select the personal or shared folder in which to save the analysis.
 - b. In the **Name** field, enter a name for the analysis, such as `forecasted_sales`.
 - c. Click **OK**.
3. If you want to save the analysis to a Lotus Notes database using a Web Archive file:

- a. In the **Save In** box, select the folder in which to save the analysis.
 - b. In the **Name** field, enter a name for the analysis, including an `.mht` file extension, such as `forecasted_sales.mht`.
 - c. Click **OK**.
 - d. Upload the `.mht` file to the Lotus Notes database.
4. If you want to save the analysis to a Lotus Notes database using an agent:
- a. In the **Save In** box, select the folder in which to save the analysis.
 - b. In the **Name** field, enter a name for the analysis, such as `forecasted_sales`.
 - c. Click **OK**.
 - d. Create the agent, scheduling it to be sent by email to a specific address on a Lotus Notes server.

Creating Agents from Analyses

You can create an agent directly from an analysis.

When you create an agent directly from an analysis, Oracle BI EE does the following:

- Creates a condition based on the analysis and adds the condition to the Condition tab of the Agent editor.
- Adds the analysis as the content delivery on the Delivery Content tab of the Agent editor.

See [Delivering Content](#).

1. Locate the analysis from which you want to create an agent using one of the following methods:
 - Open the analysis, click the **Results** tab of the Analysis editor and then the **Schedule** button. The analysis is saved.
 - Navigate to the analysis on the Catalog page, click the **More** list, and then click the **Schedule** option.
2. Complete the following tabs of the Agent editor:
 - General tab
 - Schedule tab
 - Condition tab
 - Delivery Content tab
 - Recipients tab
 - Destinations tab
 - Actions tab
3. Save the agent.

Editing Analyses

You can edit any analyses in this manner unless you are in accessibility mode.

 **Note:**

If you are using Oracle BI Enterprise Edition in accessibility mode, then you use the BI Composer wizard rather than the Analysis editor to edit analyses. See [Using BI Composer to Work with Analyses](#) and [Accessibility Features](#).

1. In the global header, click **Catalog** to display the Catalog page.
2. Navigate to the analysis to edit and click the **Edit** link.
3. In the Analysis editor, make the desired changes to the analysis.
4. Save the analysis.

About Embedding an Analysis in a Dashboard

Automatically show current analyses in dashboards by embedding.

Embedding an analysis in a dashboard causes it to execute automatically and display the results within the dashboard. This provides access to current results. For example, if you are a sales executive whose company captures sales data on a daily basis, then you might want to have the dollar volume of product that was sold today be displayed on the front page of your dashboard.

You can embed previously created analyses from the Oracle BI Presentation Catalog by using the Dashboard editor. See [Adding Content to Dashboards](#).

Working with Direct Database Requests

Users with the appropriate privileges can create and issue a direct database request directly to a physical back-end database.

You can display and manipulate the results of the request within the Analysis editor, and subsequently you can incorporate the results into dashboards and agents. This section includes the following topics:

- [Setting Privileges for Direct Requests](#)
- [Executing a Direct Database Request](#)
- [Seeing the Results of Direct Database Requests](#)

Setting Privileges for Direct Requests

Administrators can set access permissions for direct requests.

The following privilege settings in Oracle BI Presentation Services Administration control whether you can modify and execute direct requests:

- Edit Direct Database Analysis

If this privilege is set for you, then you can create and edit direct database requests.

- Execute Direct Database Analysis

If this permission is set for you, then you can issue direct requests and see the results.

See Managing Presentation Services Privileges in *Security Guide for Oracle Business Intelligence Enterprise Edition*.

Executing a Direct Database Request

You can query the database directly.

You can send a direct request to the database from Oracle BI EE.

Note:

Oracle BI Server security rules for data are bypassed and cannot be applied when direct database requests are issued from Oracle BI EE.

1. In the global header, select **New**, then **Analysis**, then **Create Direct Database Query**.
2. In the Criteria tab of the Analysis editor, specify the appropriate options.
3. To issue the request and see the results, if any, click the **Results** tab.

Seeing the Results of Direct Database Requests

After you retrieve columns to create an analysis from a direct database request, you can work with that analysis similarly to how you work with other analyses.

The following list outlines differences with analyses whose columns originated from direct database requests:

- The Subject Areas pane does not contain any columns, because you are not working with columns from a repository.
- You cannot create groups or selection steps for this analysis.
- You cannot specify conditional formatting for the columns.
- The Sort Ascending (upward-facing triangle) and the Sort Descending (downward-facing triangle) that display when you hover the mouse over the area to the right of a column name in the header of a pivot table, table, or trellis view are not supported.

Using Variables

Variables help ensure that the same information and text is accurately presented in multiple places.

You can reference variables in several areas of Oracle BI Enterprise Edition, including in analyses, dashboards, KPIs, actions, agents, and conditions. For example, suppose

that you wanted to create an analysis whose title displays the current user's name. You can do this by referencing a variable.

There are five types of variables that you can use:

- Session
- Repository
- Presentation
- Request
- Global

What Are Session Variables?

A session variable is a variable that is initialized at login time for each user.

When a user begins a session, the Oracle BI Server creates a new instance of a session variable and initializes it.

There are as many instances of a session variable as there are active sessions on the Oracle BI Server. Each instance of a session variable could be initialized to a different value.

Session variables are populated by a query specified in an initialization block (INIT BLOCK). These session INIT BLOCKS are typically executed only once at login time. However, if the INIT BLOCK is marked as deferred, you can execute it at a later time when the relevant variables are referenced.

Session INIT BLOCKS are generally associated with a query statement, but can also be associated with an Lightweight Directory Access Protocol (LDAP) object. See *Working with Initialization Blocks in Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

There are two types of session variables:

- **System** — A session variable that the Oracle BI Server and Oracle BI Presentation Services use for specific purposes.
System session variables have reserved names that cannot be used for other kinds of variables (such as static or dynamic repository variables and non-system session variables).
- **Non-system** — A system variable that the administrator creates and names. For example, the administrator might create a SalesRegion non-system variable that initializes the name of a user's sales region.

The administrator creates non-system session variables using the Oracle BI Administration Tool.

 **Note:**

Certain system session variables (such as, *USERGUID* or *ROLES*) cannot be overridden by request variables. Other system session variables, such as *DATA_TZ* and *DATA_DISPLAY_TZ* (Timezone), can be overridden if configured in the Oracle BI Administration Tool. See Working with Repository Variables in *Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

See About Session Variables in *Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

What Are Repository Variables?

A repository variable is a variable that has a single value at any point in time.

There are two types of repository variables:

- **Static** — Repository variables whose value persist and do not change until the administrator decides to change them.
- **Dynamic** — Repository variables whose values are populated by a query specified in an INIT BLOCK. You can specify the interval for which the INIT BLOCK is refreshed. A dynamic INIT BLOCK automatically refreshes its variables' values at the specified interval.

Dynamic INIT BLOCKs can only be associated with a query (that is, by a SQL statement, an ADF query, or another supported data source). See Working with Initialization Blocks in *Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

The administrator creates repository variables using the Oracle BI Administration Tool.

See About Repository Variables in *Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

What Are Presentation Variables?

Presentation variables are created and used with dashboard prompts.

A presentation variable is a variable that you can create as part of the process of creating one of the following types of dashboard prompts:

- **Column prompt** — A presentation variable that is created as part of a column prompt is associated with a column, and the values that it can take come from the column values.

To create a presentation variable as part of a column prompt, in the New Prompt dialog (or Edit Prompt dialog), you have to select **Presentation Variable** in the **Set a variable** field and then enter a name for the variable in the **Variable Name** field.

See [Creating a Column Prompt](#).

- **Variable prompt** — A presentation variable that is created as part of a variable prompt is not associated with any column, and you define the values that it can take.

To create a presentation variable as part of a variable prompt, in the New Prompt dialog (or Edit Prompt dialog), you have to select **Presentation Variable** in the **Prompt for** field and then enter a name for the variable in the **Variable Name** field.

See [Creating a Variable Prompt](#).

The value of a presentation variable is populated by the column or variable prompt with which it was created. That is, each time a user selects one or more values in the column or variable prompt, the value of the presentation variable is set to the value or values that the user selects.

What Are Request Variables?

Request variables temporarily override prompt database requests.

A request variable lets you override the value of a session variable but only for the duration of a database request initiated from a column prompt or a variable prompt.

Note:

Certain system session variables (such as, *USERGUID* or *ROLES*) cannot be overridden by request variables. Other system session variables, such as *DATA_TZ* and *DATA_DISPLAY_TZ* (Timezone), can be overridden if configured in the Oracle BI Administration Tool. See *Working with Repository Variables in Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

You can create a request variable as part of the process of creating one of the following types of dashboard prompts:

- **Column prompt** — A request variable that is created as part of a column prompt is associated with a column, and the values that it can take come from the column values.

To create a request variable as part of a column prompt, in the New Prompt dialog (or Edit Prompt dialog), you have to select **Request Variable** in the **Set a variable** field and then enter the name of the session variable to override in the **Variable Name** field.

See [Creating a Column Prompt](#).

- **Variable prompt** — A request variable that is created as part of a variable prompt is not associated with any column, and you define the values that it can take.

To create a request variable as part of a variable prompt, in the New Prompt dialog (or Edit Prompt dialog), you have to select **Request Variable** in the **Prompt for** field and then enter a name of the session variable that you want to override in the **Variable Name** field.

See [Creating a Variable Prompt](#).

The value of a request variable is populated by the column prompt or variable prompt with which it was created. That is, each time a user selects a value in the column or variable prompt, the value of the request variable is set to the value that the user selects. The value, however, is in effect only from the time the user presses the **Go** button for the prompt until the analysis results are returned to the dashboard.

 **Note:**

Only string and numeric request variables support multiple values. All other data types only pass the first value.

What Are Global Variables?

A global variable is a column created by combining a specific data type with a value.

The value is a string, number, date, time, expression, formula, and so on. You create a global value during the process of creating an analysis by using the Edit Column Formula dialog. The global variable is then saved in the catalog and made available to all other analyses within a specific tenant system.

You create a global variable as part of the process of creating an analysis.

Global variables are the following types:

- Date
 - Date and Time
 - Number
 - Text
 - Time
1. In the Selected Columns pane on the Criteria tab, click the **Options** button beside the column whose formula you want to edit and select **Edit Formula**.
 2. In the Column Formula tab of the Edit Column Formula dialog, click the **Variable** button, and then select **Global**.
 3. In the Insert Global Variable dialog, click the **Add New Global Variable** button.
 4. In the New Global Variable dialog, enter a unique name.
 5. Select a data type.
 6. Enter a value.
 - If you are selecting **Date and Time** as the data type, enter the value, as in the following example: 03/25/2004 12:00:00 AM.
 - If you are entering an expression or a calculation as a value, you must use the Text data type, as in the following example: "Base Facts"."1-Revenue"*3.1415.
 7. Click **OK**. The new global variable is added to the Insert Global Variable dialog.
 8. Select the new global variable that you just created, and then click **OK**.

The Edit Column Formula dialog is displayed with the global variable inserted in the Column Formula pane.

9. The **Custom Headings** check box is automatically selected. Enter a new name for the column to which you have assigned a global variable to more accurately reflect the variable.
10. Click **OK**.

The global variable is evaluated at the time the analysis is executed, and the value of the global variable is substituted appropriately. Only users with appropriate privileges can manage (add, edit, and delete) global variables.

Where Can I Reference Variables?

You can reference variables in many areas, but you can't reference all variables in each area.

You can reference variables in the following areas (but you can't reference all types of variables in each area):

- Title views.
- Narrative views.
- Static text views.
- Filters.
- Column formulas.
- Conditional formatting conditions.
- Table and column headings in analyses.
- Direct database requests.
- Dashboard prompts and inline prompts.
- Headers and footers for PDF output.
- Link or image objects in a dashboard.
- Text objects in a dashboard.
- Graphs to specify conditional formatting of graph data.
- Gauge thresholds.
- Gauge limits.
- Agents.
- Actions to specify parameters.
- Conditions to specify parameters.
- Selection steps to override steps.
- KPIs to define thresholds.
- KPIs included in a KPI watchlist.
- URL fields in dialogs.

See [What Is the Syntax for Referencing Variables?](#)

What Is the Syntax for Referencing Variables?

You can reference variables in analyses, dashboards, KPIs, and agents. How you reference a variable depends on the task that you are performing.

For tasks where you are presented with fields in a dialog, you must specify only the type and name of the variable (not the full syntax), for example, referencing a variable in a filter definition.

For other tasks, such as referencing a variable in a title view, you specify the variable syntax. The syntax you use depends on the type of variable.

Note:

In the syntax, if the "at" sign (@) is not followed by a brace ({}), then it is treated as an "at" sign.

See [Where Can I Reference Variables?](#)

Syntax for Referencing Variables

This section lists and describes the syntax for referencing each type of variable.

Session

```
@{biServer.variables['NQ_SESSION.variablename']}
```

where *variablename* is the name of the session variable, for example *DISPLAYNAME*.

See *About System Session Variables in Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

Example:

```
@{biServer.variables['NQ_SESSION.USER']}
```

Repository

```
@{biServer.variables.variablename}
```

or

```
@{biServer.variables['variablename']}
```

where *variablename* is the name of the repository variable, for example, *prime_begin*.

Example:

```
@{biServer.variables.prime_begin}
```

or

```
@{biServer.variables['prime_begin']}
```

Presentation or Request

```
@{variables.variablename}[format]{defaultvalue}
```

or

```
@{scope.variables['variablename']}
```

where:

- *variablename* is the name of the presentation or request variable, for example, *MyFavoriteRegion*.
- (optional) *format* is a format mask dependent on the data type of the variable, for example *#,##0, MM/DD/YY hh:mm:ss*. The format is not applied to the default value.
- (optional) *defaultvalue* is a constant or variable reference indicating a value to be used if the variable referenced by *variablename* is not populated.
- *scope* identifies the qualifiers for the variable. You must specify the scope when a variable is used at multiple levels (analyses, dashboard pages, and dashboards) and you want to access a specific value. (If you do not specify the scope, then the order of precedence is analyses, dashboard pages, and dashboards.)

 **Note:**

When using a dashboard prompt with a presentation variable that can have multiple values, the syntax differs depending on the column type. Multiple values are formatted into comma-separated values and therefore, any format clause is applied to each value before being joined by commas.

Example:

```
@{variables.MyFavoriteRegion}{EASTERN REGION}
```

or

```
@{MyFavoriteRegion}
```

or

```
@{dashboard.variables['MyFavoriteRegion']}
```

or

```
(@{myNumVar}[#,##0]{1000})
```

or

```
(@{variables.MyOwnTimestamp}[YY-MM-DD hh:mm:ss]{})
```

or

```
(@{myTextVar}{A, B, C})
```

Global

```
@{global.variables.variablename}
```

where *variablename* is the name of the global variable, for example, *gv_region*. When referencing a global variable, you must use the fully qualified name as indicated in the example.

 **Note:**

The naming convention for global variables must conform to EMCA Scripting language specifications for JavaScript. The name must not exceed 200 characters, nor contain embedded spaces, reserved words, and special characters. If you are unfamiliar with JavaScripting language requirements, consult a third party reference.

Example:

```
@{global.variables.gv_date_n_time}
```

Syntax for Referencing Expressions

You also can reference variables in expressions. The guidelines for referencing variables in expressions are described in this section.

Session

- Include the session variable as an argument of the `VALUEOF` function.
- Enclose the variable name in double quotes.
- Precede the session variable by `NQ_SESSION` and a period.
- Enclose both the `NQ_SESSION` portion and the session variable name in parentheses.

Example:

```
"Market"."Region"=VALUEOF(NQ_SESSION."SalesRegion")
```

Repository

- Include the repository variable as an argument of the `VALUEOF` function.
- Enclose the variable name in double quotes.
- Refer to a static repository variable by name.
- Refer to a dynamic repository variable by its fully qualified name.

If you are using a dynamic repository variable, then the names of the initialization block and the repository variable must be enclosed in double quotes ("), separated by a period, and contained within parentheses. For example, to use the value of a dynamic repository variable named `REGION` contained in an initialization block named `Region Security`, use this syntax:

```
VALUEOF("Region Security"."REGION")
```

See *About Repository Variables in Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

Example:

```
CASE WHEN "Hour" >= VALUEOF("prime_begin") AND "Hour" < VALUEOF("prime_end") THEN  
'Prime Time' WHEN ... ELSE...END
```

Presentation

- Use this syntax:

```
@{variablename}{defaultvalue}
```

where *variablename* is the name of the presentation variable and *defaultvalue* (optional) is a constant or variable reference indicating a value to be used if the variable referenced by *variablename* is not populated.

- To type-cast (that is, convert) the variable to a string, enclose the entire syntax in single quotes, for example:

```
'@{user.displayName}'
```

When using a presentation variable that can have multiple values, the syntax differs depending on the column type.

Use the following syntax in SQL for the specified column type in order to generate valid SQL statements:

- **Text** — (@{variablename}['@']{defaultvalue})
- **Numeric** — (@{variablename}{defaultvalue})
- **Date-time** — (@{variablename}{timestamp defaultvalue})
- **Date (only the date)** — (@{variablename}{date defaultvalue})
- **Time (only the time)** — (@{variablename}{time defaultvalue})

Example:

```
"Market"."Region"=@{MyFavoriteRegion}{EASTERN REGION}
```

or

```
"Products"."P4 Brand"=(@{myTextVar}['@']{BizTech})
```

or

```
"Products"."PO Product Number"=(@{myNumVar}{1000})
```

or

```
"Sales Person"."E7 Hire Date"=(@{myDateTimeVar}{timestamp '2013-05-16 00:00:01'})
```

or

```
"Time"."Total Fiscal Time"=(@{myDateVar}{date '2013-05-16'})
```

or

```
"Time"."Time Right Now"=(@{myTimeVar}{time '00:00:01'})
```

For multiple values (in specified data types) when using SQL:

If the column type is **Text** and *variablename* is passing *val1*, *val2*, and *val3*, the resultant is ('val1', 'val2', 'val3').

or

If the column type is **Date** and *variablename* is passing *2013-08-09* and *2013-08-10*, the resultant is (date '2013-08-09', date '2013-08-10').

or

If the column type is **Date-time** and *variablename* is passing *2013-08-09 00:00:00* and *2013-08-10 00:00:00*, the resultant is (timestamp '2013-08-09 00:00:00', timestamp '2013-08-10 00:00:00').

What Predefined Presentation Variables Are Available?

The application has a set of predefined presentation variables that you can use in various outputs.

This table contains a list of the predefined presentation variables that you can reference in analyses, dashboards, KPIs, and agents. The syntax for these predefined presentation variables omits the `variables.` qualifier, for example, `@{session.locale}` rather than `@{session.variables.locale}`.

 **Note:**

For time zone variables, the time zone for a user must be set to a value other than Default in order for this variable to work. (Users set their preferred time zone in the Preferences tab of the My Account dialog.)

Scope	Presentation Variable	Example
system	<i>productVersion</i>	<code>system.productVersion = 11.1.1.3</code> (Build 090619.0110.000)
system	<i>currentTime</i>	<code>system.currentTime = 6/29/2009</code> 7:35:59 PM
session	<i>locale</i>	<code>session.locale = en-us</code>
session	<i>language</i>	<code>session.language = en</code>
session	<i>rtl</i> This indicates whether the language selection in the Login page is a right to left language. For example, if the language selection is Hebrew, then this variable returns true.	<code>session.rtl = false</code>
session	<i>timeZone</i>	<code>session.timeZone = (GMT-06:00)</code> Central America
session	<i>timeZone.id</i> This returns a value that is not localized.	<code>session.timeZone.id = (GMT-06:00)</code> Central America
session	<i>timeZone.name</i> This returns a localized value.	<code>session.timeZone.name = (GMT-06:00)</code> Central America
session	<i>timeZone.value</i> This returns a localized value.	<code>session.timeZone.value =</code> (GMT-06:00) Central America
session	<i>loginTime</i>	<code>session.loginTime = 6/29/2009</code> 7:12:01 PM
session	<i>logoutTime</i>	<code>session.logoutTime = 6/29/2009</code> 8:02:01 PM
session	<i>lastAccessTime</i>	<code>session.lastAccessTime = 6/29/2009</code> 7:35:59 PM
session	<i>currentUser</i>	<code>session.currentUser = Administrator</code>

Scope	Presentation Variable	Example
session	<i>currency.name</i>	<code>session.currency.name = \$ English - United States</code>
session	<i>currency.symbol</i>	<code>session.currency.symbol = \$</code>
session	<i>currency.userPreference</i>	<code>session.currency.userPreference = Global Currency 2</code>
session	<i>accessibility</i> This indicates whether accessibility mode is enabled for the current user session.	<code>session.accessibility = true</code>
user	<i>id</i>	<code>user.id = Administrator</code>
user	<i>displayName</i>	<code>user.displayName = Administrator</code>
user	<i>homeDirectory</i>	<code>user.homeDirectory = /users/administrator</code>
dashboard	<i>currentPage</i>	<code>dashboard.currentPage = page 1</code>
dashboard	<i>xml</i>	<code>dashboard.xml = the dashboard XML</code>
dashboard	<i>dashboard.currency.name</i>	<code>dashboard.currency.name = Euro</code>
dashboard	<i>dashboard.currency.symbol</i>	<code>dashboard.currency.symbol = \$</code>
dashboard	<i>dashboard.currency.userPreference</i>	<code>dashboard.currency.userPreference = Global Currency 1</code>
dashboard	<i>dashboard.path</i> This returns the path in the catalog.	<code>dashboard.path = /users/administrator/_portal/Sales</code>
dashboard	<i>dashboard.name</i>	<code>dashboard.name = MyDashboard</code>
dashboard	<i>dashboard.caption</i> This returns the localized name of the dashboard.	<code>dashboard.caption = Sales</code>
dashboard	<i>dashboard.location</i> This returns the URL for the location.	<code>dashboard.location = Dashboard&PortalPath=/users/administrator/_portal</code>
dashboard	<i>dashboard.description</i>	<code>dashboard.description = Sales by region and district</code>
dashboard	<i>dashboard.author</i>	<code>dashboard.author = Administrator</code>
dashboard.currentPage	<i>dashboard.currentPage.name</i>	<code>dashboard.currentPage.name = Sales page 1</code>
dashboard.currentPage	<i>dashboard.currentPage.path</i>	<code>dashboard.currentPage.path = /users/administrator/_portal/Sales/page 1</code>
dashboard.currentPage	<i>dashboard.currentPage.currency.name</i>	<code>dashboard.currentPage.currency.name = USD</code>
dashboard.currentPage	<i>dashboard.currentPage.currency.symbol</i>	<code>dashboard.currentPage.currency.symbol = USD</code>
dashboard.currentPage	<i>dashboard.currentPage.currency.userPreference</i>	<code>dashboard.currentPage.currency.userPreference = Global Currency 2</code>

Scope	Presentation Variable	Example
analysis	<i>report.currency.name</i>	<code>report.currency.name = \$ English - United States</code>
analysis	<i>report.currency.symbol</i>	<code>report.currency.symbol = \$</code>
analysis	<i>report.currency.userPreference</i>	<code>report.currency.userPreference = Global Currency 2</code>

Example of Referencing a Variable in a Title View

Referencing a variable in a title view ensures that the information is accurate.

Suppose that you have created a dashboard prompt called Region, which is based on the D50 Region column and which creates a presentation variable called MyFavoriteRegion as shown in the illustration.

New Prompt:

Prompt For Column "Office Regions"."D50 *fx*

Label Region

Custom Label

Description

Operator is equal to / is in

User Input Choice List

Options

General More

Choice List Values All Column Values

Include "All Column Values" choice in the list

Enable user to select multiple values

Enable user to type values

Require user input

Limit values by All Prompts

Auto Fill None First Available Value

Default selection None

Set a variable Presentation Variable

MyFavoriteRegion

OK Cancel

Suppose also that you have created an analysis that shows Revenue by Region and Area. You have also added a filter on the D50 Region column that is set to **Is Prompted** so that you can prompt the user for a region using this Region prompt.

You can reference the MyFavoriteRegion variable in the Title view so that the user's selection in the Region prompt is displayed in the title of the analysis. To do so, you enter the variable syntax `@{variables.MyFavoriteRegion}` in the **Title** field in the Title editor, as shown in the illustration.

Title

Title

Display Saved Name

Logo

Optional - URL of a title image.
Note: When running in a secured environment, only resources that are located on the Oracle BI I

Subtitle

Started Time

Help URL

Optional - URL for a document providing help on this analysis.
Note: When running in a secured environment, only resources that are located on the Oracle BI I

My Favorit Region @{{variables.MyFavoriteRegion}}

The illustration shows the results on a dashboard page when a user selects AMERICAS REGION in the Region prompt. Notice that the variable in the analysis title has been updated to the user's selection, AMERICAS REGION.

Region

My Favorite Region- AMERICAS

D50 Region	D51 Area	1- Revenue
AMERICAS	Central	3,314,839
	North America	13,949,584
	South America	3,380,918

3

Adding External Data to Analyses

This chapter explains how to include external data in the analyses you create in Presentation Services. External data is data from outside of the repository, and this data is contained in external subject areas which are created and saved in Visual Analyzer. After the external subject areas are saved, they are available for you to use in Presentation Services.

Topics

This chapter includes the following sections:

- [About Including External Data in Analyses](#)
- [Accessing External Subject Areas and Sharing Analyses Containing External Subject Area Data](#)
- [Subject Area Icons](#)
- [Adding External Subject Areas to an Analysis](#)
- [Removing External Subject Areas from an Analysis](#)
- [Downloading External Subject Area Data](#)
- [Deleting External Subject Areas from Oracle BI EE](#)

About Including External Data in Analyses

When you create or modify analyses in Presentation Services, you can include data from external subject areas that were created and saved in Visual Analyzer.

The data sets created and saved in Visual Analyzer are matched and modeled to the subject areas in the Oracle BI metadata repository. When you create an analysis with an external subject area you can only add columns to the analysis, and you cannot model the data. Any updates to the external subject area made in Visual Analyzer will appear in Presentation Services.

When you create a new analysis or modify an existing analysis, the external subject areas matched to the subject areas in the Oracle BI metadata repository and which you have the permission to access will display in the Select Subject Area dialog or the Add/Remove Subject Areas dialog. See [Accessing External Subject Areas and Sharing Analyses Containing External Subject Area Data](#) for more information about which external subject areas are included in your subject area list.

When creating or modifying an analysis, you can use the data from external subject areas in these ways:

- Create an analysis that uses the external subject area on its own.

You can create an analysis that is based solely on an external subject area. You do not have to use the subject area to which the external subject area is matched and modeled.

- Create an analysis that uses an external subject area along with the subject area to which the external subject area is matched and modeled.

For example, you can overlay metrics on enterprise data such as updating a progress report against new budget data that was made into and saved as an external subject area. You can enrich analyses with attributes in an external subject area such as demographics to gain insight into how different levels of education might affect sales quantity. You can define custom roll-ups and segments such as seeing how revenue segmentation changes if products are re-classified.

Suppose that you have a subject area that contains data about sales, such as Products, Brands, and Salespeople. You have an external subject area that contains Target Revenue sales figures, which do not exist in the subject area. You'd like to create an analysis that combines Product and Brand values from the subject area with the Target Revenue figures from your external subject area. The external subject area has been modeled so that the Product and Brand columns in the external subject area match with those in the subject area and add Target Revenue as a measure. The matching connects the external subject area with the subject area.

Accessing External Subject Areas and Sharing Analyses Containing External Subject Area Data

Only the external subject areas that you have permission to access will be available for you to add to analyses.

Permissions to the external subject area are granted either in Visual Analyzer or through the analyses that use the external subject area.

An external subject area will display in the Select Subject Area dialog or the Add/Remove Subject Areas dialog if the user who created and saved the external subject area in Visual Analyzer gave you access permission as an individual user or member of a role.

You will also see external subject areas in the Select Subject Area dialog or the Add/Remove Subject Areas dialog when a Presentation Services user creates and saves analyses that include those external subject areas and grants you permission to view or edit those analyses. Consider the following:

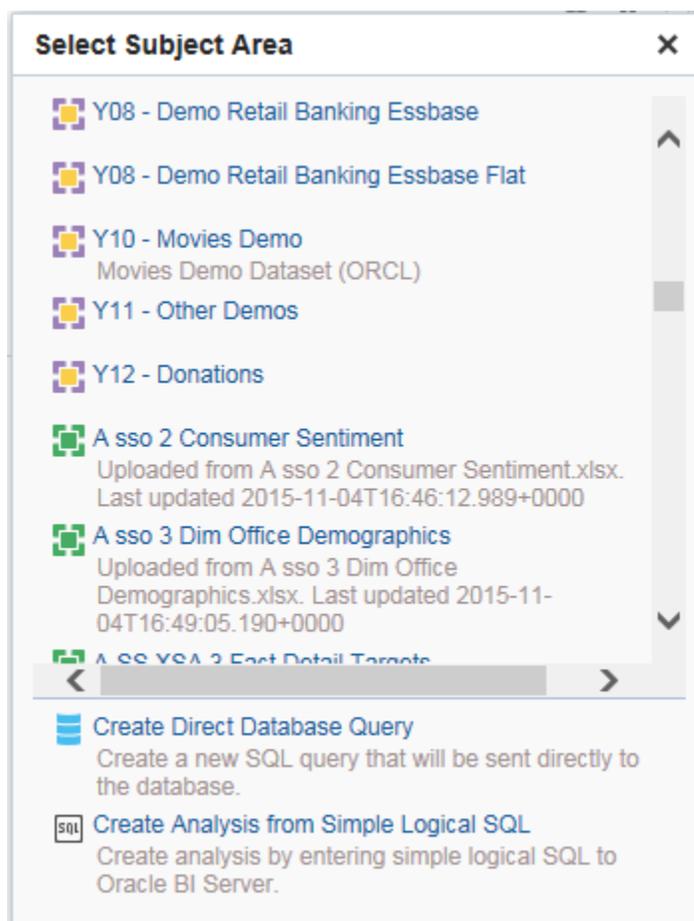
- When the user saves an analysis that contains an external subject area, Oracle BI EE reminds the user that the external subject area data will be shared.
- Any permissions saved with an analysis using an external subject area are applied to the analysis and to the external subject area.
- An analysis using an external subject area must be saved to a shared catalog folder. This ensures that a user who views or edits the analysis will also see data from the external subject area.
- If an analysis using an external subject area was saved anywhere but a shared folder, and if a user who was not granted access to the external subject area in Visual Analyzer views or edits the analysis, then the data from the external subject area will not display in the analysis.

Subject Area Icons

Icons represent different ways items in subject areas are created.

The Select Subject Area dialog and the Add/Remove Subject Areas dialog in Oracle BI EE uses different icons to distinguish between subject areas created with the Administration Tool and external subject areas created and saved in Visual Analyzer.

The purple and yellow square icon displays for subject areas created with the Administration Tool. The green square icon displays for external subject areas created and saved in Visual Analyzer. See the illustration shown.



Adding External Subject Areas to an Analysis

You can add data from external subject areas when you create an analysis or when you are modifying an existing analysis.

- When you create a new analysis, select the external subject area that you want to use in the analysis in the Select Subject Area dialog.
- When you edit an existing analysis, click **Add / Remove Subject Areas** in the Subject Areas pane, select the external subject area that you want to add, and then click **OK**.

Removing External Subject Areas from an Analysis

You can remove an external subject area from an analysis.

If you remove an external subject area, then its data is removed from the analysis. The external subject area and its data remain on the Oracle BI server. See [Deleting External Subject Areas from Oracle BI EE](#).

You cannot remove a subject area upon which the external subject area is matched and modeled.

1. Open for editing the analysis to which you added external data.
2. In the Subject Areas pane, click **Add / Remove Subject Areas**.
3. In the Add / Remove Subject Areas dialog, select the external subject area that you want to remove, and then click **OK**.

Downloading External Subject Area Data

You or any user who has Read access can download the data in an external subject area.

The downloaded data is saved into a file containing all worksheets and all columns for each worksheet. The downloaded data reflects the most recently uploaded data, which is not necessarily the original data uploaded in the external subject area.

Any sharing permission on the external subject area of either **Read**, **Modify**, or **Full Control** provides access to download the entire spreadsheet file.

To download external data:

1. In the Subject Areas pane, right-click the external subject area, and select **Download**.
2. In the **Save as** dialog, keep the default file name or give the file a new name.
3. Click **Save**.

Deleting External Subject Areas from Oracle BI EE

You can permanently delete an external subject area from the Oracle BI Server when you need to free up space to stay within your storage limit.

You can delete only external subject areas. You cannot delete external subject areas that you have included in analyses. Deleting an external subject area differs from removing an external subject area from an analysis. See [Removing External Subject Areas from an Analysis](#).

- In the Subject Areas pane, right-click the external subject area, and select **Delete**.

4

Adding Views for Display in Dashboards

This chapter describes the views that are available in Oracle Business Intelligence Enterprise Edition to present the results of analyses in meaningful, intuitive ways. It explains how to add views for display in dashboards, how to modify values (that is, perform write back) in views, and how to set up master-detail linking of views. It also describes interactions, drilling, sorting, and printing in views.

Topics

This chapter includes the following sections:

- [What Are Views?](#)
- [What Types of Views Are Available?](#)
- [Adding Views to the Results of Analyses](#)
- [What Is the Recommended Visualizations Feature?](#)
- [Editing Views](#)
- [Modifying Values and Performing Write Back](#)
- [Interactions in Views](#)
- [Drilling in Views](#)
- [Sorting Data in Views](#)
- [Resizing Rows and Columns in Table Views, Pivot Table Views, and Advanced Trellis Views](#)
- [Saving Views](#)
- [Renaming Views or Compound Layouts](#)
- [Rearranging Views](#)
- [Printing Views](#)
- [Changing Print and Export Options for Views](#)
- [Previewing How Views Are Displayed on a Dashboard](#)
- [Removing Views](#)
- [Refreshing the Results in Views](#)
- [Customizing Views for Delivery to Agent Users](#)
- [What Is Master-Detail Linking of Views?](#)
- [Linking Views in Master-Detail Relationships](#)

What Are Views?

Views use the presentation capabilities of Oracle BI Enterprise Edition to help you look at results of analyses in meaningful, intuitive ways.

You can add a variety of views to the results, such as graphs and pivot tables that allow drilling down to more detailed information, explanatory text, a list of filters that were used to limit the results, and more.

When you display the results of a new analysis, the following views are displayed by default in the Compound Layout in the Results tab of the Analysis editor:

- A title view, which displays the name of the saved analysis.
- A table or pivot table view, which displays the results of the analysis, depending on the types of columns that the analysis contains:
 - If the analysis contains only attribute columns, only measure columns, or a combination of both, then a table is the default view.
 - If the analysis contains at least one hierarchical column, then a pivot table is the default view.

You can customize or delete the existing views for an analysis, add other views, and combine and position views anywhere in the pane.

Preparing multiple views of results can help you identify trends and relationships in data. If you are customizing results for display on a dashboard, then you can preview how the combination and position of views looks when viewed on a dashboard.

You can then save the analysis with the collection of views.

What Types of Views Are Available?

There are several types of views available for presenting data.

Your privileges control whether you can access all views or specific views only. The table describes the types of views that are available.

Title

Displays a title, a subtitle, a logo, a link to a custom online help page, and timestamps to the results.

Table

Displays results in a visual representation of data organized by rows and columns. A table provides a summary view of data and enables users to see different views of data by dragging and dropping rows and columns.

Pivot Table

Displays results in a pivot table, which provides a summary view of data in cross-tab format and enables users to see different views of data by dragging and dropping rows and columns. Pivot tables structure data similarly to standard tables that contain column groups, but can display multiple levels of both row and column headings. Unlike regular tables, each data cell in a pivot table contains a unique value. By organizing data in this way, a pivot table is more efficient than a row-based table. Pivot tables are ideal for displaying a large quantity of data, for browsing data hierarchically, and for trend analysis.

Performance Tile

Displays a single aggregate measure value in a manner that is both visually simple and prominent, yet it immediately reveals summary metrics to the user that will likely be presented in more detail within a dashboard view. Performance tiles:

- Focus the user's attention on simple, need-to-know facts directly and prominently on the tile.
- Communicate status through simple formatting by using color, labels, and limited styles, or through conditional formatting of the background color or measure value to make the tile visually prominent. For example, if revenue is not tracking to target, the revenue value may appear in red.
- Respond to prompts, filters, and user roles and permissions by making them relevant to the user and their context.
- Support a single, aggregate or calculated value.

Treemap

Displays a space-constrained, two-dimensional visualization for hierarchical structures with multiple levels. Treemaps:

- Are limited by a predefined area and display two levels of data.
- Contain rectangular tiles. The size of the tile is based on a measure, and the color of the tile is based on a second measure.
- Are similar to a scatter plot graphs in that the map area is constrained, and the graph allows you to visualize large quantities of data and quickly identify trends and anomalies within that data.

Heat Matrix

Displays a two-dimensional depiction of data in which values are represented by a gradient of colors that are well suited for analyzing large amounts of data and identifying outliers. Heat matrixes structure data similarly to pivot tables in that they are formed by the grouping and intersection of rows and columns.

Trellis

Displays multidimensional data shown as a set of cells in a grid, where each cell represents a subset of data using a particular graph type. Data can be represented with graphs, microcharts, and numbers.

The trellis view has two subtypes: Simple Trellis and Advanced Trellis. Simple trellis views are ideal for displaying multiple graphs that enable comparison of like to like. Advanced trellis views are ideal for displaying spark graphs that show a trend.

A simple trellis displays a single inner graph type, for example a grid of multiple Bar graphs. The inner graphs always use a common axis; that is to say, the graphs have a synchronized scale.

An advanced trellis displays a different inner graph type for each measure. In an advanced trellis, each measure column operates independently for drilling, axis scaling, and so on. For example, a mixture of Spark Line graphs and Spark Bar graphs, alongside numbers. In this example, the Spark Line graph might show Revenue over time, and the Spark Bar graph might show Units Sold. A measure column displaying numbers might be placed adjacent to the Spark Line graphs, showing the Revenue measure as a total value for a year.

For definitions of microchart and spark graph, see [What Terms are Used with Trellis Views?](#).

Graph

Displays numeric information visually, which makes it easier to understand large quantities of data. Graphs often reveal patterns and trends that text-based displays cannot. However, when precise values are needed, graphs should be supplemented with other data displays, such as tables. A graph is displayed on a background, called the graph canvas.

See [What Types of Graphs Are Available?](#)

Gauge

Shows a single data value. Due to its compact size, a gauge is often more effective than a graph for displaying a single data value. Beside displaying the data visually, each gauge also displays the result in numeric form

Gauges identify problems in data. A gauge usually plots one data point with an indication of whether that point falls in an acceptable or unacceptable range. Thus, gauges are useful for showing performance against goals. Depending on the data in the analysis, a gauge view might consist of multiple gauges in a gauge set. For example, if you create a gauge view to show the sales data for the last twelve months, the gauge view consists of twelve gauges, one for each month. If you create one to show the total sales in the US, then the gauge view consists of one gauge. A gauge or gauge set is displayed on a background, called the gauge canvas.

For the types of gauges that are available, see [What Types of Gauges Are Available?](#)

Funnel

Displays results as a three-dimensional graph that represents target and actual values using volume, level, and color. Typically, funnel graphs are used to graphically represent data that changes over different periods or stages. For example, funnel graphs are often used to represent the volume of sales over a quarter.

Funnel graphs are well suited for showing actual compared to targets for data where the target is known to decrease (or increase) significantly per stage, such as a sales pipeline. In funnel graphs, the thresholds indicate a percentage of the target value, and colors provide visual information for each stage. You can click one of the colored areas to drill down to more detailed information.

For the types of funnel graphs that are available, see [What Types of Funnel Graphs Are Available?](#)

Map view

Displays results overlain on a map. Depending on the data, the results can be overlain on top of a map as formats such as images, color fill areas, bar and pie graphs, and variably sized markers.

Filters

Displays the filters in effect for an analysis. Filters, like selection steps, allow you to constrain an analysis to obtain results that answer a particular question. Filters are applied before the query is aggregated.

Selection Steps

Displays the selection steps in effect for an analysis. Selection steps, like filters, allow you to obtain results that answer particular questions. Selection steps are applied after the query is aggregated.

Column Selector

Adds a column selector in the results. A column selector is a set of drop-down lists that contain pre-selected columns. Users can dynamically select columns and change the data that is displayed in the views of the analysis.

View Selector

Adds a view selector in the results. A view selector is a drop-down list from which users can select a specific view of the results from among the saved views.

Legend

Adds a legend to the results, which enables you to document the meaning of special formatting used in results, such as the meaning of custom colors applied to gauges.

Narrative

Displays the results as one or more paragraphs of text. You can type in a sentence with placeholders for each column in the results, and specify how rows should be separated.

Ticker

Displays the results as a ticker or marquee, similar in style to the stock tickers that run across many financial and news sites on the Internet. You can control what information is presented and how it scrolls across the page.

Static Text

Adds static text in the results. You can use HTML to add banners, tickers, ActiveX objects, Java applets, links, instructions, descriptions, graphics, and so on, in the results.

Logical SQL

Displays the SQL statement that is generated for an analysis. This view is useful for trainers and administrators, and is usually not included in results for typical users. You cannot modify this view, except to format its container or to delete it.

Create Segment

Displays a Create Segment link in the results. Users can click this link to create a segment in their Oracle's Siebel Marketing operational application, based on the results data. This view is for users of the Oracle's Siebel Marketing Version 7.7 (or higher) operational application.

For information, see *Oracle Marketing Segmentation Guide*.

Create Target List

Displays a Create Target List link in the results. Users can click this link to create a target list, based on the results data, in their Oracle's Siebel operational application. This target list can be used as the foundation for initiating and logging call activity information for this defined set of targets. This view is for users of Oracle's Siebel Life Sciences operational application integrated with Oracle's Siebel Life Sciences Analytics applications.

What Types of Graphs Are Available?

There are many types of graphs available to display different types of data.

The table shows the types of graphs that are available and describes their uses. It also shows the available styles for each type. All graph types except for scatter, radar, and microchart can be 2-dimensional (2D) or 3-dimensional (3D). Not all types of graphs are appropriate for all types of data.

Graph Type	Graph Subtype	Description	Styles
Bar	Vertical	Shows quantities associated with categories. Bar graphs show quantities as bar lengths and categories as bars or groups of bars.	Rectangle
	Curved Line		Triangle
	Horizontal	Bar graphs are useful for comparing differences among like items; for example, competing product sales, same product sales over different time periods, or same product sales over different markets.	Cylinder
	Stacked Vertical		Diamond
	Stacked Horizontal		Gradient
	100% Stacked Vertical	Can be used to compare measure columns by showing bars in a horizontal or vertical direction.	Pattern Fill
	100% Stacked Horizontal		
Line	-	Shows quantities over time or by category.	Standard Line
		Line graphs are useful for showing trends over time.	Stepped Line
		Can be used to plot multiple measure columns.	Curved Line
Area	Stacked	Shows the trend of the contribution of each value over time or by category. An area graph is a line graph for which the regions between lines are filled in. Regions stack, adding up to the total value for each time period or category. In 100% stacked graphs, each category is displayed as a percentage contribution to the total value.	Solid Fill
	100% Stacked		Gradient Fill Pattern Fill
Pie	-	Shows data sets as percentages of a whole. Pie graphs are useful for comparing parts of a whole, such as sales by region or by district.	Solid Fill Gradient Fill Pattern Fill
Line-Bar	Standard	Plots two sets of data with different ranges, one set as bars, and one set as lines overlaid on the bars. Line-bar graphs are useful for showing trend relationships between data sets.	Rectangle
	Stacked		Triangle Cylinder Diamond Gradient Pattern Fill
Time Series Line	-	Plots time series data. It scales the horizontal axis based on the time that has elapsed between data points.	Standard Line Stepped Line Curved Line
Pareto	-	Is a form of bar graph and line graph that displays criteria in descending order. In this graph type, the line shows a cumulative total of the percentages. Pareto graphs are useful for identifying significant elements, such as best and worst or most and least.	Rectangle Triangle Cylinder Diamond Gradient Pattern Fill

Graph Type	Graph Subtype	Description	Styles
Scatter	-	<p>Displays x-y values as discrete points, scattered within an x-y grid. It plots data points based on two independent variables. This enables you to plot large numbers of data points and observe the clustering of data points.</p> <p>Scatter graphs are useful for observing relationships and trends in large data sets.</p>	<p>Standard Scatter Scatter-with-Lines</p>
Bubble	-	<p>Is a variation of a scatter graph that displays data elements as circles (bubbles). It shows three variables in two dimensions. One value is represented by the location of the circle on the horizontal axis. Another value is represented by the location of the circle on the vertical axis. The third value is represented by the radius of the circle.</p> <p>Bubble graphs are useful for plotting data with three variables, and for displaying financial data over a period of time.</p>	None
Radar	-	<p>Plots the same information as a bar graph, but instead displays data radiating from the center of the graph. Each data element has its own value axis.</p> <p>Radar graphs are useful for examining overlap and distribution.</p>	None
Microchart	<p>Spark Line Spark Bar Spark Area</p>	<p>A text-sized graphic (of similar size to a piece of nearby text) that displays only in the context of the trellis view and that is ideal for showing trend information.</p> <p>A microchart graph type is useful within an advanced trellis, where data is displayed as a mixture of spark graphs and numbers.</p> <p>A microchart does not have axes or legends. Like larger graphs, a microchart's measure values are rendered as relatively sized bars (or lines, or area). Each measure name is displayed in its column header. Further details of the measure appear as tooltip text when you hover the mouse over a data cell.</p>	None
Waterfall	-	<p>A waterfall graph lets you visualize how a value increases or decreases sequentially and cumulatively. Waterfall graphs have the following characteristics:</p> <ul style="list-style-type: none"> • Focus the user's attention on how each measure contributes to the overall total. • Communicate through simple formatting by using color. <p>An initial value is summed with subsequent values (both negative and positive deltas or changes) to arrive at a total. There is only one total per waterfall graph and subtotals can be added. See What Types of Waterfall Graph Formats Are Available? for additional information.</p>	None

What Types of Funnel Graphs Are Available?

There is more than one type of funnel graph.

The table lists and describes the types of funnel graphs that are available. The style of each type can be either solid or gradient fill.

Type	Description
Standard	Uses a standard shape with equal stage widths.
Non-Standard	Uses a standard shape with unequal stage widths
Last-Stage Only	Uses a standard shape with equal stage widths. It is similar to standard funnel except that the target values of all the stages before the last is calculated based on the last stage target value and a constant called target factor.

What Types of Graphs Are Available to Trellis Views?

The list of graph types that are available for use in trellis views varies by trellis view subtype: Simple Trellis or Advanced Trellis.

The following types of graphs can be used in simple trellises:

- Bar (subtype Vertical)
- Bar (subtype Horizontal)
- Line
- Area
- Line-Bar
- Pie
- Scatter
- Bubble

The following visualization choices are available in advanced trellises:

- Numbers
- Microchart, of the following subtypes:
 - Spark Bar
 - Spark Line
 - Spark Area

For details on each graph type, see [What Types of Graphs Are Available?](#)

What Types of Gauges Are Available?

A variety of gauges are available to display information about different types of data.

The table lists and describes the types of gauges that are available. All gauges are 2-dimensional (2-D) except for bulb gauges which can be either 2-dimensional or 3-dimensional (3-D). Their sizes can be small, medium, large, or a custom size.

Type	Description
Dial	Shows data using a dial arc with one or more indicators that point to where the data falls within predefined limits.

Type	Description
Horizontal bar	Shows data using a horizontal bar that changes color to indicate whether the data is within predefined limits. The inner rectangle of the horizontal bar shows the current level of data against the ranges marked on an outer rectangle.
Vertical bar	Shows data using a vertical bar that changes color to indicate whether the data is within predefined limits. The inner rectangle of the vertical bar shows the current level of data against the ranges marked on an outer rectangle.
Bulb	Shows data using a circle that changes color to indicate whether the data is within predefined limits. Bulb gauges are useful when you must know what the status is, and not any indication of a specific value, or relative information about other threshold ranges.

What Types of Logical SQL Views Are Available?

Logical SQL can be displayed in a few ways.

The table lists and describes the types of Logical SQL views that are available.

Type	Description
Standard	Displays only logical SQL. This view is useful to check whether the generated logical SQL is correct.
Diagnostic	Displays diagnostic information that is helpful to include with a Service Request when you are having issues with incorrect data.

What Types of Waterfall Graph Formats Are Available?

Waterfall graph formats have predefined bar color combinations.

The default colors for increasing (positive) and decreasing (negative) are green and red, respectively. The format defines the appearance of the waterfall graph, including the color of the bars and the bars that display.

The table lists and describes the types of formats available for waterfall graphs.

Format Type	Description
Increase, Decrease and Total	Use this format to display increasing measures, decreasing measures, and a total (subtotal) in the specified colors. Both the total and subtotal display in the same associated color.
First, Increase, Decrease and Total	Use this format to display increasing measures, decreasing measures, and a total (or subtotal), where the first bar and the total (subtotal) have the same color bar.
Single Color	Use this format to display all bars in the same color.
Dual Color	Use this format to display the first bar and total (or subtotal) in one color, and positive or negative values in a second color.
Custom	Use this format to create unique colors for increasing and decreasing values, the first bar, and total bars. Once you select a color from one of the color block lists, the format automatically becomes custom. Both the total and subtotal display in the same associated color.

By default, the waterfall graph includes the following characteristics:

- The bars are rendered in a cumulative manner. Each bar starts rendering from the top of the previous bar (positive values go up, negative values go down). Cumulative totals may be rendered (from the chart baseline) at various points.
- The graph is rendered as a 2D bar graph with a format of **Increase**, **Decrease** and **Total**.
- Default colors are green (positive), red (negative), and blue (total).
- Zoom to data range is not supported for waterfall graphs.
- Data labels display according to defined specifications. See the **Vertical Axis Labels, Horizontal Axis Labels or Data Markers: Format Label** button in the Titles and Labels tab of the Graph Properties dialog for additional information.
- Tooltips for waterfall graphs contain the same information as other graph types (for example, member name, dimension, and actual value), but they also contain a subtotal value.
- Left-click interactions are not available for the total bar or the legend.

See Style tab of the Graph Properties dialog and Titles and Labels tab of the Graph Properties dialog for detailed information on editing waterfall graph properties.

Adding Views to the Results of Analyses

You can add one or more views to the results of analyses to make the data easier to understand.

Bear these guidelines in mind:

- If you select a graph type or gauge type that is incompatible with the results, then no results are shown.
- Do not use a pie graph to visualize data that includes negative values. Either filter the analysis to ensure that all values are greater than 0 or use a different graph type.
- As you design graphs, funnel graphs, and gauges, you will see differences in the display of a graph or gauge legend, depending on whether the graph or gauge is displayed on a desktop or on a mobile device:
 - On a desktop (where the graph or gauge format is Flash), the legend list is scrollable and the legend text does not wrap.
 - On a mobile device (where the graph or gauge format is PNG), the legend list is not scrollable and the legend text can wrap.

See [What Is the Recommended Visualizations Feature?](#)

1. In the Results tab of the Analysis editor (or alternatively in the Views Pane), click the **New View** button, then select a type of view to create in one of the following ways:
 - If you know which view type you want to create, click it.
 - If you want to have Oracle BI EE's recommended visualizations feature automatically create the most appropriate view based on the data in your analysis, click **Best Visualization**, rather than a specific view type.

- If you want to have Oracle BI EE's recommended visualizations feature provide a ranked list of view types for you based on the data in your analysis as well as on what you want the view to illustrate, click **Recommended Visualization for** and then in the Select Visualization list, select your preference, such as **Discovering Patterns and Outliers**. For some view types, you can also use the recommended visualizations feature to choose a recommended subtype.

The view is displayed in a container on the Compound Layout. Defaults are used to generate this view, such as the default view type, default formatting, and so on.

2. To format the container for the view, click the **Format Container** button on the view container to display a formatting dialog.
3. To set the properties for a funnel, gauge, graph, heat matrix, map, performance tile, pivot table, table, treemap, or trellis (simple and advanced) view, click the **View Properties** button.
4. To edit the view, click the **Edit View** button on the view container.
5. Save the view.

What Is the Recommended Visualizations Feature?

Oracle BI EE provides recommendation functionality whenever you create a view.

As you are in the process of creating a new view in the Analysis editor, this feature delivers a ranked list of view-type suggestions in a dialog, as shown in the following illustration.

The screenshot shows the Oracle BI EE Analysis editor interface. On the left, a 'Compound Layout' contains a 'Table' view. The table has the following data:

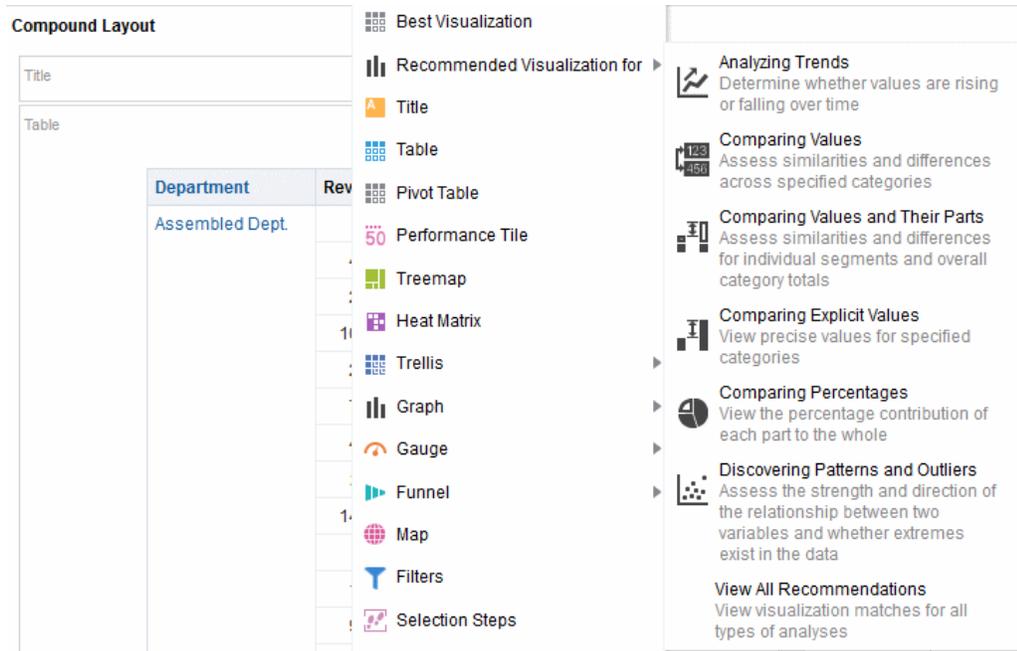
Department	Revenue	Product	Order Size Bin
Assembled Dept	679	V5x Flip Phone	Below 1k
	4,591		Between 1k and 2k
	2,634		Between 2k and 3k
	10,127		Between 3k and 5k
	2,683		Between 2k and 3k
Assembled Dept	7,731	Touch-Screen T5	Between 3k and 5k
	4,546		Between 1k and 2k
	2,411		Between 2k and 3k
Assembled Dept	14,645	SoundX Nano 4Gb	Between 3k and 5k
	880		Below 1k
	1,563		Between 1k and 2k

On the right, a 'Select Visualization' dialog box is open, showing a ranked list of visualization options:

- Line (Recommended)
- Bar
- Waterfall
- Heat Matrix
- Pivot Table

The recommended visualizations feature works by gathering information on your inputs for a view, such as number of dimensions, number of members, and so on. It then determines the optimal layout for each possible view.

Will your new view be useful for analyzing trends? Comparing values and their parts? Discovering patterns and outliers? In the Recommended Visualization submenu, you can tell the Analysis editor what you intend to illustrate with the view you are creating, as shown in the following illustration.



Each possible view receives a score based on a predefined set of rules. Certain view types are excluded as possibilities based on their scores. With scores above a certain level, the recommended visualizations feature then builds an ordered list of view recommendations.

If you want to skip the step of choosing from a ranking of suggested views, you can instead select the **Best Visualization** option from the Create View menu, to have the best view created for you immediately, without being presented with a list of recommendations.

Editing Views

Each view type, except for a Logical SQL view, has its own editor in which you perform your edits.

You cannot edit a Logical SQL view. You can only format its container or delete it.

Each view editor contains unique functionality for that view type but might also contain functionality that is the same across view types.

1. Open the analysis that contains the view to edit.
2. Click the **Analysis editor: Results** tab.
3. Click the **Edit View** button for the view (or, alternatively, select the view in the Views Pane and click the **Edit View** button).

One of the following editors is displayed:

- Column Selector editor
- Create Segment editor
- Create Target List editor
- Filters editor

- Funnel editor
 - Gauge editor
 - Graph editor
 - Heat Matrix editor
 - Legend editor
 - Map editor
 - Narrative editor
 - Performance Tile editor
 - Pivot Table editor
 - Selection Steps editor
 - Static Text editor
 - Table editor
 - Ticker editor
Use this editor of the Analysis editor to edit a ticker view, which displays the results of an analysis as a marquee (moving results that scroll across the page). You can customize the size of the scroll area, the speed and direction in which the results scroll, and other display settings. If the web browser does not support moving text, then the results are displayed, but they do not scroll across the page.
 - Title editor
 - Treemap editor
 - Trellis editor
 - View Selector editor
4. Using the editor for the view, make the appropriate edits.
For additional guidance, see:
 - [Editing Column Selector Views](#)
 - [Editing Gauge Views](#)
 - [Editing Graph Views](#)
 - [Editing Heat Matrix Views](#)
 - [Editing Legend Views](#)
 - [Editing Map Views](#)
 - [Editing Narrative Views](#)
 - [Editing Performance Tile Views](#)
 - [Editing Table and Pivot Table Views](#)
 - [Editing Treemap Views](#)
 - [Editing Trellis Views](#)
 - [Editing View Selector Views](#)
 5. Click **Done**.
 6. Save the view.

The illustration includes a subtotal on the D50 Region row edge and content paging set to 10 rows per page. Subtotals are included in the row count.

Pivot Table [A] XYZ ✎ ✕

		2010	2011	2012
D50 Region	R2 Order Type	31 # of Orders (Cnt Distinct)	31 # of Orders (Cnt Distinct)	31 # of Orders (Cnt Distinct)
AMERICAS	Express	1263	1358	1486
	Secure	3065	2895	2700
	Standard	2771	2594	2823
AMERICAS Total		7099	6847	7009
APAC	Express	1311	1373	1539
	Secure	3082	2944	2907
	Standard	2833	2668	2862
APAC Total		7226	6985	7308
EMEA	Express	1788	1848	2014
	Secure	4087	3945	3722

Rows 1 - 10

Editing Table and Pivot Table Views

Two common views for analyzing and displaying data are the table and pivot table.

The illustration shows a sample table and pivot table on a dashboard page.

D50 Region	R2 Order Type	31 # of Orders (Cnt Distinct)	T05 Per Name Year
AMERICAS	Express	1263	2010
		1358	2011
		1486	2012
	Secure	3065	2010
		2895	2011
		2700	2012
	Standard	2771	2010
		2594	2011
		2823	2012
APAC	Express	1311	2010

Rows 1 - 10

		2010	2011	2012
D50 Region	R2 Order Type	31 # of Orders (Cnt Distinct)	31 # of Orders (Cnt Distinct)	31 # of Orders (Cnt Distinct)
AMERICAS	Express	1263	1358	1486
	Secure	3065	2895	2700
	Standard	2771	2594	2823
AMERICAS Total		7099	6847	7009
APAC	Express	1311	1373	1539
	Secure	3082	2944	2907
	Standard	2833	2668	2862
APAC Total		7226	6985	7308
EMEA	Express	1788	1848	2014
	Secure	4087	3945	3722

Rows 1 - 10

These views share the same type of editor and much of the same functionality such as dragging and dropping, sorting, drilling, and conditional formatting. The following list provides some differences between the two types:

- **Default View** — When you create an analysis and display the results, the default view depends on the data in the analysis:
 - **Table** — If the analysis contains only attribute columns, only measure columns, or a combination of both, then a table is the default view.
 - **Pivot Table** — If the analysis contains at least one hierarchical column, then a pivot table is the default view.
- **Drop Targets** — Drop targets, which you use to modify column layout, differ slightly between the two views. Both views have the <view-type> Prompts, Sections, and Excluded drop targets. The illustration shows that when multiple columns are placed in the <view-type> Prompts target, or page edge, each column displays its values in an individual drop-down list.
 - **Table** — Tables have columns and measures in the same drop target, and they do not have rows.

- **Pivot Table** — Pivot tables can have rows, columns, and measures as separate drop targets.
- **Drag and Drop Measure Columns** — Measure columns behave slightly differently when you drag and drop them on tables and pivot tables.
 - **Table** — In tables, you can drag and drop measure columns in the middle of the table and they act as columns.
 - **Pivot Table** — In pivot tables, you can drag and drop measure columns in the middle and their labels can be in many locations.
- **Column Names and Headings** — You can turn off the display of the column headings in both tables and pivot tables. For column names, however, the following differences apply:
 - **Table** — In tables, you always see the names of columns.
 - **Pivot Table** — In pivot tables, you can turn off the display of the column names.
- **Properties** — The properties of the two views differ slightly, in areas such as paging controls and green bar formatting.

You can use the editors for the table and pivot table to customize the look and functionality of the view. The editors share much of the same functionality.

To edit a table or pivot table:

1. Display the Table editor of the Results tab or the Pivot Table editor of the Results tab.
2. To set the properties of the table or pivot table, click the **Table View Properties** or the **Pivot Table View Properties** button on the toolbar. The Table Properties dialog or the Pivot Table Properties dialog is displayed, where you can:
 - Specify the method to be used to browse data — either scrolling or paging controls.
 - Specify formatting preferences for tables and pivot tables.
 - Specify master-detail linking.
 - Specify null values display.
 - Set up for users to modify values in columns in tables, which is referred to as "write back."
3. Use the buttons on the toolbar of the editor to perform functions.
4. To affect the contents of the view, use the following panes:
 - The Subject Areas pane
 - The Catalog pane
 - The Layout pane
 - The Selection Steps pane
5. Specify the sort order for a column in the view.
6. Drill in the data in the view to see details.
7. Right-click to perform basic view interactions.
8. Enable the write-back capability for a table, which enables a user to update or write to the back-end database, if your user name has the appropriate

permissions. For example, a user can enter sales targets for the current quarter in a Sales dashboard.

Applying Formatting to Tables and Pivot Tables

You can format tables and pivot tables so that they are easier to read.

Green bar styling shows alternating rows or columns in a light green color. Cosmetic formatting affects the overall appearance of the view and enables you to change the default green bar color. The image shows a pivot table on a dashboard page with green bar styling.

		2010	2011	2012
D50 Region	R2 Order Type	31 # of Orders (Cnt Distinct)	31 # of Orders (Cnt Distinct)	31 # of Orders (Cnt Distinct)
AMERICAS	Express	1263	1358	1486
	Secure	3065	2895	2700
	Standard	2771	2594	2823
AMERICAS Total		7099	6847	7009
APAC	Express	1311	1373	1539
	Secure	3082	2944	2907
	Standard	2833	2668	2862
APAC Total		7226	6985	7308
EMEA	Express	1788	1848	2014
	Secure	4087	3945	3722

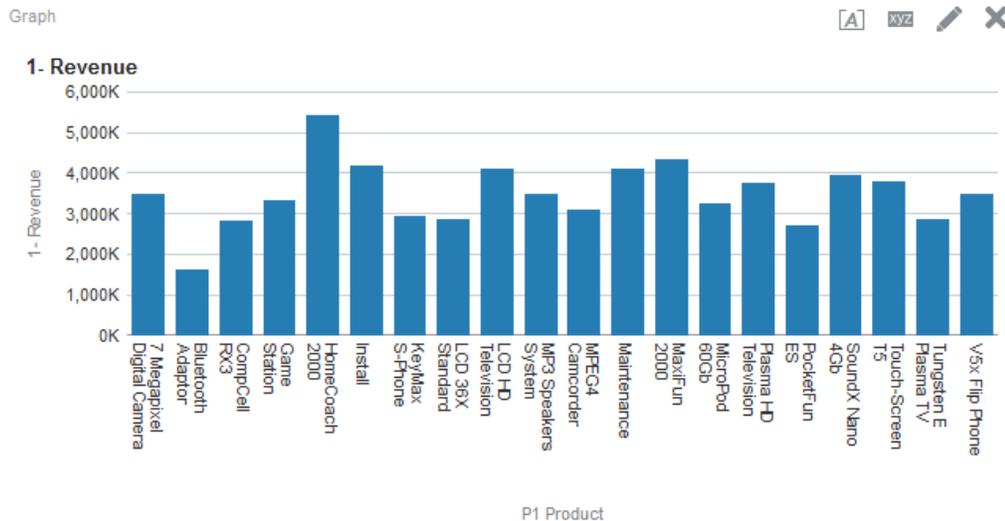
See [What is Cosmetic Formatting?](#)

1. On the toolbar of the editor, click the **View Properties** button, or from the Compound Layout in the Results tab, click the **View Properties** button.
The Table Properties dialog or Pivot Table Properties dialog is displayed.
2. To add green bar styling, click the **Enable alternate styling** box, and select a style from the list.
3. To add cosmetic formatting, click the alternate formatting button and make the appropriate changes in the Edit Format dialog.
4. To change the default green bar color, choose a new background color for the cell format. Make any other appropriate changes, and click **OK**.
5. In the Properties dialog, make any other appropriate changes, and click **OK**.

Editing Graph Views

You can use graphs of various types for analyzing and displaying data.

The illustration shows a sample bar graph on a dashboard page.



1. Display the Graph editor of the Results tab.
2. To set the properties of the graph, click the **Edit Graph Properties** button on the toolbar.
3. In the Graph Properties dialog, you can set these properties:
 - Related to the graph canvas, such as width and height and legend location
 - That control the appearance of the graph, such as the style
 - For axis limits and tick marks
 - That control the display of titles and labels for the graph
4. Use the buttons on the toolbar of the editor to perform functions such as printing a view, exporting a view, and so on.
5. To affect the contents of the view, use the following panes:
 - Subject Areas pane
 - Catalog pane
 - Layout pane
 - Selection Steps pane
 - (for funnel graphs and gauges only) Settings pane to set thresholds
6. Right-click to perform basic view interactions.
7. Drill in the data in the view to see details.

Formatting the Visual Appearance of Graphs

Formatting graphs helps users understand the presented data.

You can format the visual appearance of graphs based on two settings:

- The position of the graph elements (such as lines or bars in a line-bar graph or slices in a pie graph).

See [Graph Formatting Based on Position](#).

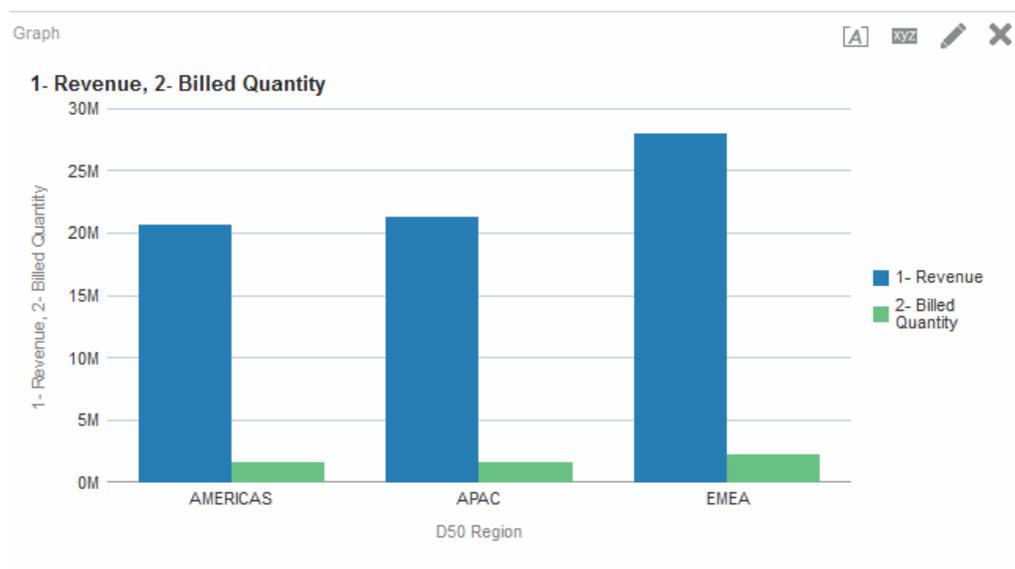
- Conditions applied to columns. See [Graph Formatting Based on Columns](#).

Graph Formatting Based on Position

You can specify the position of graph elements based on their numeric value.

Positional formatting enables you to customize the appearance of a graph based on the position of graph elements; that is, the numeric sequence in which graph elements (for example, bars) are displayed in a group. A group is determined by the attribute columns that are displayed in the Group By drop target area. See [Understanding Drop Targets](#).

For example, suppose that you have a bar graph whose criteria include the D50 Region, 1 - Revenue, and 2 - Billed Quantity columns. 1 - Revenue is displayed first, then 2 - Billed Quantity in the Measures drop target area. D50 Region is displayed in the Group By drop target. In this graph, 1 - Revenue is in position 1 and 2 - Billed Quantity is in position 2 for each regional grouping as shown in the illustration.



You can format the visual appearance of a graph based on position in terms of its color, line width, and line symbols.

Note:

Positional formatting is not supported for waterfall graphs.

Graph Formatting Based on Columns

Conditional formatting enables you to customize the appearance of a graph based on conditions applied to columns.

Formatting is applied to the column values that meet the condition.

You can specify a color in which to display graph data based upon a specific column value, or range of column values that meet the condition specified for the column.

For example:

- Conditionally changing the color of a graph based on specific column values.
A user wants to create a bar graph to compare sales between two beverages, Lemonade and Cola. When creating a bar graph the user specifies two conditions, one where the bar representing Lemonade sales is yellow, and another where the bar representing Cola sales is blue.
- Conditionally changing the color of a graph based on a range of column values.
A sales manager wants to create a bar graph to compare sales for all reps across two sales brands. When creating a bar graph the sales manager specifies two conditions, one where the bar is red for all sales reps with sales less than \$250,000, and another where the bar is green for all sales reps with sales greater than \$250,000.

The way that you specify conditional formatting for graphs is different from that used for other views. See [Applying Conditional Formatting to Tables, Pivot Tables, Performance Tiles, Graphs, Heat Matrixes, and Trellises](#).

1. Click **Edit Graph Properties** on the toolbar of the graph editor or from the Compound Layout in the Results tab, click the **View Properties** button on the specific view container.
2. In the Graph Properties dialog, click the **Style** tab.
3. Click the **Style and Conditional Formatting** button.
4. In the Style and Conditional Formatting dialog, click the **Style Formatting** tab to format the appearance of a graph based on position of the graph elements.

To add a custom formatted position:

- a. Select the tab for the graph element (for example, bar) to which you want to add a custom formatted position.
 - b. Click the **Add new position** button.
 - c. In the Custom Formatted Positions table, specify the formatting for the new position entry. For example, to select the color to be applied to the position, click the down arrow next to the **Color** box to access the Color Selector dialog. The formatting options depend on the element.
5. Click the **Conditional Formatting** tab of the Style and Conditional Formatting dialog to format the appearance of a graph based on a condition that is applied to columns.

To add a condition to a column:

- a. Click **Add Condition Format** and select the column to which you want to apply a condition.
 - b. In the New Condition dialog, select the operator and enter a column value, or a range of column values for this condition.
 - c. Click **OK** when you have finished.
 - d. In the Conditional Formatting tab, to select the color to be applied to column values when the condition is met, click the down arrow next to the **Color** box to access the Color Selector dialog.
6. Click **OK**.

Rules for Applying Conditional Formats in Graphs

Conditional formatting in graphs works when specific guidelines are followed.

The following rules apply for building and using conditions in graphs:

- Conditions can be created only from columns that are being used by the graph.
- When format conditions conflict with each other, conflicting conditions are prioritized in the following order:
 1. Conditional formatting on attributes
 2. Conditional formatting on measures
 3. Style formatting based on the positions of graph elements
- In line, line-bar, radar, scatter, and time series line graphs, symbols and color that are specified for conditional and positional formatting are shown in the legends as follows:
 - If only conditional formatting has been applied:
 - * For graphs without disjointed points, then symbols are not shown on the legend marker. If color is applied to the whole series, then color is applied to legend markers.
 - * For graphs with disjointed points (in line or scatter graphs), then the original symbols shown in the legends by default are changed to line symbols in line graphs and square symbols in scatter graphs. If color is applied to the whole series, then color is applied to legend markers.
 - If only positional formatting has been applied, then symbols and color are shown on legend markers.
 - If both conditional formatting and positional formatting have been applied, then the symbols that have been specified for positional formatting are shown. If color is applied to the whole series by a conditional format rule, symbols are shown on the legend marker. Color is applied to both the symbols and legend markers.
- When a user drills on a graph that has conditional formatting applied, the following rules apply:
 - A conditional format based on measures is not carried to the next level. (It does not make sense to carry the conditional format to a different level; for example if, in a geographic hierarchy, from Region to City.)
 - A conditional format based on attributes is carried to the next graph if it has not been drilled on.

For example, if you had the conditional format `Lemonade = Blue` and only drill on years, then `Lemonade = Blue` stays in place.
- Conditional formatting is not supported on subtotals and totals for waterfall graphs.

Graph Exceptions for Conditional Formatting on Columns

Some conditional formatting cannot be used on some graphs.

The table lists the graph exceptions that apply to conditional formatting based on columns.

Graph Type	Exception
Line Line-Bar Radar Time Series Line	Only symbol formatting is allowed for the line.
Pareto	Formatting is applied only to the bars, not to the Pareto line.

Editing Trellis Views

A trellis view is a kind of graph view that displays a grid of multiple graphs, one in each data cell.

The illustration shows a sample trellis view.



A trellis view falls into one of two subtypes:

- **Simple Trellis.** A simple trellis displays a core inner graph multiplied across row sets and column sets, rendering many small multiples that are ideal for comparing and contrasting. The illustration shows a simple trellis.
 - **Advanced Trellis.** An advanced trellis displays a grid of small spark graphs that are ideal for monitoring trends and spotting patterns in a data set.
1. Display the Trellis editor of the Results tab.
 2. To set the properties of the trellis, click the **Trellis Properties** button on the toolbar. The Trellis Properties dialog is displayed, where you can set properties:

- Related to the grid canvas, such as legend location (simple trellis views only)
 - Related to graph size for the visualizations included in the trellis
 - That specify the method to be used to browse data — either scrolling or paging controls
 - That control whether the trellis listens to master-detail events
 - That control the appearance of the trellis's grid and its visualizations, such as various style choices and the way that legends are displayed
 - That control the type of scale and the appearance of scale markers for each of the trellis's visualizations (simple trellis views only)
 - That control the display of titles and labels (simple trellis views only)
3. Use the buttons on the toolbar of the editor to perform functions such as printing a view, exporting a view, and so on.
 4. To affect the contents of the view, use the following panes:
 - Subject Areas pane
 - Catalog pane
 - Layout pane
 - Selection Steps pane
 5. Specify the sort order for a column in the view.
 6. Right-click to perform basic view interactions.

 **Note:**

If you notice any issues with the alignment of trellis views, then you can edit a configuration file to adjust the alignment. Locate the `xdo.cfg` file in the `config/OracleBIJavaHostComponent/coreapplication_objh1` directory and increase the value of the `fo-chunk-size` setting.

What Terms are Used with Trellis Views?

Trellis views use specific terminology to describe aspects of the view.

The table defines the terms that are used with trellis views.

Term	Definition
Visualization	In the context of Oracle BI EE, a visualization is the choice of graph that appears within a data cell in a trellis view. There are many visualizations from which to choose when creating a trellis view, including bar graphs, scatter graphs, and spark graphs.
Inner Graph	A nested graph, inside the grid of a trellis graph. Each inner graph has its own dimensionality as specified in the Visualization area of the Layout pane.
Outer Edge	The outer edges are the parts of a trellis view that border the inner graphs. These include the column and row headers, the section headers, and so on.

Term	Definition
Simple Trellis	A trellis view that displays inner visualizations that are all the same type, such as all scatter graphs. The inner visualizations all use a common axis, also known as a synchronized scale.
Advanced Trellis	A trellis view that can display multiple visualization types within its grid, for example, Spark Line graphs, Spark Bar graphs, and numbers. Each visualization type displays a different measure. You can think of an advanced trellis as a pivot table, except that for each measure you add to the pivot table, you can optionally associate a dimension and render that dimension as a spark graph visualization.
Synchronized Scale	(Applicable to Simple Trellis subtype only) A synchronized scale means that all the visualizations within the trellis are viewed on the same scale, that is, they share a common axis. Having a common axis makes all graph markers easy to compare across rows and columns.
Microchart	A text-sized graphic displayed in a grid along with other text-sized graphics and numbers, comprising the data cell contents of an advanced trellis view. In Oracle BI EE, a microchart is always a spark graph.
Spark Graph	An embedded mini-graph that, in conjunction with other mini-graphs and numbers, illustrates a single trend. Spark graphs are also known as <i>sparks</i> . Sparks do not include axes or labels; they get their context from the content that surrounds them. Each type of spark graph has only one measure, which is hidden; the scale is relative to itself only. A spark graph can be of the graph subtype Spark Line, Spark Bar, or Spark Area.

What Makes a Trellis View Unique?

The trellis view, also referred to as a trellis graph, is the same as a pivot table—with one major exception: the data cells within the trellis contain graphs.

Whereas a stand-alone graph type such as a single bar graph or a single scatter graph works on its own, the trellis graph works only by displaying a grid of nested graphs, known as inner graphs. So a bar-graph trellis view is actually comprised of multiple bar graphs.

In a general sense within the field of business analytics, a visualization is a visual representation of data, displayed in graphs, gauges, maps, and so on. In the trellis editor, within the Layout pane, there is a drop target called Visualizations; this is where you drag the columns for the inner graphs that will comprise the trellis you are building.

The visualizations that make up a simple trellis view are all graphs, and they can be many types of the existing stand-alone graphs described in [What Types of Graphs Are Available?](#) The visualizations that make up an advanced trellis are always microcharts, of the graph subtypes Spark Line, Spark Bar, or Spark Area. Ideally, the microcharts within an advanced trellis are placed alongside numbers (representing the same measure). See [What Are Microcharts?](#)

What Are the Functions of Trellis Views?

For the most part, a trellis view behaves like a pivot table, and the main difference between a trellis and a pivot table is the way the data cells appear.

In the row and column label cells of a trellis, you can:

- Right-click to move measure labels
- Right-click to sort data
- Drag to reposition rows and columns

In the data cells of a trellis, you can hover the mouse pointer to show related contextual information.

Numeric data cells in a trellis behave the same as numeric data cells in a pivot table.

The ways in which the behavior of a trellis view differs from the behavior of a pivot table are the following:

- Graph data cells: There is no right-click functionality for the data cells in simple trellises, nor drilling in trellis graph data cells (left-click functionality).
- Microchart data cells: When you hover the cursor over the data cells in spark graphs, you are shown contextual information (such as first, last, minimum, and maximum values) that otherwise is not displayed as it would be in a pivot table view.

The illustration shows an advanced trellis with a tooltip displayed as the cursor hovers over a microchart data cell. Microcharts do not show axis labels, as regular charts do, so it is not immediately obvious what the inner graph dimensionality is. Use a microchart's tooltips to understand the data being represented inside the graph—sample individual values, as well as the overall dimensionality.

Trellis (2) [A] XYZ ✎ ✕

D50 Region	D51 Area	1- Revenue	2- Billed Quantity	27 Avg Monthly Revenue
AMERICAS	Central			14,486
	North America			60,960
	South America			14,775
APAC	North			14,594
	South			63,614
	West			14,871
EMEA	Africa			14,897
	Eastern			16,243
	Europe			28,433
	Northern			63,028

2- Billed Quantity
Start: 281633
Max: 281633
Min: 281633
End:

What Are Microcharts?

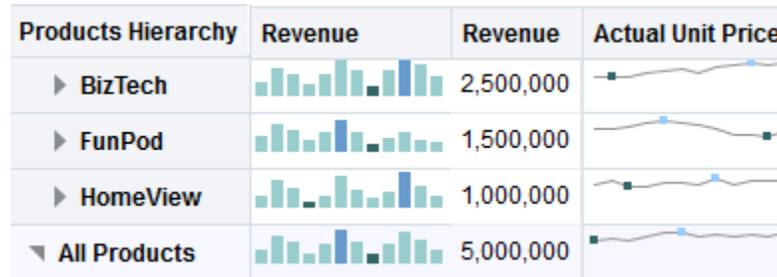
A *microchart* is a tiny chart.

A microchart is displayed in trellis views of the Advanced Trellis subtype. A microchart is unique as a graph type in that it can never be an independent, stand-alone graph. It can be used only within the context of a trellis view, and its meaning comes only from the fact that it is one of many small multiples.

Spark Graphs in Oracle BI EE

A microchart can be one of several graph subtypes, including Spark Line, Spark Bar, and Spark Area.

The illustration shows a sample trellis composed of the Spark Line subtype, and numbers.



Spark graphs, also called *sparks*, are unique from line graphs, bar graphs, and the other stand-alone graphs available in Oracle BI EE. Spark graphs are embedded mini-graphs that illustrate a single trend. Simple in their appearance, they do not include axes or labels and they get their context from the content that surrounds them. Each type of spark graph has only one measure, which is hidden; the scale is relative to itself only.

In Oracle BI EE, the visual appearance of sparks emphasizes trends, and within those trends, the highest and lowest values. Due to the condensed manner in which sparks display trends, it is possible for many trends to be compared (along with numeric values) on a single page.

Notice how the advanced trellis in the illustration visualizes the same measure twice (1 - Revenue), setting the first instance to *Number*, and associating a time dimension (T02 Per Name Month) with the second instance (1 - Revenue renamed to Revenue Trend), while displaying the second instance as a spark. This advanced trellis shows the total value for the year, and next to it, how the total value trended over the year.

While sparks are useful for certain types of analysis, such as high-level observation of trends and spotting of patterns, they do not illustrate the same specificity as their larger, fuller-featured counterparts.

Working with Spark Graphs

Spark graphs provide a compact view of data.

Sparks are unique mainly because they are small and because they can display a lot of information in a very constricted space. In Oracle BI EE, a spark graph is also different from a stand-alone graph in that, as a microchart, it can only be used within trellis views.

You can modify the size of your sparks in the same way that you do with full-featured graphs, in the Graph Properties dialog.

See [Design Considerations for Trellis Views and Microcharts](#).

About Simple Trellis Versus Advanced Trellis

When you create a trellis view, the first thing you do is choose between two subtypes: Simple Trellis and Advanced Trellis.

The Simple Trellis subtype, which is useful for showing comparisons, displays a single type of inner visualization, for example, all bar graphs. The inner visualization always uses a common axis, so that all inner graphs are viewed on the same scale. (This concept of a common axis is also referred to as a *synchronized scale*.) Having a common axis makes all graph markers easy to compare across rows and columns.

The Advanced Trellis subtype, which is useful for showing trends, allows for display of multiple visualization types within its grid. An advanced trellis illustrating sales trends might show a grid containing numbers in the cells of one column (revenue, for example), while another column alongside the numbers column displays Spark Line graphs in its cells, and those Spark Line graphs visualize the same measure as represented by the numbers (again revenue, but over a time period). Next to that column, a different microchart might be displayed, such as a column of Spark Bar graphs that visualize a different measure, such as unit totals.

Each measure that is visualized is assigned a different inner graph type. Each cell of the grid is scaled independently.

Think of an advanced trellis as a pivot table with spark graphs inside its data cells. But, for each measure you add, you can optionally associate a dimension and render it as a microchart visualization. This makes an advanced trellis very different from a simple trellis. In a simple trellis, *all of the measures* are rendered in the *same* visualization, along with additional dimensions.

Design Considerations for Trellis Views and Microcharts

Trellis views and microcharts convey a lot of data, so their design needs to be planned carefully.

The following are some ideas to consider when designing content displayed in trellis views:

- For comparisons, choose the Simple Trellis subtype.
- For trend analysis, choose the Advanced Trellis subtype.
- The inner graphs that make up a trellis should be readable and not too dense, so a trellis view is not especially useful for displaying multiple series or multiple groups. If you cannot easily target a data point with your mouse (to be shown a tooltip), then it is likely that the inner graph is too dense to be readable.
- When using the Simple Trellis subtype, consider the following:
 - Designing a simple trellis is like designing a pivot table, except that the total number of cells that can be rendered is much less for a trellis.
 - The main difference between designing a simple trellis and designing a pivot table is that for a trellis, one or two of the dimensions can be associated with the visualization; so, that many less dimensions must be added to the outer edge.
 - It is best to design the trellis with a small number of outer-edge dimensions. The entire graph series should be visible at once (for easy comparison of like

to like) with no need to scroll. If you must show additional dimensionality, consider adding the dimensions to the graph prompt.

- When determining which data to show in column headers and which to show in row headers, the column headers should show one or two dimensions (each dimension with a small number of members). Most often, the dimension shown in column headers is time. Place the remaining dimensions in the row headers or in graph prompts.
- When using the Advanced Trellis subtype, note the following:
 - The key use case for an advanced trellis is to show trend graphs alongside numeric values, in a compressed form. So a typical advanced trellis contains a combination of spark graphs alongside number representations of the same measure.
 - Ideally, place no dimensions in the column headers, just place the measures here.
 - The dimensionality typically associated with a spark graph is time. As there are no visible labels in a spark graph, it is important that the data visualized is intrinsically ordered. For example, a spark graph visualizing regions would be meaningless, because the ordering of the regions (which would be the specific bars, in a Spark Bar graph) is not intuitive.
 - Just as when designing pivot tables, you generally display time on the horizontal axis, with the other dimensions displayed on the vertical axis. The eye then scans from left to right to see how the dimensionality changes over time.

When Might a Trellis Not Be the Best Visualization to Use?

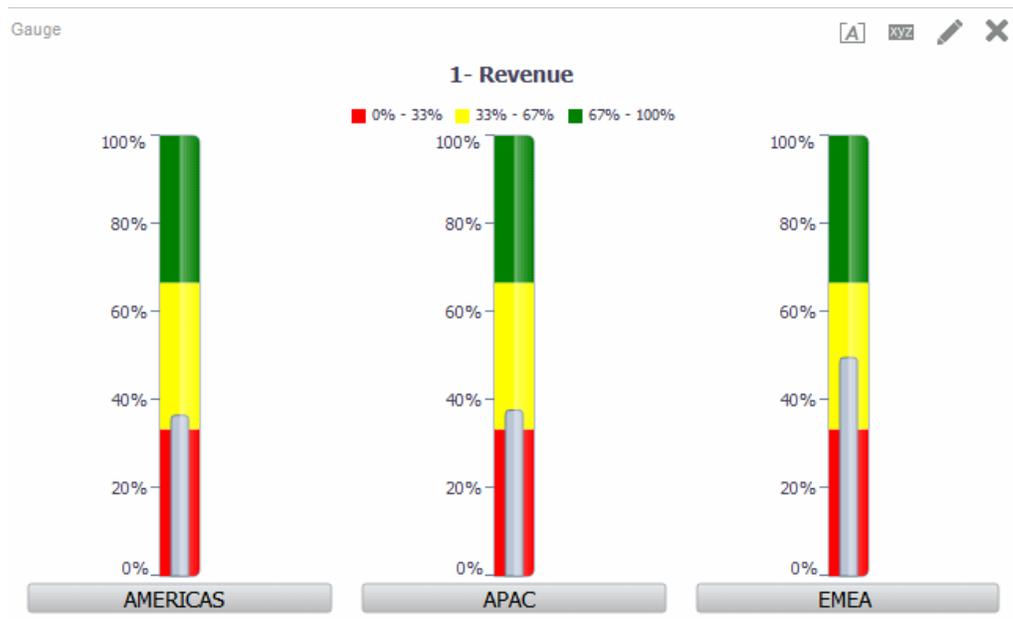
Trellis view displays specific types of data properly.

Hierarchical columns do not work well with the Simple Trellis subtype, because when a hierarchical column is displayed on the outer edge, parents and children (such as Year and Quarter) will by default be shown using a common axis scale. However, because Year and Quarter have different magnitudes, the markers in child graphs may be extremely small and hard to read against the parent scale. (Hierarchical columns do work well with the Advanced Trellis subtype, however, because each data cell is a different scale.)

Editing Gauge Views

You can use gauge views of various types for analyzing and displaying data.

The illustration shows a sample gauge view on a dashboard page.



1. Display the Gauge editor of the Results tab.
2. To set the properties of the gauge view, click the **Edit Gauge Properties** on the toolbar. The Gauge Properties dialog is displayed, where you can set properties:
 - Related to the gauge canvas, such as, legend location
 - That control the appearance of the gauge, such as the width and height of the gauge
 - For gauge limits and tick marks
 - That control the display of titles, footers, and labels for the gauge or gauges in a gauge set
3. Use the buttons on the toolbar of the editor to perform functions such as printing a view, exporting a view, and so on.
4. To change the appearance of the contents of the view, use the following panes:
 - Subject Areas pane
 - Catalog pane
 - Layout pane
 - Selection Steps pane
 - Settings pane to set thresholds
5. Drill in the data in the view for details.

Editing Map Views

You can create a map view for presenting business data to users.

As with views such as tables, pivot tables, and graphs, map views allow users to display data on maps in several different formats and to interact with the data. When data is visualized on a map, relationships among data values that might not have been

obvious previously can be displayed in a much more intuitive manner. For example, a map view can show a map of a city with the postal codes color-coded by sales performance, while an image marker displays the average discount given per order.

Changes to data are reflected in the map views, and users can perform the following tasks:

- Display data with a spatial attribute on a map:
 - Display color-coded regions as thematic maps.
 - Vary line geometries by changing line widths.
 - Show point-based information, such as sales locations within territories.
 - Zoom, pan, and drill to additional map detail.
- Use a map view to interact with other dashboard elements:
 - Dashboard prompts drive map content.
 - Interaction with the map view updates other dashboard content, including master-detail interactions with other views.
- Show additional related contextual information by hovering the mouse pointer over map areas.
- Complete additional tasks using actions.
- Use the Map editor (see the Map editor on the Results tab for additional information) to correct a broken map.

 **Note:**

Before you as the content designer can create map views for analyses, the administrator must set configuration options and manage metadata, as described in *Configuring Mapping and Spatial Information in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

Using Auto Correct

Use auto correct with map views to automatically attempt to resolve errors.

A map view error can occur for various reasons. If the issue appears to be related to missing layers, maps, or styles, then it might be possible to correct the map by replacing the missing map view components with similar items that exist in the spatial metadata. Before contacting your administrator, you can attempt to correct the issue yourself.

1. Edit the map in the Compound Layout. A View Error message box displays.
2. Click **Yes** in the View Error message box and the Map View compiler will attempt to auto correct the error. If you click **No**, you can use the **Auto Correct** icon at a later time to attempt to fix the error. If the compiler can correct the error, the map displays.
3. Sometimes only a partial correction may be possible. If this is the case, a Partial Fix dialog displays and provides a visual cue regarding the layers that must be deleted to proceed with auto correction. Click **Yes** to proceed. Although some formats may be deleted, the majority of the original map's formats are preserved.

 **Note:**

The Map View compiler can only fix a limited subset of errors that may arise. If Auto Correct fails to fix the map view, contact your administrator.

What are the Functions of Map Views?

Map views are used for specific reasons.

Map views offer the following functions:

- You can display multiple attribute columns and measure columns on a map view. Map views do not support hierarchical columns.
- You can format a map view, including with colors, bar graphs, pie graphs, variably sized bubbles, images, lines, or colored shapes that provide the ability for binning and other formatting options.
- You can drill in information windows. When you hover over a value, you see a popup with information, such as the geographic region (city, state, or country), the measures in the form of column names and column values and formatting metrics, and non-geographic data such as year. The appropriate related data is highlighted in the interactive pane as well. You can click the value to display the actionable links for drilling in the information window, then click the appropriate link.

What Terms Are Used with Map Views?

Specific terms are used to describe areas of map views.

The table defines the terms that are used with map views.

Term	Definition
Feature	An entity with spatial and non-spatial attributes such as cities, rivers, and highways. A feature can be represented by a polygon, a line, or a point.
Format	Defines rendering properties for a feature. For example, if the feature is a polygon that shows a county, then the format can define the fill color for the county or can define a pie graph to be drawn over the county. Formats are tied to a particular geographic level such as continent, country, region, state, or city.
Layer	Any collection of features and formats that have a common set of attributes and a location. For example, a layer that shows US states can include color coding of states by sales, and a pie graph that shows sales per brand for that state. In addition to the US states layer, you can use a layer that displays stores within a state as individual points, with popup notes that show sales for each store. Layers are displayed on a background or template map. When you zoom in and out on the map, various layers are hidden or displayed. Some layers must be enabled for data, so you can display it in the map. Other layers, such as one that shows roads, is not related to data.
Map	A map that consists of a background or template map and a stack of layers that are rendered on top of each other in a window. A map has an associated coordinate system that all layers in the map must share. The map can be an image file, the object representation of an image file, or a URL that refers to an image file.

What Are the Components of Map Views?

A map view has several areas of information.

A map view contains the following components:

- **Main content** — The main content is the background or template map, which provides the background geographic data and zoom levels. The main content can be any image that can be configured using MapViewer, for example, the floor maps of office buildings and the appearance and presence of items such as countries, cities, and roads.
- **Layers** — One or more interactive or custom layers overlay the main content. See [What Are Layers?](#)
- **Toolbar** — Provides buttons that allow you to manipulate map contents directly. The map view itself has a toolbar. The content designer specifies whether to display the toolbar for the map view on a dashboard page. On a dashboard page, the toolbar is displayed directly over the map and contains only the **Zoom Out** and **Zoom In** buttons. When you create a new map view, the toolbar is visible by default. You can control display of the toolbar in the Tools tab of the Map Properties dialog.

When you are not in one of the zoom modes, the default mode for manipulating the map contents is Pan. To pan the contents of the map view, you click and drag the mouse.

The toolbar in the Map editor contains additional options for modifying the map view.

- **Zoom controls** — Adjusts the detail of the geographic data that is shown in the map view. For example, zooming in from a country might show state and city details.

On the Administration page, the administrator specifies which zoom levels each layer is visible for. You can have multiple zoom levels for one layer, and you can have a single zoom level associated with multiple layers. When you zoom, you change the map information at that zoom level, but you do not affect the display of Oracle BI data at that level. You affect the display of Oracle BI data by drilling.

The zoom controls also have a zoom slider that renders in the upper left-hand corner of the map view. When the zoom control is zoomed-out all the way, the zoom level is set to 0 and the entire map view is displayed.

The Tools tab of the Map Properties dialog lets you determine the visibility of the zoom control. By default, the map is initially zoomed into the highest zoom level that fits the entire contents of the top-most layer. For example, if the highest ordered layer contains data only in the state of California, then the map zooms to the highest zoom level that still shows all of California.

The Zoom slider consists of a slider with a thumb for large scale zooming and buttons for zooming a single level. You can use the plus button to zoom in and the minus button to zoom out one level at a time. When the thumb is at the bottom of the slider, the zoom level is zero.

- **Scale tool** — Also known as Distance Indicator. Provides a key to distance interpretation of the map and consists of two horizontal bars that display in the lower left-hand corner of the map view below the information panel and above the copyright. The top bar represents miles (mi) and the bottom bar represents

kilometers (km). Labels are displayed above the miles bar and below the kilometers bar in the format: [distance] [unit of measure]. The length and distance values of the bars change as the zoom level changes and as the map is panned.

- Legend — The legend is a semi-transparent area in the upper right-hand corner of the map view that you can display and hide. The legend shows the information that relates to the current zoom level. The legend provides a read-only visual key for symbols, layers, and formatting on the map and displays the following:
 - All visible formats that are applied to the map. If a format is turned off, then the corresponding legend item is hidden also. If a format is turned on but zoomed out of view, then it is not displayed in the legend. The legend displays text such as `No formats defined for current zoom level` if you have no formats defined at the zoom level that is currently displayed.
 - Scrollbars, if needed.

Selecting a format on the map will cause the corresponding legend item to be highlighted. Highlights have varying granularity, depending on the selected formats (for example, a pie graph does not have the level of granularity that color fill has). See [How Do Formats Affect Layers?](#)

Use the **Expand Map Legend** and **Collapse Map Legend** buttons in the upper right-hand corner to control the display of the legend.

- Overview map — Consists of a miniature view of the main map that is shown in the lower right-hand corner of the main map. This overview map provides regional context and lets you change the viewable area of the main map.

The following items are part of the overview map:

- **Reticule** : Displays as a small window that you can move across a miniature view of the main map. The position of the reticule in the miniature map determines the viewable area of the main map. As you move the reticule, the main map is updated automatically. You can also pan in the overview map without using the reticule.

The overview map is automatically hidden if the reticule cannot be shown. This hiding generally happens when the scale difference between successive zoom levels is too small to show the miniature view in the overview map.

- **Show/Hide** button: Displays in the upper left-hand corner when the overview map is displayed. When you click the **Show/Hide** button, the overview map becomes invisible and only the button can be seen in the lower right-hand corner of the main map.
- Interactive panel — Accompanies the view in a dashboard and in the Compound Layout. The top section of the interactive panel enables you to create and edit BI data formats in the Analysis editor. If a format has editable thresholds, then a slider is displayed in the Map editor that enables you to edit thresholds by dragging the slider. The interactive panel enables you to rearrange formats within a geographic layer. For example, if the States layer has three formats, then you can select the order in which the formats are displayed.

When displaying a tooltip by hovering your mouse cursor over a map area, the corresponding detail is updated and highlighted in the interactive panel.

Dashboard users can control the visibility of formats (by turning them on or off) and can adjust format thresholds if the content designer has allowed them to.

The lower section of the panel includes the Feature Layer area, where you can select non-BI layers to add to the map. A non-BI layer is one that has not been

associated with a BI column. Typical examples include Google Maps™ Tile Layer and Bing Maps™ Tile Layer, highways, parks, or automated teller machines. You cannot apply formats to non-BI layers.

What Are Layers?

Layers are collections of geometries that share common attributes.

Layers can be either predefined or custom:

- A predefined layer is one whose geometry is defined in a spatial table in an Oracle Database. The administrator makes predefined layers available using the Administration pages. See *Administering Maps in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.
- A custom point layer is one that you define while editing a map view.

Layers can be of different types. A polygon layer represents regions, such as states. An example is a New England layer for the United States that consists of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.

A point layer represents specific points on a map, based on a coordinate system. For example, a point layer might identify the locations of warehouses on a map. The layer can use a different image for the type of inventory (electronics, housewares, garden supplies) in a set of warehouses to differentiate them from each other.

You can create a custom point layer that applies points to a map using longitude and latitude coordinates. For example, suppose that your company is headquartered in New York City. You can create a custom point layer that displays your company icon over New York City, and that icon is always displayed whenever a map that includes New York City is shown. The custom point layer is always on top of the other layers and is not affected by zoom levels. The custom point layer is used only by the current map view in the current analysis; it is not used by other map views, even for the same analysis.

You can select layers to be visible or hidden on a map, but you cannot modify predefined layers. You also create formats to apply to the layers, such as colored regions, bubbles, points, lines, or bar or pie graphs. Not all formats are available for all layer types. For example, point layers cannot have color fill formats.

Creating Map Views

When the administrator has configured maps, you as the content designer can create analyses whose data is displayed in map views.

You create a map view after selecting columns to display in that view. If the administrator has specified multiple background maps, then the map view is initially displayed using the first background map that was specified by the administrator that includes at least one layer that has been associated with a column that you selected. When editing the map view, you can select a different background map. You can apply layers to the background map and formats to the layers.

1. Create an analysis by selecting the attribute and measure columns to display on a map view. You generally select attribute columns that are related to geography, such as Cities, States, or Regions.

Select only those geography columns that the administrator has mapped to layers using the Administration pages. See *Administering Maps in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

2. Select the **Results** tab.
3. On the toolbar, click the **New View** button, then select **Map**.
 - If you see a message that states that a background map is required to render a map, then no metadata exists to populate the map. Contact the administrator about configuring the metadata for maps using the Administration page.
 - Otherwise you see a map that uses the background map that was specified on the Administration page.
4. Click the **Edit View** button to display the default map view divided into reasonable bins and color coding applied in the Map editor of the Results tab.
5. Adjust the map view and layers as you like. If you do not see any default format created, then you must create a format.
6. Specify map view properties, such as canvas size or master-detail linking by using the Map Properties dialog.
7. Apply formats to the layers.

How Do Formats Affect Layers?

A map view uses columns of Oracle BI EE data.

Each column has a set of properties that define its characteristics, such as for formatting and interaction. Any formatting that has been applied to a column is not applied to the map, except for the settings for interaction. Any formatting that originates from thresholds that the map contains is applied.

You can apply various kinds of formats to map views. The following list describes the options for defining formats to apply to BI layers. You cannot apply formats to non-BI layers.

- **Color Fill** — Displays the Color Fill (Layer) dialog, which you use to render areas in fill colors that indicate that an area meets a particular condition.

Color fill formats apply to regions or polygons. For example, a color fill format might identify a range of colors to represent the population in the states of a region or the popularity of a product in the states of a region. A map view can have multiple color formats visible at different zoom levels. For example, a color fill format for the layer at zoom levels 1-5 might represent the population of a state, and the county median income for the layer at zoom levels 6-10. You can also specify different colors to identify a range of data values.

- **Bar Graph** — Displays the Bar Graph (Layer) dialog, which you use to render a series of data as a bar graph within an area. Graph formats can show statistics related to a given region such as states or counties. For example, a graph format can display the sales values for several products in a state.

Even though you can create multiple graph formats for a particular layer, such creation is not recommended as the formats might overlap on the layer and the displayed results might be undesirable.

- **Pie Graph** — Displays the Pie Graph (Layer) dialog, which you use to render a series of data as a pie graph within an area.

- **Shape** — Displays the Variable Shape (Layer) dialog, which you use to render a measure column that is associated with an area by drawing markers or shapes within the region. You can also specify different colors for the shape to identify a range of data values.
- **Bubble** — Displays the Bubble (Layer) dialog, which you use to render a bubble within an area, similar to the shape format.
- **Image** — Displays the Image (Layer) dialog, which you use to render an image within an area, similar to the shape format. You can specify different images to identify a range of data values. You select images that have been specified by the administrator.
- **Line** — Displays the Line (Layer) dialog, which you use to render a line on a map.
You can include lines on maps to display paths such as highways, railway lines, and shipping routes. You can specify the width of lines and you can use the Map Wrap-Around feature on the Canvas tab of the Map Properties dialog to allow lines to be unbroken, such as when showing an airline flight path from San Francisco to Tokyo.
You can vary the width of a line by each measure to accentuate a feature.
- **Custom Point** — Displays the *Format Custom Point (Layer)* dialog, which you use to render a point format, such as a bubble, image, or shape in a layer. Custom points are displayed at all zoom levels and on top of all other map formatting. When you create a Custom Point format, you select columns to specify the latitude and longitude.

When Are Formats Visible?

Formats may or may not display depending on several factors.

The visibility of a format depends on the following:

- The zoom level on the map and the "zoom range" of the format. For example, a Color Fill format for States is visible when state boundaries are visible and it is turned on, but is no longer visible when the map is zoomed out to the Continent level.
- The data point limit. Formats are generally visible when they are zoomed into view and are turned on, but they might not be displayed if a particular layer has exceeded its maximum number of data points.

Custom point formats are unique in that they are displayed on the map always, for all zoom levels.

Format data is displayed in the legend only when the format is both turned on and zoomed into view. A format is turned on when the box beside its name is selected in the Map Formats area.

The map cannot display multiple non-point formats at a time (at a single zoom level) but can display multiple point formats simultaneously, if they do not share the same latitude and longitude location. If multiple graph formats are specified at the same geographic layer, then they render on top of each other.

Where Can Formats Be Applied?

Formats can only be applied to specific areas.

The following formats apply to geographic areas such as polygons: Color Fill, Bubble, Pie Graph, and Bar Graph.

The following formats are based on a single latitude and longitude location (a point): Bubble, Variable Shape, Image, and Custom Point.

The line format is displayed only when a line geometry is present. Line formats are the only format that you can create for line geometries.

When you define formats, you can specify that different formats apply to different measure columns in a layer.

Applying Formats to Layers

Map layers can be formatted to make interpreting the data easier.

You can apply a format to each layer as appropriate. See [Showing or Hiding Formats on a Map View](#).

- Click the **Create a new Map Format** link, if no layers are specified in the Map Formats list.
- Click the **Add New Map Formats** button, either in the Map Formats title bar or beside a layer name.

Setting the Initial View Ports for Map Views

When a map is first displayed in a browser, the view is based on the initial view port.

You can use options on the Interaction tab of the Map Properties dialog to specify the view port (the initial center of the map and zoom level) when a map view is first loaded or refreshed in a browser. This specification allows you to affect the initial display of the map for users.

Editing Map Views and Displaying Map Views on Dashboard Pages

Many of the same functions are available for map views, whether you are editing them or displaying them on a dashboard page.

Some functions are available only when editing map views:

- When you edit a map view and work with layers, you create formats for the BI layers. You can display a dialog for adding and editing formats. You can also specify the order of formats for each layer. The order affects the visibility of the formats for the layer. Formats that are displayed higher in the list overlay formats that are lower in the list. When you display a map view, you can turn on and off the display of formats, but you cannot add or remove them from the map view.

As the content designer editing a map view, you can control the display of layers, but only of those layers that the administrator has associated with this background map. The administrator must ensure that BI layers are ordered higher than non-BI layers. If a non-BI layer is ordered higher than any BI layers, then the non-BI layer is displayed on top of the lower BI layers on the map, which prevents the BI layers from being interactive.

- When you edit a map view, you decide whether users of dashboard pages can modify the thresholds of Color Fill formats using sliders. When you display a map view, you can modify the thresholds of Color Fill formats (if that ability was provided). If you close and re-open the map view, then you see the thresholds or

scaled lines at the same state in which you left them. To save the thresholds when you leave the dashboard, first save the customizations of the dashboard.

- When you edit or display a map view, legend contents display all active and visible formats.

See [About Working with Map Views on Dashboard Pages](#).

Editing Narrative Views

You use a narrative view to provide information such as context, explanatory text, or extended descriptions along with column values.

A narrative view displays data results as one or more paragraphs of text. You use a narrative view to provide information such as context, explanatory text, or extended descriptions along with column values. You can perform various tasks in the narrative view editor:

- Type a sentence with placeholders for each column in the results.
- Specify how rows are separated.
- Apply cosmetic formatting to the fonts used in the narrative view, or import the font formatting from a previously saved view.
- Add references to variables.

The following illustration shows a sample of a narrative view on the left, alongside a table.

ORACLE [®] Business Intelligence		Narrative	
These are first three values of the third column in Criteria			
		3,314,839	
		13,949,584	
		3,380,918	
D50 Region	D51 Area	2- Billed Quantity	1- Revenue
AMERICAS	Central	281633	3,314,839
	North America	1137722	13,949,584
	South America	279347	3,380,918
APAC	North	264924	3,339,510
	South	1150251	14,557,050
	West	277827	3,403,022
EMEA	Africa	272968	3,408,846
	Eastern	287785	3,716,987
	Europe	535046	6,506,363
	Northern	1169718	14,422,881

The following illustration shows the Narrative editor markup to achieve the look of the narrative view shown in the previous illustration. The Narrative text box includes HTML markup code for centering the three values for the second column. See [Editing Views](#).

In a narrative view, you can include values from attribute columns, hierarchical columns, and measure columns. For a hierarchical column, you can use selection steps to display hierarchy levels with the hierarchical column. For example, create a step to select members based on hierarchy and add members of the specified level. You cannot drill in narrative views.

To edit a narrative view:

1. Display the Narrative editor of the Results tab.
2. In the **Narrative** box, specify the columns to include in the view. To do so, use an at sign (@), optionally followed by a number. For example, include @3 to indicate the third column per the order of the column criteria.
3. Complete other fields as needed.

Editing Column Selector Views

You can edit column selector views to ensure users see pertinent values in their analyses.

A column selector is a set of drop-down lists that contain pre-selected columns. Users can dynamically select columns and change the data that is displayed in the views of the analysis. The illustration shows a sample of a column selector view.



One drop-down list can be attached to each column in the analysis, and multiple columns can be attached to each drop-down list. You can create drop-down lists for attribute columns and measure columns. Updates that you make in the column selector view affect all the data views in the analysis.

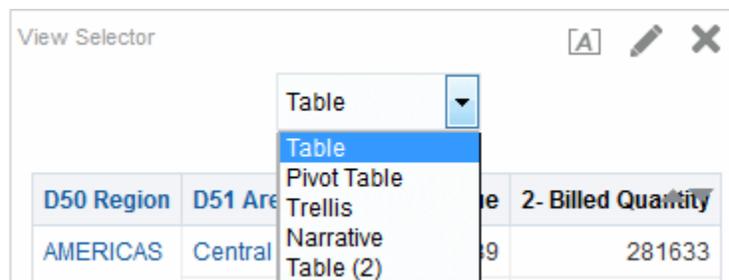
You add columns to drop-down lists from the Subject Areas pane. When you add columns in this way, they are not added to the Criteria tab for the analysis. Instead, when you display the Criteria tab, you see that the column is now referred to as a "Column Group" with the default column for the list specified also. The default column is the one on which you created the drop-down list.

1. Display the Column Selector editor of the Results tab.
2. Select **Include Selector** for each column for which you want to include a drop-down list of columns. Ensure that the column is highlighted in the editor.
3. To add a new column to a drop-down list, double-click the column to add in the Subject Areas pane.
4. Complete the other fields as appropriate.

Editing View Selector Views

A view selector view enables users to select a specific view of the results from among the saved views for an analysis.

When placed on a dashboard, the view selector is displayed as a list from which users can choose the view to see below the selector. The illustration shows a sample of a view selector view in which a table view was the most recently selected view.



Generally, you would include views in the view selector that are not being displayed in the Compound Layout view. For example, you might create a table, graph, gauge, and view selector view for an analysis, but include only the table and view selector view on the Compound Layout view. When the analysis is displayed on a dashboard page, users can select the graph or gauge view from the view selector view.

1. Display the View Selector editor of the Results tab. For information, see [Editing Views](#).
2. In the **Available Views** list, select the views to be included in the view selector and move them into the **Views Included** list.
3. Complete other fields as needed.

Editing Legend Views

You use a legend view to document the meaning of special formatting used in an analysis, such as the meaning of custom colors that are applied to gauges.

The illustration shows a sample of a legend view in which the captions describe the meanings of the colored data.



1. Display the Legend editor of the Results tab.
2. In the **Captions** box on the toolbar, select the position for the caption relative to the legend symbol.
3. In the **Legend items per row** box on the toolbar, select the number of legend items to display in a row.
4. For each legend item:
 - a. In the **Caption** box, enter the meaning of the legend symbol.
 - b. In the **Sample Text** box, enter the text that is to be displayed within the legend symbol.
5. To add additional legend items, click **Add Caption**.
6. Complete other fields as needed.

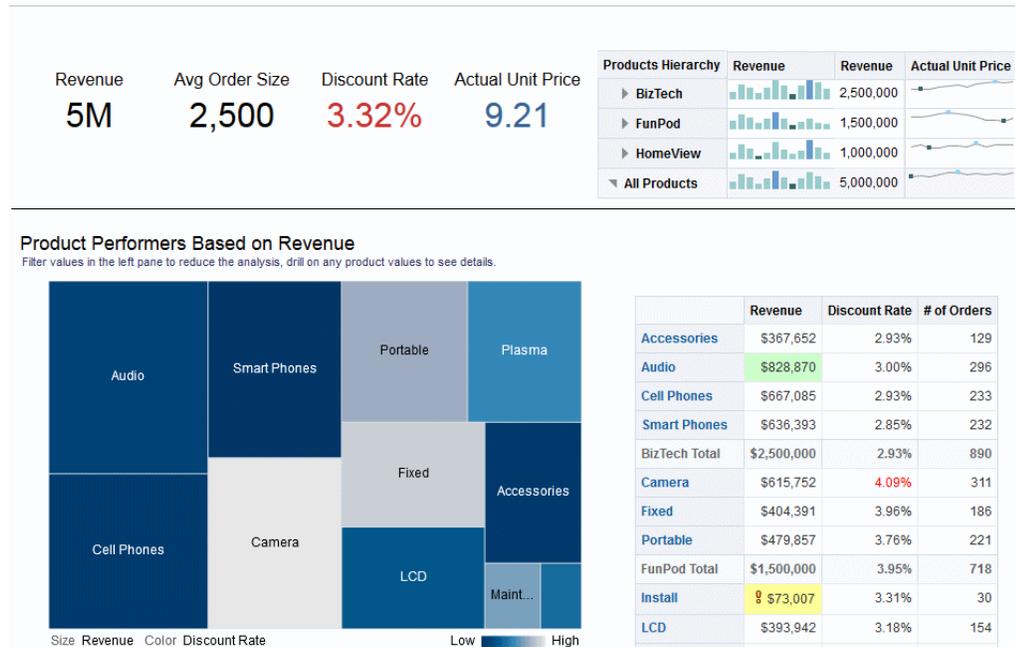
Editing Performance Tile Views

Performance tiles focus attention on a single piece of high-level aggregate data in a simple and prominent manner and reveal summary metrics.

Performance tile views focus on a single piece of aggregate of data. By default, the first measure in the analysis on the Criteria tab is selected as the performance tile measure. You must set up aggregation and filters on the Criteria tab to ensure that the correct measure value is displayed in the tile. To change this measure, edit the performance tile view. To include additional performance tile views for each measure in an analysis, add a separate view for each measure.

For example, you might want to edit a performance tile view to use Revenue as the measure. You can specify that the values and labels utilize the available space.

The illustration shows an example of four performance tiles on a dashboard page.



By default, the first measure in the analysis on the Criteria tab is selected as the performance tile measure. You must set up aggregation and filters on the Criteria tab to ensure that the correct measure value is displayed in the tile. To change this measure, edit the performance tile view. To include additional performance tile views for each measure in your analysis, add a separate view for each measure. See [Adding Views to the Results of Analyses](#).

There are five panes or areas available for you to use in customizing performance tiles:

- Layout pane — Controls formatting for labels and measures. See [Drop Target Guidelines for Performance Tiles](#).
 - Styles pane — Manages common attributes such as the size or theme of the tile measures.
 - Performance Tile Results pane — Displays the results of the performance tile view and immediately reflects any customizations.
 - Performance Tile Properties dialog — Manages advanced properties such as custom size, background or border color, label text alignment, and value compression customizations.
 - Conditional Formatting dialog (invoked from the **Edit Conditional Formatting** link on the Performance Tile Properties dialog) — Edits the properties for the measure associated with the tile to control its appearance. See [Applying Conditional Formatting to Tables, Pivot Tables, Performance Tiles, Graphs, Heat Matrixes, and Trellises](#).
1. Display the Performance Tile editor of the Results tab to edit the performance tile or to change the default measure.

2. To customize or set the properties of the performance tile, click the **Performance Tile Properties** button on the toolbar. The Performance Tile Properties dialog is displayed, where you can set properties:

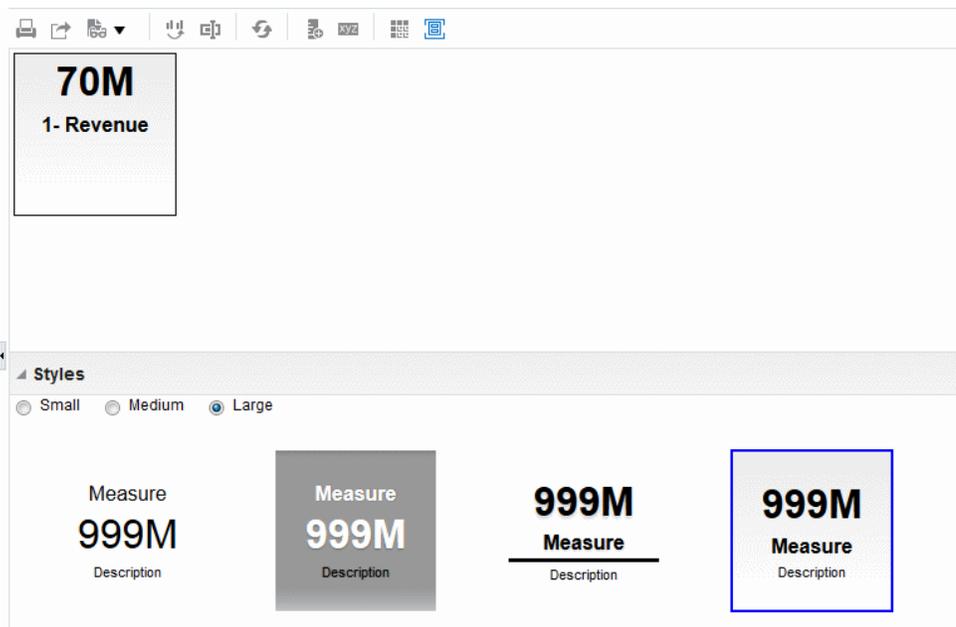
- Related to the size of the tile
- That indicate where labels should appear and how values should appear.
- That control the appearance of the tile, such as the background and border colors

You can also click the **Edit Conditional Formatting** link to open the Conditional Formatting dialog to change the defaults carried over from the Criteria page or to add conditional formatting. Conditional formatting will override any user defined styles. See the Performance Tile Properties dialog for additional information on advanced properties.

3. Use the buttons on the toolbar of the editor to perform functions, such as printing or exporting a view.
4. In the Styles pane, select the **Small**, **Medium**, or **Large** option button to change the size of the tile. **Custom** may display if you have entered a size by using the Performance Tile Properties dialog.

Select a themed (or stylized) tile located below the **Tile Size** option buttons to change the theme for your performance tile. The illustration below displays the themes available in the Styles pane for performance tiles. The gradient theme is selected and highlighted in this figure in the Styles pane, and is also reflected in the Performance Tile Results pane, as shown in the image.

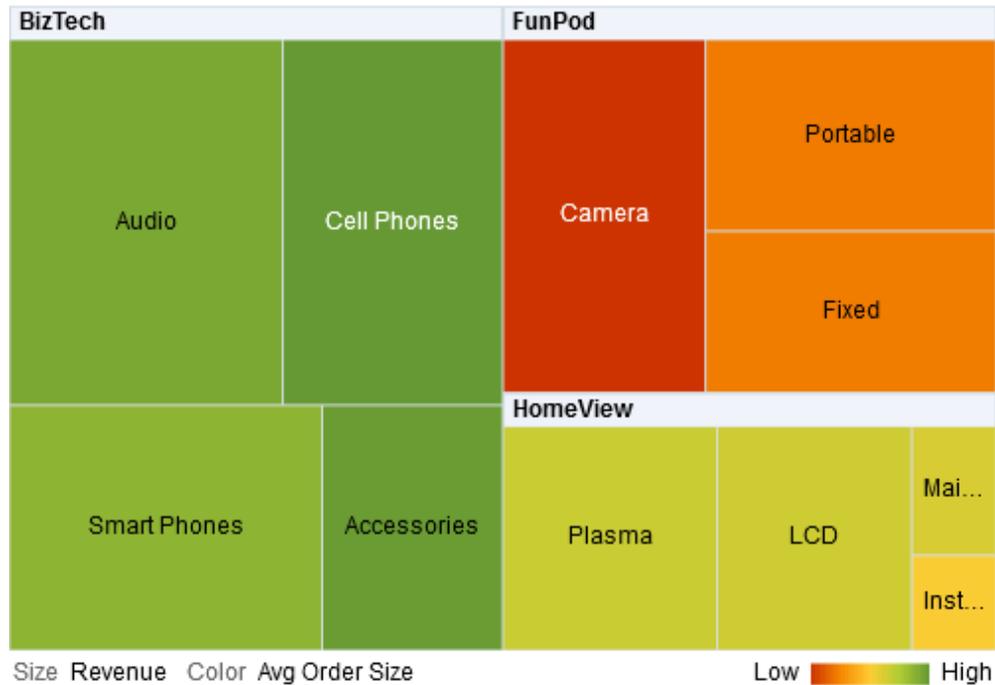
See the Styles pane for additional information on style attributes.



Editing Treemap Views

Treemaps organize hierarchical data by grouping the data into rectangles (known as tiles), and then displaying the tiles based on the size of one measure and the color of the second measure.

The illustration shows an example of a treemap view on a dashboard page. This treemap shows the correlation of revenue and the average order size. The size of each tile measures the revenue of each product and the color of each tile measures the average order size of each product.



By default, the first measure of the analysis in the Criteria tab is selected as the Size By measure, and the second measure is selected as the Color By measure. If there is only one measure in the analysis, this measure is the default for both Size By and Color By options. Additionally, the Style element defaults to Percentile Binning with `quartile` as the value for the number of bins.

Treemaps have the following characteristics:

- Tiles are colored by percentile bins or continuously.
- First Group By dimension is displayed as the group (header) label.
- The order of the Group By dimensions implies the nesting order within the treemap. The last dimension in the Group By is the lowest level and this dimension name is displayed as the tile label. If the label is too long to fit on the tile, then it is truncated. Full values for the labels display in the tooltip.

Understanding Treemap Views

Treemap views appear differently based on the measures used.

By default, the first measure of the analysis in the Criteria tab is selected as the Size By measure, and the second measure is selected as the Color By measure. If there is only one measure in the analysis, this measure is the default for both Size By and Color By options. Additionally, the Style element defaults to Percentile Binning with

`quartile` as the value for the number of bins. See the Treemap Properties dialog for additional information.

Treemaps have the following characteristics:

- Colored tiles are formed by the grouping and intersection of the columns placed in the Prompts, Sections, Group By, Size By, and Color By drop targets.
- Levels of data are displayed within a predefined, rectangular-shaped, confined space for two measures.
- Attribute and hierarchical columns are supported. Skip-level hierarchies are not supported in the Group By area of treemap.
- Tiles are displayed as percentile bins or as a continuous color.
- A legend (that can be hidden) displays below the treemap and contains:
 - Two measures (those selected in the Size By and Color By lists) and their corresponding labels.
 - Number of specified bins (for example, quartile), color coded and labeled, or a gradient bar that is displayed as a continuous color fill and is labeled `low` to `high`.
- First Group By dimension is displayed as the group (header) label.
- The order of the Group By dimensions implies the nesting order within the treemap. The last dimension in the Group By is the lowest level and this dimension name is displayed as the tile label. If the label is too long to fit on the tile, it is truncated. Full values for the labels display in the tooltip.
- A "transparent" diagonal pattern of stripes is displayed for null values.
- This is available in read-only mode on mobile devices.

The Treemap editor is composed of three panes or areas available for you to use in customizing the treemap view. These three panes are arranged vertically (differentiated from tables, pivot tables, and so on that are arranged horizontally). These panes include:

- **Layout pane** — Controls the columns that display as tiles, sections, prompts, and groupings, as well as the formatting for labels and measures. See [Drop Target Guidelines for Treemaps](#).
- **Treemap Results pane** — Displays the results of the treemap view and immediately reflects any customizations.
- **Selection Steps pane** — Displays the selection steps in effect for the analysis and treemap. See [Working with Selections of Data](#).

Working with Treemap Views

Treemap views allow data relationships to be graphically represented.

You can:

- Left-click to drill on the tile or on a group. When drilling in multiple-level hierarchies, all members from the lowest levels display as tiles, and the detail level data replaces the current data. For example, when you drill down on a country name, such as United States, the treemap displays data for the state (or provinces) in that country, but not for the country itself.

- Right-click to display a context menu of actions, such as **Drill**, invoke actions, **Keep Only**, **Remove**, or focus on a specific tile. See [Right-Click Interactions in Views](#) for additional information.
 - Hover the cursor over the group or tile to display a tooltip. The tooltip for the group displays the aggregated measure values at that intersection, the header label, and header value. The tooltip for a tile displays the tile member and the Size By and Color By labels and values.
 - Drag and drop an analysis containing a treemap view on to a dashboard. See [Adding Content to Dashboards](#). Once added to a dashboard, you can:
 - Print to a PDF
 - Print to HTML
 - Export to Excel
 - Export to PowerPoint
 - Navigate using treemap breadcrumbs. Treemap breadcrumbs are displayed above the treemap view. Use treemap breadcrumbs to traverse back to the original view and to previous levels in the tree:
 - Reflect the contextual drill path
 - Return you to the original view, and remove all the contextual drills when you click the up arrow icon. This is the page-level treemap breadcrumb or "home" (up arrow).
 - Remove the contextual drills associated with the specific item when clicking a link that is not the "home" link.
 - Edit a treemap view to change the measures, properties, and so on.
1. Display the Treemap editor of the Results tab. See [Editing Views](#).
 2. To customize or set the properties of a treemap, click the **Treemap View Properties** button on the toolbar. In the Treemap Properties dialog, you can set properties:
 - Related to the size of the treemap in the General tab
 - To show or hide the legend in the General tab
 - To control the appearance of the tile, such as background and border colors, and labels in the Style tab
 3. Use the buttons on the toolbar of the editor to perform functions, such as printing or exporting a view, or use a context menu to perform similar functions.
 4. In the Layout pane, Under Style, select the **Percentile Binning** or **Continuous Color Fill** options to change the color palette of the view.
 - Percentile Binning — Specify that the color of the tiles within the treemap is displayed as a percentile bin. In the **Bins** list, select the number of bins to display in the treemap. You can select an integer, Quartile (4), or Decile (10). Values range from 2 to 12. The number of bins selected corresponds to the number of colors in the treemap.
For example: You create a treemap for Region and Area. You specify Revenue as the Size By measure and Avg Order Size as the Color By measure. Then, you select Percentile Binning as the Style with 4 (Quartile) bins. The First Quartile represents those areas within the region that are under performing for the average order size by revenue.

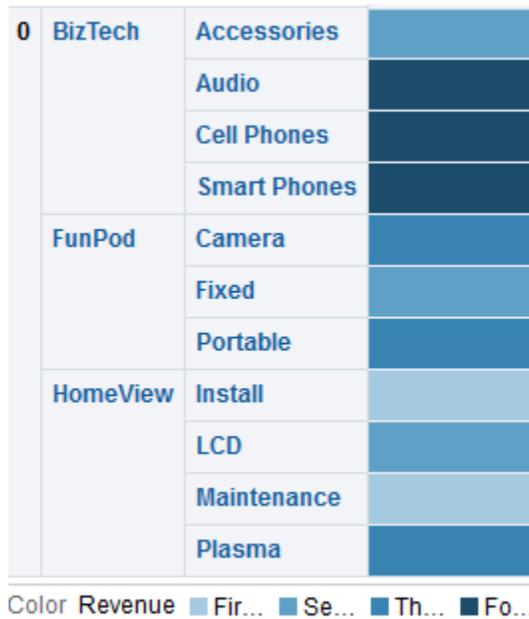
The **Binning Properties** area displays the percentage for the bin based on a total of 100% and is calculated based on the number of bins selected. Each percentage is color-coded and corresponds to the Color selection.

- Continuous Color Fill — Specify that the tiles within the treemap are displayed as a gradient color scheme. The low value gradient color is the minimum value for the selected Color By measure. The high value gradient color is the maximum value for the selected Color By measure.
5. Change the measures and attribute and hierarchal (excluding skip-level) columns to visualize your new data in more meaningful ways by using **Group By**, **Size By**, and **Color By** options.
 6. Right-click to perform basic view interactions.

Editing Heat Matrix Views

Heat matrixes display a two-dimensional depiction of data in which values are represented by a gradient of colors.

A simple heat matrix provides an immediate visual summary of information that is well suited for analyzing large amounts of data and identifying outliers. The illustration shows an example of a heat matrix view on a dashboard page. Each product's revenue is displayed for each quarter. This heat matrix depicts product revenue outliers for each quarter. For example, sales of audio, cell phones, and smart phones were high in the fourth quarter while installation and maintenance sales were low in the first quarter.



Understanding Heat Matrix Views

Heat matrix views provide a visual interpretation about a single measure.

By default, the first measure of the analysis in the Criteria tab is selected as the Color By measure, and represents the measure's value. Additionally, the Style element

defaults to Percentile Binning with `quartile` as the value for the number of bins. See the Heat Matrix Properties dialog for additional information.

Heat matrixes have the following characteristics:

- Colored cells are formed by the grouping and intersection of the columns and rows placed in the Prompts, Sections, Rows, Columns, and Color By drop targets. See [Drop Target Guidelines for Heat Matrixes](#) for additional information.
- Only one measure is visualized.
- Attribute and hierarchical columns are supported.
- Cells display as percentile bins or as a continuous color.
- Cells display uniformly, in that each cell has the same width, and each cell has the same height. Cell height and width do not have to be the same.
- A legend (that can be hidden) is displayed below the heat matrix and contains:
 - One measure (selected in the Color By list) and its corresponding label.
 - Number of specified bins (for example, quartile), color-coded and labeled, or a gradient bar that is displayed as a continuous color fill and is labeled `low` to `high`.
- A "transparent" diagonal pattern of stripes that is displayed for null values.

The Heat Matrix editor is composed of three panes or areas available for you to use in customizing the heat matrix view. These three panes are arranged vertically (differentiated from tables, pivot tables, and so on that are arranged horizontally).

These panes include:

- Layout pane — Controls the grouping of cells that is displayed as sections, prompts, rows, and columns, as well as the formatting for labels and measures, and showing or hiding the legend. See [Drop Target Guidelines for Heat Matrixes](#).
- Heat Matrix Results pane — Displays the results of the heat matrix view and immediately reflects any customizations.
- Selection Steps pane — Displays the selection steps in effect for the analysis and heat matrix. See [Working with Selections of Data](#).

Working with Heat Matrix Views

Heat matrix views provide a variety of data presentation options.

You can:

- Left-click to drill on the cell. When drilling in multiple-level hierarchies, all members from the lowest levels are displayed as cells, and the detail level data replaces the current data. For example, when you drill down on a country name, such as United States, the heat matrix displays data for the state (or provinces) in that country, but not for the country itself.
- Right-click on the outer edges to display a context menu of options, such as **Drill**, invoke actions, **Keep Only**, **Remove**, or focus on a specific cell. See [Right-Click Interactions in Views](#).
- Hover the cursor over a cell to display the value, if the **Show Measure Value** option is set to **On Rollover** for the heat matrix. See the Titles and Labels tab of the Heat Matrix Properties dialog to manage this option.

- Drag and drop an analysis containing a heat matrix view on to a dashboard. See [Adding Content to Dashboards](#). Once added to a dashboard, you can:
 - Print to a PDF
 - Print to HTML
 - Export to Excel
 - Refresh
 - Add it to a briefing book
 - Create bookmark links
 - Create prompted links
 - Edit a heat matrix view to change the measure, properties, and so on.
 - Use master-detail linking, sort, add actions, and freeze headers. Refer to the corresponding content for additional information: [What Is Master-Detail Linking of Views?](#), [Sorting Data in Views](#), [What Are Actions?](#) and the General tab of the Heat Matrix Properties dialog.
1. Display the Heat Matrix editor of the Results tab.
 2. To set the properties of a heat matrix, click the **View Properties** button on the toolbar. The Heat Matrix Properties dialog is displayed, where you can set properties:
 - Related to the cell width, content paging, master-detail linking, and null values, or to show or hide the legend in the General tab
 - To control the appearance of sections, such as the background and border colors, or PDF printing in the General tab.
 - Show or hide the measure value on a cell and change the appearance of the titles and labels for prompts, sections, rows, columns, and so on in the Titles and Labels tab.
 3. Use the buttons on the toolbar of the editor to perform functions, such as printing or exporting a view.
 4. In the Layout pane, select the **Percentile Binning** or **Continuous Color Fill** option to change the color palette of the view.

Change the measures and attribute and hierarchal columns to visualize your new data in more meaningful ways by using **Rows**, **Columns**, and **Color By** drop targets.
 5. Right-click to perform basic view interactions.

Modifying the Layout of Data in Views

Each editor for a data view contains the Layout pane, except for the map editor.

The Layout pane is displayed slightly differently for each view type, such as graphs, performance tiles, and pivot tables. The Layout pane shows how the data in a view is laid out using drop targets. See [Understanding Drop Targets](#).

You use the Layout pane to modify the way that data is arranged in the view. Specifically, you can:

- Modify the data in the view. See [Adding and Rearranging Columns in Views](#).

- Set properties. See [Setting Properties for View Bodies and Drop Targets](#).
- Add totals. See [Adding Totals to Tables and Pivot Tables](#).
- Display running sums and relative values. See [Displaying Running Sums and Relative Values for Measure Columns in Pivot Tables](#).
- Define section sliders in graphs, gauges, and funnels. See [Defining Section Sliders in Graphs, Gauges, and Funnels](#).
- Add legends to graphs by selecting the **Show In Legend** box in the Layout pane.

Understanding Drop Targets

In the Layout pane, the columns in a data view are displayed in drop targets.

Drop targets indicate where a column can be inserted, moved to, or dropped. They represent a valid position for a column.

You use drop targets to modify the way data is arranged in a data view by dragging and dropping columns to different targets within the view.

The Layout pane for the following views differs significantly:

- Heat Matrix views. See [Drop Target Guidelines for Heat Matrixes](#).
- Performance Tile views. See [Drop Target Guidelines for Performance Tiles](#).
- Treemap views. See [Drop Target Guidelines for Treemaps](#).
- Trellis views. See [Drop Target Guidelines for Trellises](#).

A data view can contain one or more of the following drop targets, depending on the type of view:

- **<view-type> Prompts** — Provides an interactive result set that enables users to select the data that they want to view. The values from the columns that are displayed in this drop target are used as the initial criteria. In a view, these values are displayed in a drop-down list for selection, which is often referred to as the "page edge."
- **Sections** — Populates the areas that divide the view into sections. If you select the **Display as Slider** option in this drop target, then the values of the columns that are dropped in the Sections drop target are displayed as a section slider rather than as unique views.
- **<view-type> area** — Simulates the plot area or the body of the view itself and assists you in seeing what the view looks like.

For tables, this area contains the **Columns and Measures** drop target, which contains all the columns in the view. In tables, all measures are treated as columns.

For all other data views, this area contains the following drop targets:

- **Measures drop target** — Populates the part of a view that contains summary data. Depending on the type of view, this area might include a single **Measures** drop target (for example, for pivot tables) or might contain sub-drop targets (for example, the **Bars (Y1-Axis)** and the **Lines (Y2-Axis)** for line-bar graphs). You drag and drop measure columns to these drop targets.

- **Other drop targets** — Used to summarize the columns in the measure drop target or targets. You generally drag and drop attribute and hierarchical columns to these drop targets.

The other drop targets that are displayed in a view depend on the type of view.

View	Drop Target or Targets
Pivot table	Includes these drop targets: <ul style="list-style-type: none"> – Columns — Shows a column in a column orientation. Pivot tables can contain multiple columns. – Rows — Shows a column in a row orientation. Pivot tables can contain multiple rows.
Gauge	Rows — Shows the columns that are displayed in the gauges.
Bar, line, area, line-bar, time series line, pareto, scatter, or bubble graph	Includes these sub-drop targets within the main drop target (Bars, Line, Area, Bars & Lines, Line, Points or Bubbles). Target names differ depending on graph type. For example, Group By is Bubbles for bubble graphs and Points for scatter graphs. <ul style="list-style-type: none"> – Group By — Clusters the axis labels into groups. For example in a vertical bar graph whose criteria includes the Region, District, and Dollars column, if this drop target contains the Regions column, then the data is grouped by region on the horizontal axis. – Vary Color By — (Not enabled for pareto.) Shows each column value or column value combination in a different color.
Radar graph	Radar Sections — Shows column values as points on each line along a radius of the circle.
Pie graph	Includes these drop targets: <ul style="list-style-type: none"> – Pies — Shows each column value or column value combination as a separate pie. – Slices — Shows each column value or column value combination as a separate slice of the pie.
Waterfall graph	Includes this drop target: <ul style="list-style-type: none"> – Group By — Clusters the axis labels into groups. Attribute and hierarchical columns are placed in the Group By area. – If you are using a measure hierarchy, a generic measure column is placed in the Bars drop target and the measure dimension is placed in the Group By drop target. (Measure hierarchies apply to Essbase data sources.) See Modeling Measure Hierarchies in <i>Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition</i>.
Funnel graph	Stage — Shows each column value as a stage in the funnel.

View	Drop Target or Targets
Trellis	<p>Includes these drop targets:</p> <ul style="list-style-type: none"> – Columns — Shows a column in a column orientation. Trellises can contain multiple columns. – Rows — Shows a column in a row orientation. Trellises can contain multiple rows. <p>Includes these sub-drop targets within the main drop target Visualization for simple trellis views:</p> <ul style="list-style-type: none"> – Group By — Clusters the measures into groups. – Color By — Shows each measure in a different color, for example, in a vertical bar graph of a trellis, all the bars for Revenue are blue while the bars showing Billed Quantity are red. In a Scatter graph, use this drop target to vary the points by color. In a Bubble graph, use this drop target to vary the bubbles by color. – Bar Axis — In a Line-Bar graph comparing revenue and billed quantity by region, shows one of two measures, such as Revenue. – Line Axis — In a Line-Bar graph comparing revenue and billed quantity by region, shows one of two measures, such as Billed Quantity. – Pies — In a Pie graph, adding a dimension here creates multiple pies. – Slices — In a Pie graph, shows measures as slices of varying colors within pies. – Points — In a Scatter graph, shows dimensions as points. Each dimension member is shown as one point. – Horizontal Axis — The measure values control the horizontal position of the members. In a Scatter graph, you can drop one measure in this target. In a Bubble graph, each measure in this drop target is shown as one bubble. – Vertical Axis — In a Scatter graph, shows one of two measures, such as a point. In a Bubble graph, shows one of three measures as a bubble. – Bubbles — In a Bubbles graph, shows measures as bubbles of varying size. – Size — In a Bubble graph, shows one of three measures as the size of a bubble. <p>Includes these sub-drop targets within the main drop target Visualization for advanced trellis views:</p> <ul style="list-style-type: none"> – Areas — In a Spark Area microchart, shows columns displayed as areas. – Bars — In a Spark Bar microchart, shows columns displayed as bars. – Lines — In a Spark Line microchart, shows columns displayed as lines.
Performance Tile	<p>Includes this drop target:</p> <ul style="list-style-type: none"> – Measure — Shows the specific value of the column that displays on the tile. See Drop Target Guidelines for Performance Tiles for additional information.
Treemap	<p>Includes these drop targets:</p> <ul style="list-style-type: none"> – Group By — Represents the top level of hierarchical data that is sliced to produce or describe a container of aggregated values. The aggregated values display as rectangular tiles. – Size By — Represents the distribution of the tiles within their parent. The size of the children is always equal to the size of their parent. – Color By — Represents a distribution of values across all of the tiles at the same level.
Heat Matrix	<p>Includes these drop targets:</p> <ul style="list-style-type: none"> – Rows — Shows a column in a row orientation. Heat matrixes can contain multiple rows. – Columns — Shows a column in a column orientation. Heat matrixes can contain multiple columns. – Color By — Represents the measure value. The higher the value, the denser the cell color.

- **Excluded** — Excludes columns from the view results but leaves the columns as part of the analysis. See [Columns in the Excluded Drop Target](#).

In addition, each <view-type> area, except for the Table area, the Waterfall Graph area, Pareto Graph area, Treemap area, Heat Matrix area, and the Trellis (Simple) area, contains the Measure Labels element. The Measure Labels element represents the labels for all the Measures columns in the drop targets in the Measures area. You can modify how measure labels are shown in a view by dragging it from one drop target and dropping it in another. For example, in a vertical bar graph, you can show each measure label in a different color by dragging and dropping the Measure Labels element to the Vary Color By drop target.

In pivot tables, you can also edit the format of measure labels or hide them.

Columns in the Excluded Drop Target

A column in the Excluded drop target is not included in the view results but still remains as part of the analysis.

A column can be placed in the Excluded drop target after views have been created for the analysis in various ways. A general rule is that a column is placed in the Excluded drop target for a view if it is not added explicitly to one or all views.

Some of the ways in which a column is placed in the Excluded drop target are as follows:

- You select the **Exclude column** option from the right-click menu in a view, such as a table or pivot table.
- You select a column from the Subject Areas pane to add to views in an analysis as described in the following scenarios:
 - Criteria tab — If you add a column from the Subject Areas pane to the Selected Columns pane after displaying the analysis results and the **Exclude from existing views, but display in new views** option is selected for the **Display of Columns Added in the Criteria tab** property in the Analysis Properties dialog: Data tab, then the column is placed in the Excluded drop target of the existing views' Layout pane but included in any new views that you add.
 - Results tab — The behavior might differ depending on whether you add columns to a view editor or to the Compound Layout:
 - * View Editor — If you add a column from the Subject Areas pane to a view, then you place the column in that view. The column is placed in the Excluded drop target for all other views in the analysis.
 - * Compound Layout — If you double-click a column in the Subject Areas pane, then you place the column in a default drop target of the Layout pane for all existing views in the current Compound Layout. The column is placed in the Excluded drop target for all other views in the analysis.

If you drag and drop a column from the Subject Areas pane to a tabular view, then you place the column in the drop target for that view. The column is placed in the Excluded drop target for all other views in the analysis.

If you want a column that is in the Excluded drop target to be displayed in a view, then you can move it. Display the Layout pane for the view, and drag and drop the column from the Excluded drop target to the desired one.

Excluding columns differs from removing columns. You can use the **Remove Column** option from the **More Options** button in the Layout pane for a view to remove a column entirely from the analysis.

Aggregation and the Excluded Drop Target

In a pivot table or graph that includes columns in the Excluded drop target, an aggregation rule is applied to aggregate measures in the data body of the view to a single value.

For example, suppose that you have the following columns in the Selected Columns pane:

Region	City	Dollars
East	NY	1000
East	Boston	500

If the City column is placed in the Excluded drop target, then the view typically displays the following:

East	1500
------	------

The aggregation rule is applied to aggregate 1,000 and 500 into 1,500. In a pivot table or graph, the aggregation rule that is specified in the Edit Column Formula dialog applies. For a pivot table, you can select a specific aggregation rule using the **More Options** menu in the Layout pane.

Suppose that you wanted the table, pivot table, or graph to show the following values:

East	1000
East	500

To achieve this aggregation, include both Region and City columns in the view layout, but hide the City column using the Column Format tab of the Column Properties dialog.

Drop Target Guidelines for Graphs and Funnel Graphs

Drop targets indicate where a column can be inserted, moved to, or dropped.

The following restrictions and guidelines apply to dragging columns from one drop target and dropping them in another in graphs and funnel graphs:

- A bubble graph requires at least three measures. Plot one measure on the horizontal axis, another measure on the vertical axis, and a third measure on the bubble size axis.
- In a bubble, line-bar, scatter, or funnel graph, you cannot drag and drop measure labels.
- A pareto graph can have only one measure.

If you drop another measure on the Measures drop target, then the measures are swapped; that is, the existing measure is replaced by the newly dropped measure and is moved automatically to the Excluded drop target.

- A time series line graph requires a single date or date-time data column to be selected on the horizontal axis. It has a single vertical axis, but supports multiple data series.

- A scatter graph requires at least two measures. For example, you can plot one measure column on the horizontal axis and another measure column on the vertical axis. These measures are plotted for values on the Group By axis.
- A funnel graph uses two measures but only one is required. If you do not select a second measure, then the first measure is used for the second measure. If you have selected two measures and then select a new measure, then the new measure replaces the measure currently in the Actual Measures drop target.
- A stacked bar graph requires at least two measures to allow comparison of values.
- For graphs in master-detail relationships, if you want to hide the slider that is created to accommodate detail columns, in the Sections drop target, deselect the **Display as Slider** check box.

Drop Target Guidelines for Trellises

A trellis view is a kind of graph view that displays a grid of multiple graphs, one in each data cell.

The following guidelines apply to working with drop targets in trellises:

- **Expanding Drop Targets in Trellises** — The Layout Pane of the trellis editor is different in that it is vertical rather than horizontal. When drop targets contain more data than can be shown within this narrower Layout Pane, the drop target containers expand on hover. That is, when you hover the mouse over an overfilled drop target, you see the complete selection of measures and columns, and you can move and reorder even the measures and columns that were not visible before the hover. The chosen item appears with a slight transparency as you drag it.
- **Placement of Measures** — The following are considerations to keep in mind as you work with measure columns in trellis views:
 - Measures can be reordered within the measures drop targets by dragging left or right.
 - In simple trellis views, measure columns can be placed only on the measure edge of Color By or Group By.
 - In some simple trellis visualizations (scatter graphs, bubble graphs, and line-bar graphs), you can swap measures. If you drag an existing measure from one axis and drop it in the target for another axis, the two measures' positions in the view are swapped.
 - Scatter graphs, bubble graphs, and line-bar graphs allow a single measure per axis, as follows:
 - * Scatter graph drop targets: Horizontal Axis, Vertical Axis
 - * Bubble graph drop targets: Horizontal Axis, Vertical Axis, Size
 - * Line-bar graph drop targets: Bar Axis, Line Axis
 - In advanced trellis views, measures comprise the innermost column headers of the trellis.
 - When moving measures from the Color By drop target to or from the Group By drop target:
 - * Dragging a single measure moves all the measures along with it. (This is known as *sticky* behavior.)

- * Dragging a new measure into the view moves all existing measures to wherever you place the new measure.
- To place a measure on the non-measure edge of a visualization, or in the Rows target or Columns target, you must first convert the measure to an attribute column. You do this in the Column Formula tab of the Edit Column Formula dialog.
- Attribute columns can be dragged out of the Measures drop target without causing the drop target or the measures inside it to move with the attributes.

Drop Target Guidelines for Performance Tiles

Drop targets indicate where a column can be inserted, moved to, or dropped.

The Layout pane for performance tiles is composed of two areas: **Measure** drop target and **Labels** area. These two areas allow performance tiles to communicate status through simple formatting and by focusing your attention on the simple, need-to-know facts presented prominently on the tile.

The following guidelines apply to working with these two areas in performance tile views:

Measure drop target

- By default, the first measure in the analysis on the Criteria tab is selected as the performance tile measure. You can select a different measure from the Measure list, drag and drop the measure onto the Measure drop-target, or you can double-click a new measure from the subject area to add the measure to the Measure list.
- When you hover the cursor over the name of the measure in the Layout pane, the folder name displays.
- You can edit the format for a measure column by clicking the **Format Tile** button. Use this button to display the Style tab of the Column Properties dialog.

Note:

If the measure is deleted from the Criteria tab, the tile will continue to display. The display on the tile will be **Measure not defined**.

Labels area

- **Name:** By default, the measure name is displayed on the tile.
 - You select the **Use measure name** check box to automatically associate the measure name (if available) with the label.
 - You can edit the format of the label name for the measure by clicking the **Format Tile** button. Use this button to display the Style tab of the Column Properties dialog. If the label name is too long, it is truncated with an ellipsis (for example, Performanc. . .).
- **Description:**
 - You select the **Use measure description** check box to automatically associate the column description (if available) with the label.

- Click in the label **Description** text box to describe the tile. The number of lines for the text varies according to the size of the tile. For example, a small tile may only accommodate one line, whereas a large tile may accommodate three. A very small tile may not have room for any text. If the description cannot accommodate all of the text, it is truncated with an ellipsis (for example, Quarterly sales foreca . . .).
- You can edit the format for the label description of the label name by clicking the **Format Tile** button. Use this button to display the Style tab of the Column Properties dialog.

 **Note:**

Performance tile views do not contain the **Excluded** drop target. Presentation variables are not supported for the Labels area.

Drop Target Guidelines for Treemaps

Treemaps organize hierarchical data by grouping the data into rectangles (known as tiles), and then displaying the tiles based on the size of one measure and the color of the second measure.

The Layout pane for treemaps is composed of six drop-target areas: **Prompts**, **Sections**, **Group By**, **Size By**, **Color By**, and **Excluded**.

You use the Layout pane areas to visualize treemaps, which are constrained, hierarchical data. You can see trends and anomalies in large quantities of data and study individual values as well.

The following guidelines apply to working with these drop targets in treemap views:

- **Prompts** — Select an attribute or hierarchical column (excluding ragged and skip-level) by which to filter the treemap. You can drag and drop one or more columns from the Group By or Sections area or from the Subject Areas pane to the Prompts area.
- **Sections** — Select an attribute or hierarchical column (excluding ragged and skip-level) by which to section the treemap. For example, region that is grouped by year may be the container to display a treemap that is sized by revenue and colored by year-ago revenue. You can drag and drop one or more columns from the Group By or Prompts area or from the Subject Areas pane to the Sections area.
- **Group By** — Represents the top level of the hierarchical data that is sliced to produce or describe a container of aggregated values. The aggregated values display as tiles.
 - The group area creates a header or group for the measure columns that are specified in the Size By and Color By areas. If more than one column of data is represented in the treemap, a title bar is shown for the grouping. For example, region that is grouped by year may be the container to display a treemap that is sized by revenue and colored by year-ago revenue. Region displays in the title bar.
 - All attribute and hierarchical columns defined on the Criteria tab are initially displayed in the Group By area in the order in which they were added to the

Criteria tab. Skip-level hierarchies are not supported in the Group By area of the treemap.

- You can drag one or more columns from the Subject Areas pane to the Group By drop target.
- If you add an attribute or hierarchical column to the treemap view after displaying the analysis results, the new column is added as a subordinate column to the Group By drop target if the **Display in existing views and new views** option is selected for the display of **Columns Added in the Criteria tab** property in the Data tab of the Analysis Properties dialog.
- **Size By** — Represents the distribution of the tiles within their parent. The size of the children is always equal to the size of the parent.
 - Each rectangle's area is the aggregated value for the associated measure based on the applied filters (for example, prompted or filtered by region).
 - The first measure added in the Criteria tab is displayed as the Size By measure.
 - You can select a measure from the **Size By** list. This list initially contains all measures added to the analysis in the Criteria tab.
 - You can drag and drop a measure column from the Subject Areas pane to the Size By drop target. The current Size By measure is replaced with the new measure, and the treemap redraws to reflect the new measure. The new measure column is also placed in the Color By list for selection.
 - If you add a measure column to the treemap view by double-clicking after displaying the analysis results, the new measure is placed into both the Size By and Color By lists and made available for selection.
 - If you remove the Size By measure column in the Criteria tab, you receive the following error message: `Insufficient number of measures. This view requires a Size By measure.`
- **Color By** — Represents a distribution of values across all of the tiles at the same level and adds additional scope to the analysis providing a "qualitative" perspective to the treemap.
 - The second measure added in the Criteria tab is displayed as the Color By measure.
 - You can select a measure from the **Color By** list. This list initially contains all measures added to the analysis in the Criteria tab.
 - You can drag and drop a measure column from the Subject Areas pane to the Color By drop target. The current Color By measure is replaced with the new measure, and the treemap redraws to reflect the new measure. The new measure column is also placed in the Size By list for selection.
 - If you remove the Color By measure column in the Criteria tab, the Size By measure is displayed as the new Color By measure.

The Color By drop target is divided into two options:

- * **Style** — Select the style for the treemap. Style contains two options: Percentile Binning and Continuous Color Fill. If you select Percentile Binning as an option, then you can enter the number of bins, choose a color palette, and enter a custom label for your bins. If you select Continuous Color Fill, the treemap tiles display as a gradient color scheme.

- * **Color** — Select the color palette for the treemap. To reverse the order of the colors displayed in the Color drop down list from, click the arrows to the right of the Color list.
- **Excluded** — Contains columns that do not participate in the treemap view.

Drop Target Guidelines for Heat Matrixes

A data view can contain one or more drop targets, depending on the type of view.

The Layout pane for heat matrixes is composed of six drop-target areas: **Prompts**, **Sections**, **Rows**, **Columns**, **Color By**, and **Excluded**.

You use the Layout pane areas to visualize heat matrixes. You can see anomalies in large quantities of data and study individual values as well.

The following guidelines apply to working with these drop targets in heat matrix views:

- **Prompts** — Select an attribute or hierarchical column by which to filter the heat matrix. The Prompts area is initially empty. You can drag and drop one or more columns from the Sections, Rows, or Columns area or from the Subject Areas pane to the Prompts area.
- **Sections** — Select an attribute or hierarchical column by which to section the heat matrix. The Sections area is initially empty. You can drag and drop one or more columns from the Prompts, Rows, or Columns area or from the Subject Areas pane to the Sections area.
- **Rows** — Represents a column displayed in row alignment.
 - All attribute and hierarchical columns defined on the Criteria tab are initially displayed in the Rows area in the order in which they were added to the Criteria tab.
 - You can drag one or more attribute or hierarchical columns from the Subject Areas pane to the Rows drop target, or you can double-click one or more attribute or hierarchical columns to include in the Rows drop target. You can also drag and drop one or more attribute or hierarchical column from the Columns, Prompts, or Sections areas.
 - If you add an attribute or hierarchical column to the heat matrix view after displaying the analysis results, the new column is added as a subordinate column to the Rows drop target.
- **Columns** — Represents a column displayed in column alignment.
 - The Columns drop target is initially empty.
 - You can drag one or more attribute or hierarchical column from the Subject Areas pane to the Columns drop target. You can also drag and drop one or more attribute or hierarchical column from the Rows, Prompts, or Sections areas.
- **Color By** — Represents the measure value for the grouping and intersection of the row and column.
 - The first measure added in the Criteria tab is displayed as the Color By measure.
 - You can select a measure from the **Color By** list. This list initially contains all measures added to the analysis in the Criteria tab.

- You can drag and drop a measure column from the Subject Areas pane to the Color By drop target. The current Color By measure is replaced with the new measure, and the heat matrix redraws to reflect the new measure.

 **Note:**

If you add a measure column to the heat matrix view after displaying the analysis results, then the new column replaces the existing column in the visualization and in the Color By drop target.

- If you remove the Color By measure column in the Criteria tab, it is removed from the Color By list. The new measure value for the Color By list defaults to the last measure value added to the analysis.

The Color By drop target is divided into two options:

- * **Style** — Select the style for the heat matrix. Style contains two options: **Percentile Binning** and **Continuous Color Fill**. If you select Percentile Binning as an option, then you can enter the number of bins, choose a color palette, and enter a custom label for your bins. If you select Continuous Color Fill, the heat matrix tiles display as a gradient color scheme.
- * **Color** — Select the color palette for the heat matrix.
- **Excluded** — Contains columns that do not participate in the heat matrix view. See [Understanding Drop Targets](#) for additional information.

Adding and Rearranging Columns in Views

You can add and rearrange columns in views several ways

Using the view editor and the Layout pane, you can modify and change the order of columns in the following ways:

- Drag and drop columns in tables and pivot tables to the desired positions in the editor using the handles and drop targets. For example, if you have two columns in the Rows section of a pivot table, reverse the order of the columns by dragging and dropping the first column after the second one. In a table, you can drag and drop columns, but you cannot stack columns, as you can in a pivot table.

You can also drag and drop columns in this way in the Compound Layout.

 **Note:**

If you have deselected **Move Columns** in the Interactions tab of the Analysis Properties dialog, you cannot move a column in a view at runtime.

- Drag and drop columns in the Layout pane. A target is active and ready for the "drop" when it appears highlighted. When you hover the mouse pointer over a column in the Layout pane, the cursor state changes from the pointer to a move cursor when you can "grab" the column and move it over a drop target. For example, you can move a column in a pivot table from the Rows drop target to the Sections target to create a unique pivot table for each value in the column. See

[Drop Target Guidelines for Trellises](#), [Drop Target Guidelines for Treemaps](#), and [Drop Target Guidelines for Heat Matrixes](#).

- Add a column to a graph or gauge. To do so, drag the column from the Subject Areas tab to the appropriate location in the view editor or to a drop target in the Layout pane.
- Remove columns in the Layout pane. For example, you can remove a column in a view by selecting **Remove Column** from the **More Options** button. Removing columns differs from excluding columns, See [Understanding Drop Targets](#).

This list provides only a partial summary of where dragging and dropping can occur. You can drag and drop columns and catalog objects whenever you see the Subject Areas pane and Catalog pane. You can also drag and drop items in views on dashboards. See [Columns in the Excluded Drop Target](#).

Setting Properties for View Bodies and Drop Targets

You can set formatting properties for drop targets or view bodies.

In the Layout pane, you can click the **Properties** button to display a dialog in which you specify properties for the view body (such as Pivot Table) or for a drop target (such as Sections). For example, you can specify whether to display headings, set background color, and insert page breaks.

1. In the view editor, display the Layout pane and click the **Properties** button beside the view body (for tables and pivot tables) or drop target name.
2. In the Properties dialog, complete the appropriate fields and click **OK**.
 - **Insert Page Break** — Specifies whether to create a page break before the section, so that every time a value changes in the section drop target, the new section for that column is displayed on a new page. Page breaks are visible when you export an analysis to PDF. This is useful for data-driven detail analyses.
You can select from the following:
 - **No Page Break** — Do not break pages.
 - **Innermost Column** — Break at the innermost column, which inserts a page break between every section
 - **Outermost Column** — Break at the outermost column, which inserts a page break when the section label in the outermost column changes.
When the value of an outermost column changes, the value of the inner column is also considered changed. Therefore, setting page breaks at the innermost column inserts manual page breaks between every section.
 - **Folder.Column** — For example, Markets.Region, or Products.Brand. Inserts a page break when the section label in the specified column changes. This option is available only when the Sections drop target contains a column.
- **Show Blank Rows** — Specifies whether to display rows that have no data in the section. Select this option to display all rows, even if a row is an empty text string and contains no value. Deselect the option to hide rows when there are no results to display.
This option might be useful for example, to hide empty address lines.

- **Maximum number of section slider values**— For graphs, specifies the maximum number of values to display on a section slider bar, but not to exceed the system maximum. The administrator configures the system maximum. If you enter a number that exceeds the system maximum, then it is ignored.

Adding Totals to Tables and Pivot Tables

In the Layout pane, you can add totals for columns in tables and pivot tables.

You can position the totals at various locations in the view. You can add totals for columns that are displayed on the various edges. For each measure, the total uses the aggregation rule for that measure. The default aggregation rule for a measure column is specified in the Oracle BI repository, or by the original author of the analysis.

If you specify a total in the Rows or Columns drop target of a pivot table, then the totals that are displayed are the result of the columns that are specified in the Measures drop target. Total values are not displayed on the Columns or Rows edges of the pivot table but rather in the data in the center of the pivot table.

1. Display the Layout pane for the view.
2. To add grand totals to the entire view:
 - For a table, in the Columns and Measures drop target, click the **Totals** button, then click the location such as **Before**.
 - For a pivot table, in the Rows or the Columns drop target, click the **Totals** button, then click the location such as **After**.
3. To turn on and off the totals that apply to all the values in the drop target, click the **Totals** button beside the drop target name, such as Sections. Then select the location for the total, such as **Before** the data items. A totals area is added to the view.
4. To specify custom text to insert into a total heading in tables and pivot tables, enter text in the **Caption** box.
 - @ — Displays the value of the data. Suppose a total is specified for the Region column, and you enter the following text into the **Caption** box for the total heading: - All values in the @. The total heading displays the following text for the Western Region: - All values in the Western Region
 - "@" — Displays the @ symbol.
 - "\"" — Displays the double quote. The double quote syntax is not limited to a single character. In general, you can use a backslash escaped string inside double quotes. For example: "1234567890\\abc\\d\"x\"yz!@#\$\$%^&*()-+={ } [] ; : ' | ? / > < , . ` ~ " Is displayed as: 1234567890\\abc\\d\"x\"yz!@#\$\$%^&*()-+={ } [] ; : ' | ? / > < , . ` ~ "
 - "\\" — Displays the \ symbol.
 - \ — Displays the \ symbol.

Displaying Running Sums and Relative Values for Measure Columns in Pivot Tables

Running sums and relative values ensure the latest data and comparison data are shown.

You can use the Layout pane to display running sums or the relative value of measure columns in pivot tables.

Displaying Running Sums for Measure Columns in Pivot Tables

In a pivot table, you can display numeric measures as running sums, where each consecutive cell for the measure displays the total of all previous cells for that measure.

Presenting numeric measures is a display feature only that has no effect on actual pivot table results.

Typically, running sums are displayed for duplicated attribute columns or for measure columns for which the option to show data as a percentage of the column has been selected, with the last value being 100 percent. Running sums apply to all totals. The running sum for each level of detail is computed separately.

Column headings are not affected when the running sum option is selected. You can format the column heading if you want it to indicate that the running sum option is in effect.

The following usage rules apply to running sums:

- A running sum is incompatible with the SQL RSUM function (the effect would be a running sum of the running sum).
- All running sums are reset with each new section. A running sum does not reset at a break within a section or continued across sections.
- If a measure does not display in a single column or in a single row, then the measure is summed left to right and then top to bottom. (The lower right cell contains the grand total.) A running sum does not reset with each row or column.
- You cannot specify rolling minimums, maximums, and averages in the Layout pane. You can include these if administrators create formulas for them in the metadata repository.
- Where the measure label is located determines a running sum's direction. For example, if your measure label is located on a row edge, then it will run the sum horizontally.

If a measure label is located on a row's edge and runs the sum horizontally and values are present in all columns, then the sum is calculated correctly. However, if some values are missing ("sparse data") and the sum runs horizontally, then the sum is not calculated correctly.

- In the Layout pane for the pivot table, in the Measures area, click the **More Options** button for the row or column to be summed and select **Display as Running Sum**.

Displaying Relative Values for Measure Columns in Pivot Tables

In a pivot table, you can dynamically convert a stored or calculated measure into a percent or an index.

A pivot table shows the relative value of the item, compared to the total, without the need to explicitly create a calculated item for it. You can view the measure as a percentage between 0.00 and 100.00, or as an index between 0 and 1.

For example, if you are using a pivot table to examine sales by product, then you can duplicate the sales measure and view it as a percentage of the total. This enables you to see the actual sales, and the percentage of sales, that each product accounts for.

1. In the Layout pane for the pivot table, click the **More Options** button for the item you want to show as a relative value.
2. (optional) To duplicate the measure column, select **Duplicate Layer**.

When you duplicate the measure column in the pivot table, you can see both the total for the measure and its relative value. This eliminates the need to add the column twice on the Criteria tab to see the total and its relative value in the pivot table.

The measure is displayed in the pivot table.

3. Click the **More Options** button, select **Show Data As**, select **Percent of** or **Index of**, then select the appropriate option.

The **Show Data As** option is available only for items that are stored or calculated measures.

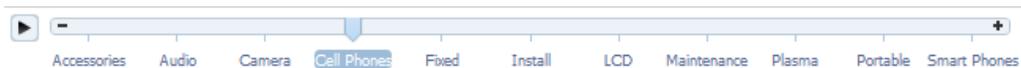
4. To rename the new column, click the **More Options** button, select **Format Headings** and in the Edit Format dialog, enter a value in the **Caption** field.

Defining Section Sliders in Graphs, Gauges, and Funnels

A section slider displays members of one or more attribute or hierarchical columns as values on a rectangular bar and provides mechanisms to select a value.

You use a section slider to limit the data that is shown in a graph, gauge or funnel.

The illustration shows an example of a section slider. It displays the members of the Product Type column. Using this slider, for example, you can limit the data that is shown in a graph, gauge, or funnel to a particular product type, such as Cell Phones.



A section slider consists of the following components:

- **Slider bar** — Displays the members of one or more attribute or hierarchical columns as values along a rectangular bar.

The administrator configures the maximum number of values that can be displayed on the slider bar. However, you can set a maximum lower than the system maximum by setting the **Maximum number of section slider values** field in the Section Properties dialog.

- **Slider thumb** — Indicates the current value of the section slider. The thumb in the illustration indicates that the current value is Cell Phones. You can drag the thumb to the desired value.
- **Decrease button** — Moves the slider thumb to the value to the left of the current value. For example, in the illustration, clicking the **Decrease** button (the second button from the left on the slider) moves the slider thumb to the value Camera.
- **Increase button** — Moves the slider thumb to the right of the current value. For example, in the illustration, clicking the **Increase** button (the right-most button on the slider) moves the slider thumb to the value Fixed.
- **Play button** — Sequentially moves the thumb through the slider values. For example, in the illustration, clicking the **Play** button (the left-most button on the slider) moves the slider thumb to the value Fixed and then to Install, and so on. After being clicked, the **Play** button changes to a **Pause** button to allow you to stop on a particular value.

As the thumb moves through the slider values, the minimum and maximum values of the axes are based on data across all slider sections and remain the same. The exception to this is in pareto graphs, where the axes are plotted from 0% to 100%.

To define a section slider in a graph, gauge, or funnel:

1. Open the analysis that contains the graph, gauge, or funnel in which you want to define a section slider.
2. Click the **Results** tab of the Analysis editor.
3. Click the **Edit View** toolbar button in the graph, gauge, or funnel view.
The Graph editor, Gauge editor, or Funnel editor, is displayed.
4. For each column to be displayed on the section slider, in the Layout pane of the Graph, Gauge, or Funnel editor, drag and drop the column to the Sections drop target.
5. Select **Display as Slider**.
6. Close the editor and examine the slider on the Results tab.
7. Click the **Save Analysis** button to save your changes.

Modifying Values and Performing Write Back

Users of a dashboard page or an analysis might have the ability to modify the data that they see in a table.

The ability to manipulate data is often referred to as "write back." Users can update a value in the view that is written back to the record in the data source or is used in other views in the analysis.

For example, you can create an analysis that has Sales Quota Amount defined as a write back field, Sales Amount as a field from the data warehouse, and Percentage of Quota as a calculated field ($\text{Sales Amount} / \text{Sales Quota Amount}$). When viewing the analysis a user can modify the Sales Quota Amount and the Percentage of Quota field recalculates appropriately.

If a logged-on user is already viewing a dashboard that contains an analysis where data has been modified using write back, the data is not automatically refreshed in the dashboard. To see the updated data, the user must manually refresh the dashboard.

Relational sources are supported for the “light write back” method as documented in *Configuring for Write Back in Analyses and Dashboards*. You can write data back to an Essbase source from a dashboard that includes action links. See the Oracle BI EE Sample Application for an example of this type of write back.

About Modifying Values and Various Types of Users

Values can be modified by users based on privileges.

The ability to modify values affects the following types of users:

- Administrators of the repository configure the columns in the repository to allow for write back.
- Administrators set privileges for write back and prepare a write-back template, and administrators and content designers configure for write back from table views in dashboards and analyses.
- End users modify records in table views.

Process for Write Back

This process needs to be followed to incorporate write back into user functionality.

The following describes the steps in the process of write back.

1. As the content designer, you work with the administrator of the repository to assess the reporting needs in the organization and make a list of write-back columns needed and the analyses in which they should be displayed.

Hierarchical columns do not support the write-back capability but attribute columns, measure columns, and double columns do support the write-back capability. For double columns, you can write back to the display column. No automatic translation of the code column is provided.
2. The administrator of the repository configures the Oracle BI Server and the columns that should be available for write back. See *Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.
3. The administrator performs the following tasks:
 - a. Prepares a file of SQL code to use as the "template" for write back.
 - b. Grants appropriate privileges for setting up and using write back. For example, the administrator gives you the privileges to set up views in which users can modify values.

See *Configuring for Write Back in Analyses and Dashboards in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.
4. As the content designer, you enable one or more columns for write back. See [Adding the Write-Back Capability to a Column](#).
5. As the content designer, you enable a table view for write back. See [Adding the Write-Back Capability to a Table View](#).
6. As the content designer, you provide users with information on working with write back. See [Modifying Data in a Table View in a Dashboard Page or Analysis](#).
7. Users modify the values in views as appropriate.

Adding the Write-Back Capability to a Column

To enable the write-back capability for a column, administrators and content designers use the Write Back tab on the Column Properties dialog.

Correct privileges must be set, and the attribute, measure, or double column must be set as writeable in the repository. Ensure that the column relates to the write-back template that the administrator prepared. All the table views that include that column can display it as available for write back.

1. Open the analysis for editing in the Criteria tab.
2. Click the **Options** button beside a column on which you want to enable write back and select **Column Properties**.

3. In the Column Properties dialog, click the **Write Back** tab.

If the column has been enabled for write-back in the repository, then the **Enable Write Back** box is available.

4. Click the **Enable Write Back** box.

Additional options for write-back are displayed.

- If the column has been enabled for write back in the repository.
- If the column has a data type of measure, text, or date and time.

Use care when allowing users to enter decimal values. Presentation Services simply sends the value that the user types to the Oracle BI Server, which must be configured to handle users by locale. For example, the Oracle BI Server must be aware of the locale for each user, so that it can properly handle a decimal value that includes either a period or comma as a decimal separator.

5. In **Text Field Width** box, specify the width of the column.
6. Click **OK** to close the Column Properties dialog.

Adding the Write-Back Capability to a Table View

To enable the write-back capability for a table view, use the Write Back tab of the Table Properties dialog.

Write-back allows data to be entered in the interface to over-write the database.

1. In the Analysis editor, open the table view for editing.
2. Click the **View Properties** button.
3. In the Table Properties dialog, click the **Write Back** tab.
4. Ensure that the **Enable Write Back** box is selected.
5. Select the **Template Name** box, then type the name of the template to employ for writing back values.

Check with the administrator for the appropriate template name.

6. Click **OK**.

About the Modes for Write Back in Views

Users can work in more than one mode when write back is enabled.

If you enable write back in a view and accept the system defaults, then a user has two modes in which to work with values:

- **View mode:** In this mode, a user views values. The user lacks the ability to modify values, before clicking the **Update** button to enter Edit mode.

If a logged-on user is already viewing a dashboard that contains an analysis where data has been modified using write back, the data is not automatically refreshed in the dashboard. To see the updated data, manually refresh the dashboard.

- **Edit mode:** In this mode, a user modifies values. To enter Edit mode, the user clicks the **Update** button on the view, when it is available. When in Edit mode, the user enters data in columns and can click the following buttons:
 - **Revert:** Changes back to the original values any modifications that the user has made but has not yet written back to the data source. Keeps the user in Edit mode.
 - **Apply:** Writes back to the data source any changes that the user has made and refreshes the view to display the most current data based on those changes. Keeps the user in Edit mode.
 - **Done:** Writes back to the data source any changes that the user has made, refreshes the view to display the most current data based on those changes, and returns the user to View mode.

You can modify the labels for these buttons using the options in the Write Back tab of the Properties dialog for the view. You can also use the **Toggle Table Mode** box to indicate that users do not toggle between View and Edit mode. Instead, they remain always in Edit mode. When toggling is disabled, the **Update** button is not displayed on the view.

Interactions in Views

You can configure interactions in views for users.

You can specify which interactions are available when users:

- Click in a data view.
- Right-click in a graph, heat matrix, pivot table, treemap, table, or trellis view at runtime.

Click Interactions in Views

You can specify which interactions are available when users click (that is, left-click) in a data view.

The following types of interactions are available:

- **None** — Specifies that nothing happens when users click the column heading or a value. This option turns off drilling for attribute columns; it does not turn off drilling for hierarchical columns.

- **Drill** — Enables users to drill down to more detailed information. See [Drilling in Views](#).
- **Action Links** — Enables users to click a hot spot in a data view and then select an action link to execute an action, such as navigating to a saved analysis or invoking an Enterprise Java Bean (EJB). See [Working with Actions](#).
- **Send Master-Detail Events** — Sends master -detail events in a master-detail relationship. See [What Is Master-Detail Linking of Views?](#) and [Linking Views in Master-Detail Relationships](#).

You specify which left-click interactions are available at the criteria level using the Interaction tab of the Column Properties dialog. These left-click interactions take effect in all data views.

You specify runtime interactions for views (for example, sort or move) by using the Interactions tab of the Analysis Properties dialog.

Right-Click Interactions in Views

You can specify which interactions are available when users right-click in a graph, heat matrix, pivot table, table, treemap, or trellis view at runtime.

For example, you can right-click to **Sort** or **Drill**. Not all right-click interactions are available for each view type at runtime.

Note:

Right-click interactions on graphs are supported only for HTML5 graphs.

You specify which right-click interactions are available at the analysis level using the Interactions tab of the Analysis Properties dialog. These right-click interactions take effect in graph, heat matrix, pivot table, table, treemap, and trellis views at runtime.

Most right-click interactions are not available for graphs in trellis views (Simple Trellis and Advanced Trellis). You can, however, include actions links as right-click interactions for graphs in trellis views. In addition, right-click on text is allowed, meaning the user can right-click on text in a trellis view in the same manner as in a pivot table view. This includes data cells in an advanced trellis that have Visualization set to Text.

Include the selection steps view when using right-click interactions to track which steps and constraints have been applied. See [Working with Selections of Data](#).

Drilling in Views

If the administrator has configured columns for drilling in the subject area, then you can allow users to drill in data in gauges, graphs, heat matrixes, maps, pivot tables, tables, treemaps, and trellises.

Drilling is a way to navigate through data in views quickly and easily. This section provides the following information on drilling:

- [In Which Columns Can I Drill?](#)
- [How Do I Allow Drilling in Columns?](#)

- [What are the Effects of Drilling on Filters and Selection Steps?](#)

In Which Columns Can I Drill?

You can drill in attribute columns and hierarchical columns.

See [About Drilling in Results](#).

How Do I Allow Drilling in Columns?

As the content designer, you specify whether users can drill in particular columns in views on dashboards.

You control whether drilling is allowed in particular columns by specifying options in the Interaction tab Column Properties dialog.

A primary interaction governs what you can do against a column, for example, drill, send master-detail, and so on. If drilling is not set as the primary interaction of a particular column (that is, **Drill** has not been specified as the value for the **Column Heading: Primary Interaction** or **Value: Primary Interaction** box in the Interaction tab of the Column Properties dialog), then you can allow drilling as a right-click interaction in graph, heat matrix, table, and pivot table views at runtime. To do so, you select the **Drill (when not a primary interaction)** option in the Interactions tab of the Analysis Properties dialog.

What are the Effects of Drilling on Filters and Selection Steps?

Drilling works differently when filters and selection steps are applied.

Drilling in columns affects their filters and selection steps. See [Filtering and Selecting Data for Analyses](#).

- **Hierarchical columns:** No steps are added to the selection when you expand or collapse members in a hierarchical column. That is, the expanding and collapsing does not change the selection of data for the column.

For example, suppose that you create a pivot table in which you select 2008 as the only member in the Time dimension, and you arrange the data so that this one Time member is the column header in the pivot table. You can expand to show quarters in 2008 and then the months in the last quarter. At this point the pivot table has child members for 2008, Q1 2008, Q2 2008, Q3 2008, Q4 2008, October 2008, November 2008, and December 2008. If you display the Selection Steps pane, however, you see that the selection for the Time dimension still contains only the 2008 member.

Expanding and collapsing in a hierarchical column affects only that particular view. No other views are affected.

- **Attribute columns:** You can drill down from the row heading or column heading or from a member in an attribute column. Drilling on a heading adds the lower level to the view. Drilling on a member adds the lower level and affects both filters and selection steps:
 - Drilling on a member adds a filter for the current member, thereby limiting the results. For example, if you drill on the Game Station member in a table that includes the P1 Product column, you add the E1 Sales Rep Name column, which adds a filter that specifies that P1 Product equals Game Station.

- Drilling on a member adds the lower-level column to the analysis and updates the column in the Selection Steps pane without providing a step update during design.

Sorting Data in Views

You can change the way data in a view is sorted.

When you create an analysis, you can specify sorting for the results that are displayed in funnels, gauges, graphs, heat matrixes, pivot tables, tables, and trellises.

Common Sort Functionality

Some sort functionality is common to graphs, heat matrixes, pivot tables, tables, and trellises.

Graphs, heat matrixes, pivot tables, tables, and trellises reflect the sorting that you specify in the Selected Columns pane of the Criteria tab for attribute columns and hierarchical columns. Use the Sorting menu options that are available from the **Options** button for a column. These sorting options provide the ability to sort by a single column or by multiple columns, each in either ascending or descending order. By creating sorts for multiple columns, you can specify multiple level sorts such as second-level and third-level sorts of the data. These sort levels are indicated with numbers and a sort icon for the column in the Criteria tab.

The options that you specify on the Criteria tab serve as the initial sorting state of the analysis. You can modify the sort later when the analysis is used.

When you sort items in a hierarchical column, you always sort within the parent. That is, children are never sorted outside of their parent. The children are displayed below the parent in the proper sort order; the parent is not sorted within its children.

If you include totals in a view, then those values are not sorted. They remain in the location in which you placed them, regardless of sorting.

If you sort an attribute column or hierarchical column that includes a group, then that group is always displayed at the bottom of the list. If there are multiple groups, then the groups are listed in the order in which their corresponding steps are specified in the Selection Steps pane.

You can use many options to sort in views. For example, when you sort a column, you can select from the following options:

- **Sort Ascending** — Enables you to sort the values in the column by ascending order, as a first-level sort. For example, string values sort alphabetically A through Z, numbers sort lowest to highest, and dates sort earliest to latest.
- **Sort Descending** — Enables you to sort the values in the column by descending order, as a first-level sort.
- **Add Ascending Sort** — Specifies that an ascending sort for this column is added as another sort for the analysis.
- **Add Descending Sort** — Specifies that a descending sort for this column is added as another sort for the analysis.
- **Clear Sort** — Removes the sort specification for the specified column. This option works differently in the Selected Columns pane than in other places. If you make

sort specifications in both the Selected Columns pane and in the view itself, then you return to the Selected Columns pane and click **Clear Sort**, only the sort that you specified in the Selected Columns pane is removed. A sort that you specified in the view remains.

- **Clear All Sorts in All Columns** — Removes all sort specifications that you have made. This option works differently in the Selected Columns pane than in other places. See **Clear Sort**.

You can sort values in the following ways:

- Right-click in a view heading, click **Sort Column**, and select the appropriate option.
- From the Selected Columns pane of the Criteria tab, click **Options** beside a column, click **Sort**, and select the appropriate option.
- You can also sort values in a view using the upwards and downward triangles that are found in column headings.

Sorting Data

Sorting allows you to sort rows and columns of a view, either from lowest to highest data values, or from highest to lowest.

You can also return the order to the order in the data source by clearing all sorts. You can specify alphanumeric sorts on the row and column edges of heat matrix, pivot table, table, and trellis views.

Note:

The locale of the user is not taken into consideration for a sort applied directly in a pivot table. Instead, a binary sort is done. If you want the user's locale to be considered, apply the sort in the Criteria tab.

You make sorting specifications in various ways, including those in the following list:

- In the Selected Columns pane of the Criteria tab, click the **Options** button beside the column and select the appropriate sort option from the menu.
- Right-click in a heat matrix, pivot table, table, or trellis, select **Sort** or **Sort Column** (whichever is available). If you select **Sort**, the Sort dialog is displayed, where you choose the sorting options. If you select **Sort Column**, you then select the appropriate sorting option from the menu.

If you deselected **Sort Columns** in the Interactions tab of the Analysis Properties dialog, you cannot sort a column in a view at runtime.

- Right-click in a graph view on a data marker (such as a bar, line, or slice depending on the graph type), a legend item, a group-level (X axis) item, or a Prompts label or Sections label, select **Sort**, and then select the appropriate sort options in the Sort dialog. For an example of sorting in a graph, see [Sorting in Graphs by Using the Right-Click Menu](#).

If a pivot table is created by using the **Graph Pivoted Results** button, the right-click menu option is not available for the graph.

- Hover the mouse pointer over the area to the right of the column name in the header of a heat matrix, pivot table, table, or trellis view, and then click either the upward-facing triangle (**Sort Ascending**) or the downward-facing triangle (**Sort Descending**) for that column. These sort specifications override those that you make with the right-click menu.

If you see a shaded-in sort button in the column header or the row header, then you know that the column contains a primary sort. You can add a second-level or third-level sort by hovering over another innermost column header or row header and clicking the appropriate sort button or clicking the right-mouse button.

Any sorting options that you specify in a view override those that were made in the Selected Columns pane.

Clearing Sorts

You may want to change the way data is sorted by clearing the sort order.

You can use various methods to clear sorts:

- For sorts that have been applied in the Selected Columns pane, click **Clear All Sorts in All Columns**. The sort specifications that you made in the Selected Columns pane are removed. Sorts that you specified in a view remain.
- For sorts that have been applied from the Prompts label or Sections label in a graph, heat matrix, pivot table, table, or trellis view, hover the mouse pointer over the Prompts label or Sections label, right-click and then select **Sort**. Within the Sort dialog, click the **Clear All Sorts in Edge** button from each sort area, and then click **OK**.
- For sorts that have been applied directly in a heat matrix, pivot table, table, or trellis:
 - Click a sort button in an unsorted column to remove the primary sort from the column to which it now applies and apply it to the column whose button you just clicked.
 - Select the **Clear All Sorts in View** option from the right-mouse menu.
- For sorts that have been applied in a heat matrix view, hover the mouse pointer over the outer edge, column label, or row label, right-click and then select **Sort**. Within the Sort dialog, click the **Clear All Sorts in Edge** button from each sort area, and then click **OK**.
- For sorts that have been applied in a graph view, select any data marker, legend item, group-level (X axis) label, right-click and then select **Sort**. Within the Sort dialog, click the **Clear All Sorts in Edge** button from each sort area, and then click **OK**.
- When you clear sorts from the Criteria tab, you clear only the sorts that were defined from the **Column Options** menu. You do not clear the sorting done within a specific view.
- To remove the primary sort from the column to which it now applies and apply it to the column whose button you just clicked, click a sort button in an unsorted column.

To clear sorts that you have applied to a column in an analysis:

1. Display the Selected Columns pane of the Criteria tab.
2. Click **Options** beside the column.

3. Select **Sort**, then **Clear Sort**.

Sorting in Tables and Pivot Tables

Tables and pivot tables have a default sort order based on their construction.

Pivot tables always sort each edge from outer to inner layer by default. This differs from previous releases (prior to 11g) that used a tabular sort, determined by the sorts specified on the criteria columns, as the default sort for pivot tables.

The image shows two side-by-side screenshots of Oracle database views. The left screenshot is a Pivot Table titled 'Pivot Table'. It displays a hierarchical view of product revenue for the year 2010. The columns are 'T05 Per Name Year', 'P1 Product', and '1 - Revenue'. The data is sorted by revenue in descending order. The right screenshot is a standard Table titled 'Table'. It displays the same data in a flat, tabular format, also sorted by revenue in descending order. The columns are 'T05 Per Name Year', 'P1 Product', and '1 - Revenue'.

T05 Per Name Year	P1 Product	1 - Revenue
2010	7 Megapixel Digital Camera	1,211,785
	Bluetooth Adaptor	328,055
	CompCell RX3	815,047
	Game Station	1,068,515
	HomeCoach 2000	1,626,496
	Install	1,603,752
	KeyMax S-Phone	973,391
	LCD 36X Standard	876,744
	LCD HD Television	1,600,693
	MP3 Speakers System	1,192,856
	MPEG4 Camcorder	1,279,393
	Maintenance	1,603,411
	MaxiFun 2000	843,867
	MicroPod 60Gb	1,071,848

Example 1: Sorting with a Single Column on Each Edge

This example shows a pivot table sorted by a column.

Suppose that you have a pivot table with Time Hierarchy on the column edge and Offices Hierarchy on the row edge; both are hierarchical columns. 1 - Revenue in dollars is the measure that is shown in the pivot table. You can sort the Offices Hierarchy by the 1 - Revenue for a particular year as highest revenue to lowest revenue, or lowest to highest, or no sorting at all.

The illustration shows an example of sorting Offices Hierarchy by 1 - Revenue for year 2010, in ascending order. The Corporate Total parent is always displayed above its children. The values for other years might not be sorted numerically, because only year 2010 was selected.

Pivot Table



1- Revenue

	▲ Total Time			
Offices Hierarchy		▶ 2010 ▲▼	▶ 2011	▶ 2012
▲ Total Value	70,000,000	23,500,000	23,000,000	23,500,000
▶ Genmind Corp	18,281,788	6,127,847	5,953,688	6,200,252
▶ Tescare Ltd.	24,647,727	8,280,520	8,092,246	8,274,962
▶ Stockplus Inc.	27,070,485	9,091,633	8,954,066	9,024,786

The illustration shows an example of sorting the Time Hierarchy by the 1 - Revenue for Corporate Total. The years are re-arranged in the order 2011, 2010, and 2012. In 2011, Corporate Total had its lowest value; and in 2010 and 2012, it had its highest value.

Pivot Table



1- Revenue

	▲ Total Time ▲▼			
Offices Hierarchy	Time Hierarchy	▶ 2011	▶ 2010	▶ 2012
▲ Total Value ◀▶	70,000,000	23,000,000	23,500,000	23,500,000
▶ Stockplus Inc.	27,070,485	8,954,066	9,091,633	9,024,786
▶ Tescare Ltd.	24,647,727	8,092,246	8,280,520	8,274,962
▶ Genmind Corp	18,281,788	5,953,688	6,127,847	6,200,252

Example 2: Sorting with Two Columns on the Row Edge

This pivot table has two rows and is sorted by only one row.

Suppose that you have a pivot table with the Time Hierarchy on the column edge and P1 Products and the Offices Hierarchy on the row edge, with Products outside Offices. 1 - Revenue in dollars is the measure that is shown in the pivot table. You can sort the row edge by the 1 - Revenue for 2010 in descending order. The Offices are sorted as in Example 1, but the Products are not sorted, because they are in the outermost layer.

Pivot Table [A] xyz ✎ ✕

1- Revenue

P1 Product	Offices Hierarchy	Total Time			
		2010	2011	2012	
HomeCoach 2000	Total Value	5,447,097	1,626,496	1,622,373	2,198,228
	Stockplus Inc.	2,109,779	634,850	623,754	851,175
	Tescare Ltd.	1,915,047	570,204	570,450	774,393
	Genmind Corp	1,422,271	421,441	428,169	572,661
Install	Total Value	4,208,841	1,603,752	1,419,866	1,185,223
Maintenance	Total Value	4,120,096	1,603,411	1,420,694	1,095,991
LCD HD Television	Total Value	4,116,134	1,600,693	1,419,642	1,095,799
Plasma HD Television	Total Value	3,783,291	1,424,907	1,293,453	1,064,932
SoundX Nano 4Gb	Total Value	3,955,349	1,423,658	1,291,996	1,239,695

Example 3: Sorting with Two Measures on the Column Edge

You can sort a pivot table with two measures.

Suppose that you have a pivot table with the Time Hierarchy on the column edge and the Offices Hierarchy on the row edge. Both 1 - Revenue and 2 - Billed Quantity are the measures in the pivot table as shown in the illustration. If you try to sort the years by the leaf-node for GenMind Corp using the left facing triangle (**Sort Ascending**), then the first measure on the column edge (reading left to right) is chosen as the one on which to sort. If 1 - Revenue is the first measure on the edge, then the pivot table is sorted as shown.

Pivot Table [A] xyz ✎ ✕

Offices Hierarchy	1- Revenue			2- Billed Quantity		
	Total Time	2012	2011	Total Time	2012	2011
Total Value	70,000,000	23,500,000	23,000,000	5657221	1781233	1793724
Genmind Corp	18,281,788	6,200,252	5,953,688	1461162	464939	459566
Stockplus Inc.	27,070,485	9,024,786	8,954,066	2199530	688384	702610
Tescare Ltd.	24,647,727	8,274,962	8,092,246	1996529	627910	631548

Pivot Table

Offices Hierarchy	1 - Revenue			2 - Billed Quantity		
	Total Time			Total Time		
		2011	2012		2011	2012
Total Value	70,000,000	23,000,000	23,500,000	5657221	1793724	1781233
Genmind Corp	18,281,788	5,953,688	6,200,252	1461162	459566	464939
Stockplus Inc.	27,070,485	8,954,066	9,024,786	2199530	702610	688384
Tescare Ltd.	24,647,727	8,092,246	8,274,962	1996529	631548	627910

If the measures are on the row edge and you sort by a year, then the top-most measure is used for sorting.

If you sort using the Sort right-click interaction, in pivot tables, tables, or trellises, then options that allow you to select which measure to use in the sort are displayed. See the Sorting Options Menu for additional information.

Title

Hierarchy

Pivot Table

Offices Hierarchy	1 - Revenue			2 - Billed Quantity		
	Total Time			Total Time		
		2011	2012		2011	2012
Total Value	70,000,000	23,000,000	23,500,000	5657221	1793724	1781233
Genmind Corp	18,281,788	5,953,688	6,200,252	1461162	459566	464939
Stockplus Inc.	27,070,485	8,954,066	9,024,786	2199530	702610	688384
Tescare Ltd.	24,647,727	8,092,246	8,274,962	1996529	631548	627910

Sort

- Sort Ascending
- Sort Descending
- Add Ascending Sort
- Add Descending Sort
- Clear All Sorts in View

Expand

Collapse all items for this column

Collapse all items in view

Keep Only

dd to Briefing Book

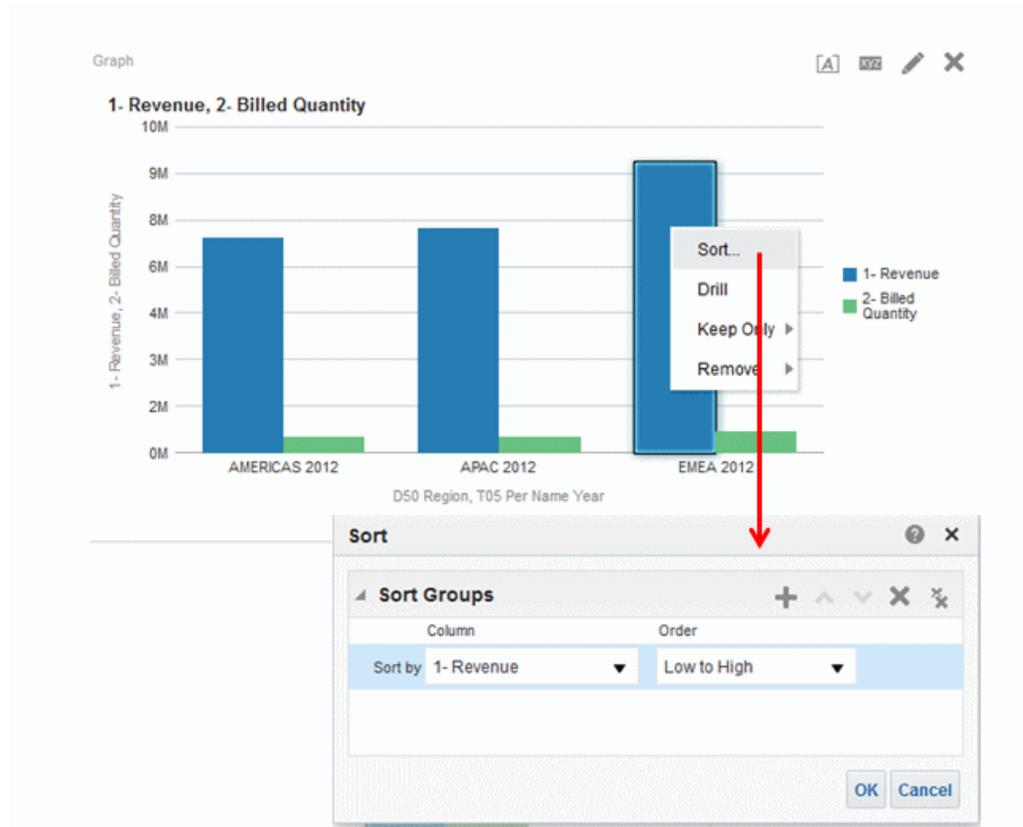
Sorting in Graphs by Using the Right-Click Menu

Right-clicking in graphs provides various sort options.

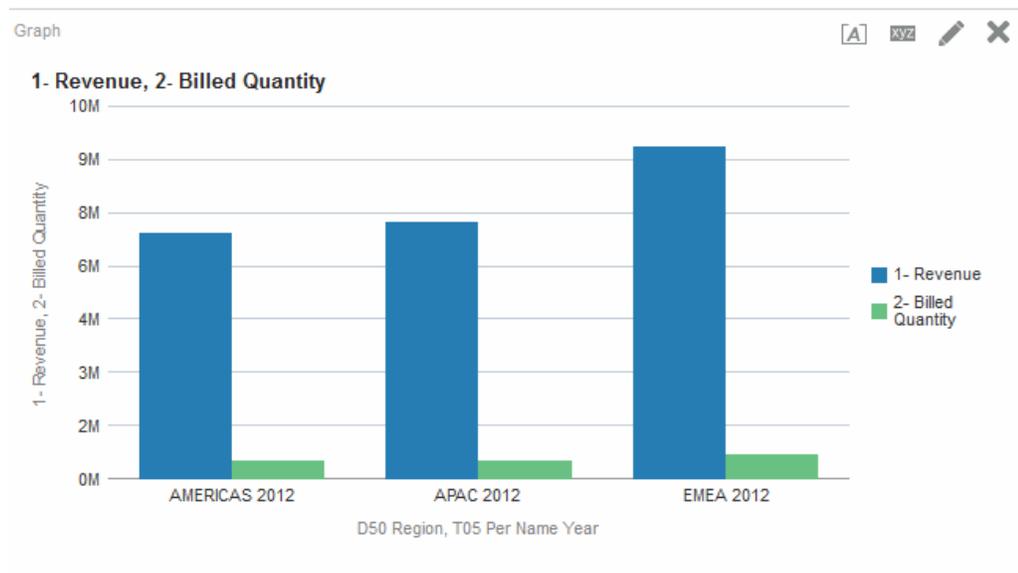
You can right-click in a funnel, gauge, or graph view on a data marker (such as a bar, line, or slice depending on the graph type), a legend item, a group-level (X axis) item, or a Prompts label or Sections label. You select **Sort**, and then select the appropriate sort options in the Sort dialog.

Suppose that you have a vertical bar graph with two measures, 1 - Revenue and 2 - Billed Quantity, and these measures are grouped by T05 Per Name Year and prompted by D50 Region. Suppose that you want to sort the bar graph by revenue in ascending order.

The following illustration shows an example of the Sort dialog, where 1 - Revenue is selected as the **Sort by Column** and **Low to High** (or ascending) is selected as the **Order**.



The following illustration shows the results of sorting a vertical bar graph with two measures, 1 - Revenue and 2 - Billed Quantity. These measures are grouped by T05 Per Name Year, prompted by D50 Region, and then sorted by 1 - Revenue in **Low to High** sequence.



Resizing Rows and Columns in Table Views, Pivot Table Views, and Advanced Trellis Views

You can resize the row and column edges of table views, pivot table views, and advanced trellis views that are set up to use scrolling as the method to browse data.

You set up a table, pivot table, or advanced trellis to use scrolling as the method to browse data in its property dialog, that is, the Style tab of the Table Properties dialog, Pivot Table Properties dialog, or General tab of the Trellis Properties dialog, respectively.

Resizing of rows and columns:

- Is not persisted. For example, if you leave a table and then display it again, the resizing will be lost.
 - Is ignored if you export the table, pivot table, or advanced trellis to PDF.
1. Hover the mouse pointer over the border of the column or row edge. A resize cursor is displayed.
 2. Click and hold the mouse button down. A dotted line is displayed.
 3. Drag the dotted line to the desired size and release the mouse button.

Saving Views

You can save a view that you are working with at any time.

To save a view, you must save the analysis. For example, you can create a Brand Revenue analysis, edit its table view, and decide to save it for the first time

- If you want to save a view:
 - In a new analysis or in an existing analysis, click the **Save Analysis** button in the Analysis editor.
 - In an existing analysis that you must save as another name, click the **Save As** button in the Analysis editor.

If this is the first time that you are saving the analysis, or you are saving an existing analysis as another name, then the Save As dialog is displayed where you specify the information for saving the analysis.

Renaming Views or Compound Layouts

If you have created a view or compound layout, then you can rename the view or compound layout to make them more meaningful to your end users.

Renaming a view or compound layout is simple.

1. If you want to rename:
 - A view, on the toolbar of the view's editor, click the **Rename View** button.
 - A compound layout, in the Results tab toolbar of the Analysis editor, click the **Rename Compound Layout** button.

2. In the Rename View dialog, enter the new name for the view or compound layout.
3. Click **OK**.

Rearranging Views

You can use your mouse to rearrange a view (for example, title, legend, table, or graph) within a compound layout.

You can rearrange a view as follows:

- Alongside the boundary of another view.
- To the outer boundary of the compound layout. The view is displayed across the length or breadth of the compound layout.

For example, you can rearrange the views in the Brand Revenue analysis. You can arrange the bar graph of Projected Revenue to be displayed before the line graph of Actual Revenue.

To rearrange a view:

1. Place the cursor just inside the top edge of the view to be rearranged.
2. Click and hold the left mouse button (if configured) on the view.
The view is displayed as a transparent movable object.
3. Use the mouse to drag the view to the required position.

A view can be rearranged as follows:

- At the boundary of a view.
Each view has four boundaries (upper, lower, left or right), and can be arranged alongside the boundaries of other views in an analysis. You can drag and drop a view to display it next to the boundary of another view.
- At the outer boundary of the compound layout.

Each compound layout contains one or more views arranged in either a square or a rectangle. The compound layout has four boundaries (upper, lower, left and right). You can drag and drop a view to the outer boundary of a compound layout. This action displays the view across the entire length or breadth of the compound layout.

4. Release the mouse button.
The view is rearranged in the compound layout in the position that is indicated by the blue bar.
5. Repeat the previous steps to rearrange further views.

Printing Views

You can print views using standard layout file formats.

You can print views using HTML or Adobe PDF (Portable Document Format). Adobe Reader 6.0 or greater is required to print using Adobe PDF.

You can also specify PDF and print options, including adding headers and footers. See [Changing Print and Export Options for Views](#).

 **Note:**

The HTML method of printing relies on the print handling capabilities of your browser. If you do not get the results you want, then choose PDF to open and then print the analysis.

You can print:

- A single view from the view's editor
- An assemblage of views that are displayed in the Compound Layout
- 1. If you want to print:
 - A single view, on the toolbar of the view's editor, click the **Print this analysis** button.
 - The assemblage of views displayed in the Compound Layout, in the Results tab toolbar of the Analysis editor, click the **Print this analysis** button.
 - Gauges that do not fit in a standard page size, you must split the gauges.
- 2. Select **Printable HTML** or **Printable PDF**.
 - For HTML, a new window shows the view or views to print. From the **File** menu, select **Print**.
 - For PDF, an Adobe PDF window shows the view or views to print. Use the options that are available in the Adobe PDF window to save or print the file.

Changing Print and Export Options for Views

You can change the way views are printed and exported.

Changing print and export options allows you to customize exported and printed output for users such as:

- Specify items to include in the output, such as headers and footers
- Select which layouts are to be available for printing and exporting
- Create, edit, replace, and remove custom print layouts
- 1. In the Results tab toolbar of the Analysis editor, click the **Print & Export Options** button.
- 2. In the Print & Export Options dialog, specify the appropriate options in the dialog, and click **OK**.

Previewing How Views Are Displayed on a Dashboard

You can preview views to see how they are displayed on a dashboard.

You can preview:

- A single view from the view's editor
- An assemblage of views displayed in the Compound Layout
- If you want to preview:

- A single view, on the toolbar of the view's editor, click the **Show how results will look on a Dashboard** button.
- The assemblage of views that are displayed in the Compound Layout, in the Results tab toolbar of the Analysis editor, click the **Show how results will look on a Dashboard** button.

**Note:**

If the **Show how results will look on a Dashboard** button is not available, then the administrator has suppressed its display.

The dashboard preview is displayed in a new window. Any prompts are displayed and applied in the preview.

Removing Views

You can remove views from the elements that contain them.

You can remove a view from:

- A compound layout.
Removing a view from a compound layout removes it only from the compound layout, not from the analysis.
- An analysis.
Removing a view from an analysis removes the view from the analysis and from any compound layout to which it had been added.
- If you want to remove a view from:
 - A compound layout, in the view in the Compound Layout, click the **Remove View from Compound Layout** button.
 - An analysis, in the Views Pane, select the view and then click the **Remove View from Analysis** button.

Refreshing the Results in Views

When you are working with views that show results data, such as the table and pivot table, you can refresh the results of the current analysis.

Refreshing results is useful if you make a change such as adding a filter that limits results and you want to see the effects of your change.

- In the Results tab toolbar of the Analysis editor, click the **Refresh the results of the current analysis** button.

Customizing Views for Delivery to Agent Users

Delivery content is automatically formatted based on the destinations that you specify in the Destinations tab of the Agent editor.

You can manually control which view or views are sent to a particular destination by including them in a compound layout. For example, you might want to create a view that contains mostly text and add that view to a compound layout, if you plan to deliver it to a mobile phone. In previous releases (prior to 11g), this functionality was referred to as "specialized views."

1. For the appropriate analysis, create and save the view to use for delivered content.
2. On the toolbar of the Results tab of the Analysis editor, click the **Create Compound Layout** button.
3. Add the view that you created to the compound layout.
4. On the toolbar of the Results tab of the Analysis editor, click the **Edit Analysis Properties** button.
5. In the **View for Text Delivery** box, select the compound layout to which you added the view.
6. Click **OK**.

What Is Master-Detail Linking of Views?

Master-detail linking of views enables you to establish a relationship between two or more views such that one view, called the master view, drives data changes in one or more other views, called detail views.

For example, suppose you have the following two views:

- A table that shows Dollars by Region
- A graph that shows Dollars by Brand with Region on a section slider

Using the master-detail linking functionality, you can link the two views so that when you click a particular Region in the table, the Region on the section slider of the graph as well as the data in the graph changes to reflect the Region that was clicked on the table. For example in the illustration, clicking APAC in the table in the D50 Region column, positions the thumb in the section slider on APAC and updates the data in the graph to the data for APAC.

Table

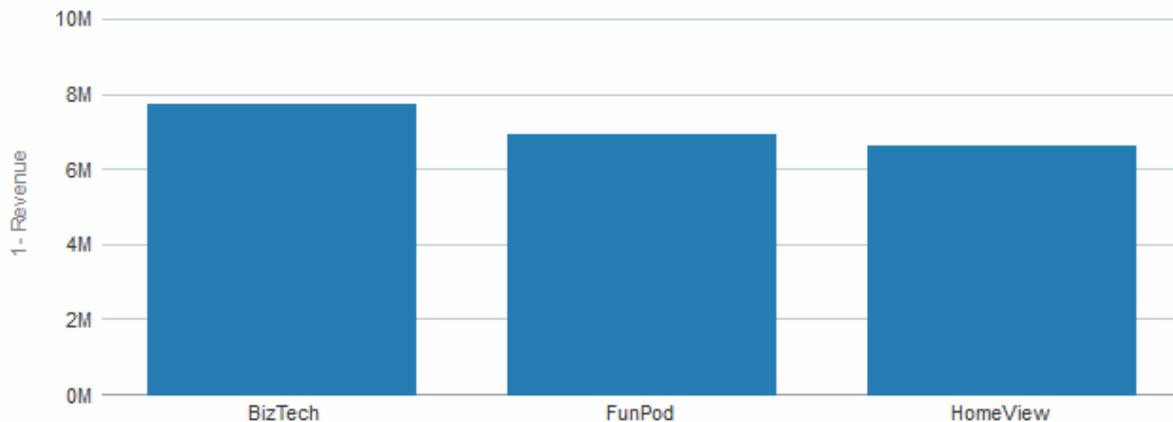


D50 Region	1- Revenue
AMERICAS	20,645,342
APAC	21,299,582
EMEA	28,055,076

Graph



1- Revenue



What Are Master Views?

A master view drives data changes in one or more detail views.

A view becomes a master when you set up the interaction of a column in the view to send master-detail events on designated channels. This column is known as the master column.

The master column is the column whose values when clicked send a master-detail event, which passes information to update the data in a detail view.

The following types of views are master views:

- Funnel graph
- Gauge
- Graph
- Heat matrix
- Map
- Pivot table
- Table
- Trellis (only the outer edges, not the inner visualizations)

A master view can be in the same analysis as the detail view or in a different analysis. A master view can update data in one or more detail views.

Master-detail events that are configured on the columns that reside on the row or column edge (that is, the legend or group labels) of a graph or gauge are exposed from the corresponding data item of the view (when clicked) along with any such event set up on the measure that corresponds to the data item.

What Types of Columns Can Be Master Columns?

Any type of column — hierarchical, attribute, or measure — can be a master column.

However, the master column cannot be displayed on the page edge or the section slider in the master view. It must be displayed in the body of the view.

Note:

While hierarchical columns are supported as master columns, if a user clicks a hierarchy level, then a change takes effect in the detail view only if the level is expanded there as well.

What Information Do Master-Detail Events Pass?

When a master-detail event is raised, it passes the definition of the cell (or item) in the master view that was clicked.

The specific information a master-detail event passes depends on the type of column:

- For an attribute column, it passes the clicked value and the contextual information to the left and above the axis member.

For example, in the illustration, if the attribute column *D51 Area* is the master column, and you click *Central* (highlighted in blue), then the master-detail event information passed is `D50 Region = AMERICAS` and `D51 Area = Central`.

Table [A] XYZ ✎ ✕

D50 Region	D51 Area	T05 Per Name Year	1 - Revenue
AMERICAS	Central	2010	1,132,032
		2011	1,069,522
		2012	1,113,286
	North America	2010	4,676,810
		2011	4,597,723
		2012	4,675,052
	South America	2010	1,149,714
		2011	1,100,666
		2012	1,130,539
APAC	North	2010	1,113,193
		2011	1,108,589
		2012	1,117,729
	South	2010	4,860,500
		2011	4,755,278

- For a measure column, it passes all the contextual information for the data value.
 For example, in the following illustration, if the measure column 1 - Revenue is the master column, and you click 1,113,286 (highlighted in blue), then the master-detail event information passed is D50 Region = *AMERICAS*, D51 Area = *Central*, and T05 Per Name Year = *2012*.

Table [A] xyz ✎ ✕

D50 Region	D51 Area	T05 Per Name Year	1- Revenue
AMERICAS	Central	2010	1,132,032
		2011	1,069,522
		2012	1,113,286
	North America	2010	4,676,810
		2011	4,597,723
		2012	4,675,052
	South America	2010	1,149,714
		2011	1,100,666
		2012	1,130,539
APAC	North	2010	1,113,193
		2011	1,108,589
		2012	1,117,729
	South	2010	4,860,500
		2011	4,755,278

The master-detail event information defines the position of a page edge or a section slider in a detail view.

What Are Channels?

A channel links a master view to a detail view.

It is the vehicle that carries master-detail events from the master view to the detail view. The same channel must be used for both the master view and the detail view in a master-detail relationship, for example, Channel1. The channel name is case sensitive.

What Are Detail Views?

A detail view is a view that listens for and responds to master-detail events sent by a master view on a specified channel.

A view becomes a detail view, when you set up the view to listen to master-detail events.

A detail view includes one or more columns whose values are changed directly by the information passed by a master-detail event. These columns are known as detail columns. A detail column must:

- Be on the page edge or the section slider of the detail view. Whether a detail column is displayed on the page edge or a section slider, depends on the type of view:

- For pivot tables and tables, it must be on the page edge
- For graphs and gauges, it can be on the page edge, or on the section slider



Note:

If a detail column is on a section slider and a page edge is present, the detail column is not updated by the information in the master-detail event. For example, if the information in the event is `D50 Region=AMERICAS` and `T05 Per Name Year=2009`, and the page edge of the detail view has `Region` and the section slider has `Years`, then only the `Region` is updated.

- Match a column in the master view

When a detail view contains multiple detail columns, it is listening for and responding to master-detail events on multiple channels.

The following types of views can be detail views:

- Funnel graph
- Gauge
- Graph
- Heat matrix
- Map
- Pivot table
- Table
- Trellis (only the outer edges, not the inner visualizations)

A detail view:

- Can listen for master-detail events from multiple master views
- Can be in the same analysis as the master view or in a different analysis
- Cannot act as a master to another view

How Does Master-Detail Linking of Views Work?

When a master view and a detail view are linked and a user clicks a cell (or item) in the master column, a master-detail event is generated on the designated channel and the master-detail event information is passed to the detail view.

The detail view (which is listening on the designated channel for master-detail events) receives the event and the master-detail event information. It reviews the master-detail event information to determine which column in this information matches the detail column. When it finds a match, it takes the column values in the master-detail event information, updates the detail column, and then refreshes the entire detail view.

If a master column is on a section slider, then any detail view that is not visible initially in the browser is not updated and refreshed until the view becomes visible when you scroll down. See [Defining Section Sliders in Graphs, Gauges, and Funnels](#) and [Example of a Table and Graph Linked in a Master-Detail Relationship](#).

Linking Views in Master-Detail Relationships

To link views in master-detail relationships, you must define the master view and the detail view.

See [What Is Master-Detail Linking of Views?](#)

Defining the Master View

A master view drives data changes in one or more detail views.

The following types of views can be master views: funnel graph, gauge, graph, pivot table, table, and trellis. In a trellis view, only on the outer edges, can be master views, not the inner visualizations.

A master view can be the same analysis as the detail view or in a different analysis. A master view can update the data in one or more detail views.

A master view contains a master column, where you set up the interaction that sends master-detail events on a channel. A channel carries master-detail events to the detail view. The master column cannot be displayed on the page edge or section slider. It must be displayed in the body of the view.

1. Create or edit the analysis whose view (or views) you want to define as the master view.
2. For the column that is to be the master column, in the Criteria tab of the Analysis editor, click the **Options** button and then select **Column Properties**.

You can also click the **More Options** button in the Layout pane and then select **Column Properties** to display the Column Properties dialog.

3. In the Column Properties dialog, click the **Interaction** tab.
4. In the **Primary Interaction** box in the **Value** area, select **Send Master-Detail Events**. The **Specify channel** field is displayed.
5. In the **Specify channel** field, enter a name for the channel on which the master view sends master-detail events. You can use any appropriate name, for example, Sales Analysis Channel, Channel 1, or channel 1.
6. Add the view to use as a master view. Any view that you add that includes the master column can be used as a master view.
7. Click on the **Results** tab in the Analysis editor to view the default table or pivot table view
8. Click **OK**.

Defining the Detail View

A detail view is a view that listens for and responds to master-detail events sent by a master view on a specified channel.

A detail view responds to master-detail events such as clicking on a value in a master view table.

The following types of views can be detail views: funnel graph, gauge, graph, pivot table, table, and trellis. In a trellis view, only the outer edge can be detail views, not the inner visualizations. A detail view:

- Can listen for events from multiple master views
 - Can be in the same analysis as the master view or in a different analysis
 - Cannot act as a master view to another view
1. Create or edit the analysis whose view you want to define as the detail view.
 2. Create the view that is to be the detail view, for example, a graph.
 3. Edit the view.
 4. Click the view's **Property** button on the toolbar of the view's editor. For example for a graph, click the **Graph Properties** button in the Graph Editor. The view's property dialog is displayed, for example, for a graph, the Graph Properties dialog.
 5. Select the **Listen to Master-Detail Events** box in the General tab of the Gauge Properties dialog (for a gauge), the General tab of the Graph Properties dialog (for graph or funnel graph), the General tab Heat Matrix Properties dialog (for a heat matrix), the Interaction of the tab Map Properties dialog (for a map), the Pivot Table Properties dialog (for a pivot table), or the Style tab of the Table Properties dialog (for a table).

If the map view cannot find the detail feature with the master value, a warning message, `No data to display for ID: nnn` is displayed.

6. In the **Event Channels** field, enter the name of the channel on which the detail view is to listen for master-detail events. The name must match (including case) the name of the channel on which the master view sends master-detail events.

This field is enabled only if you select the Listen to Master-Detail Events check box. Use this field to enter one or more channels on which the map is to listen for master-detail events raised by one or more master views. The channel name is case-sensitive and must match exactly the channel name specified in the master view. Separate channels with commas, for example, channel a, channel b.
7. Click **OK**.
8. In the Layout pane, drag the column (or columns) to be the detail column (or columns) to either the Prompts drop target or the Sections drop target as follows:
 - If the detail view is a pivot table or table, then drag the column or columns to the Prompts drop target.
 - If the detail view is a graph or a gauge, then drag the column or columns to the Prompts drop target or to the Sections drop target, whichever you prefer, unless the graph or gauge has a column on the Prompts drop target. Then, you must drag the column or columns to the Prompts drop target.
 - You must drag and drop all detail columns to the same drop target. You cannot have some on the Prompts drop target and some on the Section drop target.
9. (Optional) If you dragged and dropped one or more detail columns to the Sections drop target, then select the **Display as Slider** box.

With graphs, to listen for master-detail events, the detail column must go into the Sections drop target, which then creates a slider in the analysis or dashboard. In graph views that are part of master-detail relationships, if you want to simplify the appearance of an analysis or dashboard, do not select the **Display as Slider** box.

In this way, you can choose to not display the slider that is created to accommodate a detail column.

Example of a Table and Graph Linked in a Master-Detail Relationship

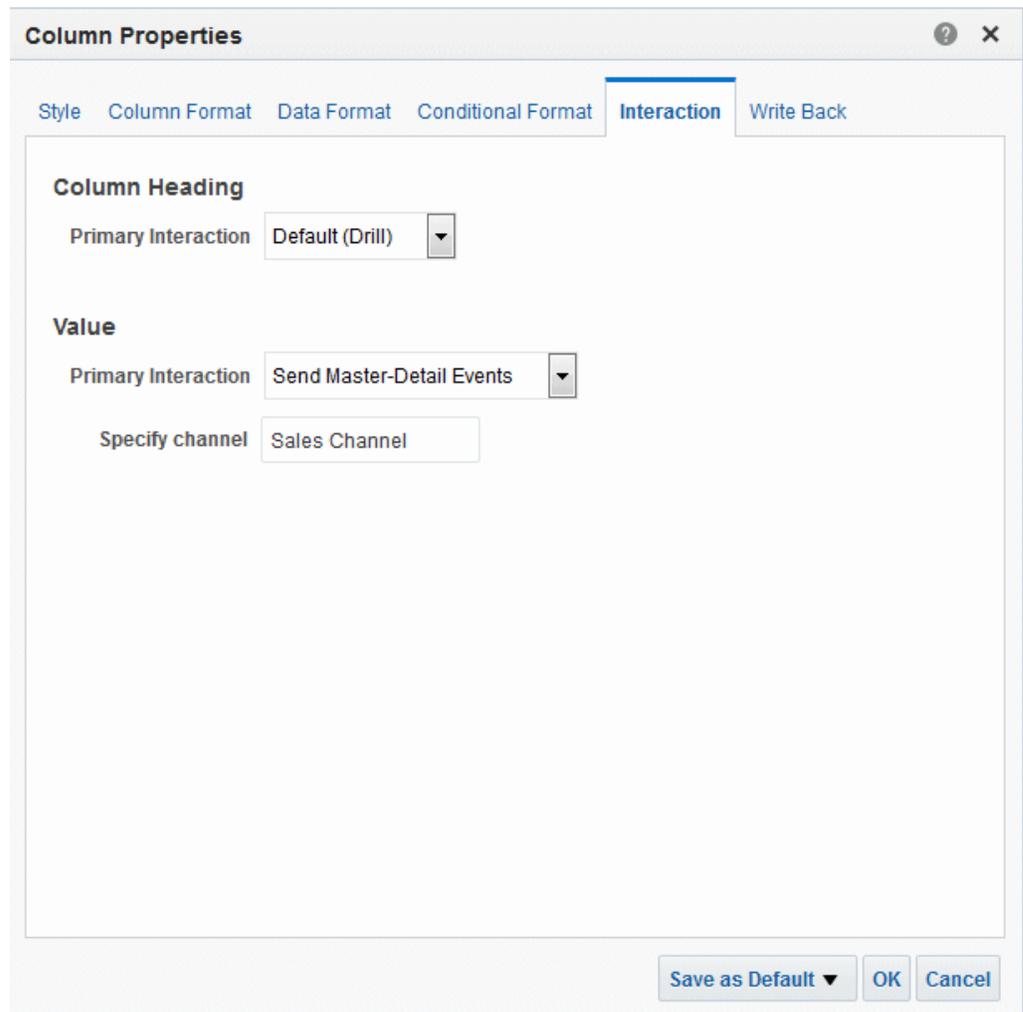
You can link tables and graphs so the relationship between their data points is clear.

In this example, a table, Regional Sales Master View, is linked to a graph, Regional Sales View Detail View, in a master-detail relationship.

About the Regional Sales Master View

The Regional Sales Master View provides a series of columns from which regional sales information can be analyzed.

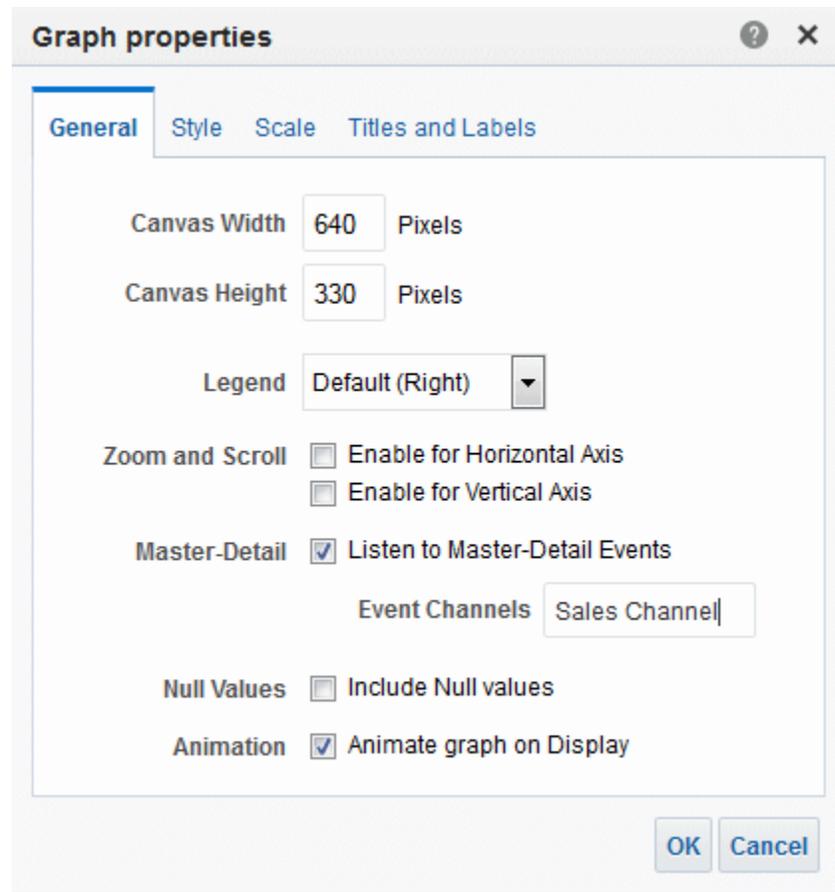
The analysis for the master view contains the D50 Region and 1 - Revenue columns. The 1 - Revenue column is set up as the master column as shown in the following illustration. The view that was added to be the master view is a table.



About the Regional Sales Detail View

The Regional Sales Detail view provides a series of columns from which sales details for a region can be analyzed.

The analysis for the detail view contains the D50 Region, P4 Brand, and 1 - Revenue columns. The view that was added to be the detail view is a horizontal bar graph and is set up to listen for master-detail events on Sales Channel, as shown in the following illustration.



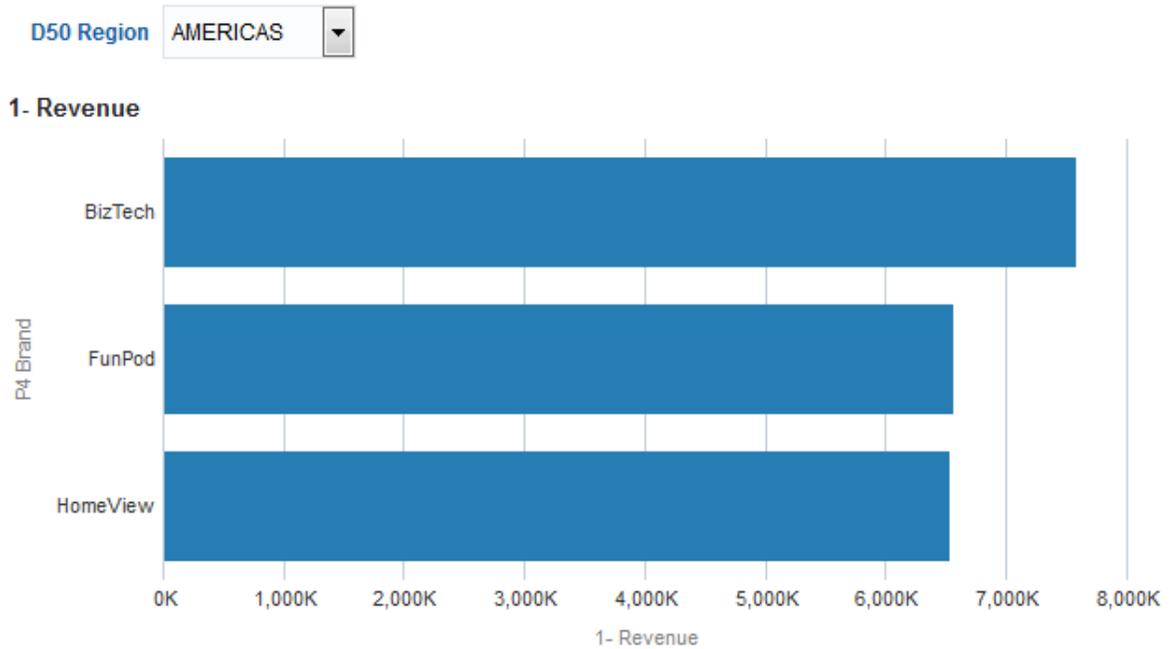
The D50 Region column is set up to be the detail column. This was done by dragging and dropping the D50 Region column to the Graph Prompts drop target in the Layout pane as shown in Figure 4–36. (Notice that the D50 Region column is then displayed on the page edge in the table.)

How the Master-Detail Linking Works for Regional Sales Master View and Regional Sales Detail View

Master-detail linking allows you to combine master view and detail view data points into a single calculation.

When a user clicks on the cell that contains the revenue for the AMERICAS region in Regional Sales Master View, the view sends a master-detail event on Sales Channel and passes the master-detail event information of D50 Region = AMERICAS.

Regional Sales Detail View, which is listening on Sales Channel, receives and reviews the master-detail event information. It determines that the D50 Region column matches a column on its page edge, updates the page edge to AMERICAS, and refreshes the entire view as shown in the illustration.



D50 Region	1- Revenue
AMERICAS	20,645,342
APAC	21,299,582
EMEA	28,055,076

5

Building and Using Dashboards

This chapter describes building and using dashboards in Oracle Business Intelligence Enterprise Edition. It also explains how to work with saved customizations, create dashboard template pages, publish dashboards, create links to dashboard pages, and work with briefing books.



Topics

This chapter includes the following sections:

- [What Are Dashboards?](#)
- [Who Creates and Edits Dashboards?](#)
- [What Is the Dashboard Builder?](#)
- [What Controls the Look-and-Feel of a Dashboard?](#)
- [About the ALTA Style](#)
- [Creating Dashboards](#)
- [Editing Dashboards](#)
- [Adding Oracle BI Publisher Reports to Dashboard Pages](#)
- [Changing the Properties of a Dashboard and its Pages](#)
- [Changing the Properties of Objects Added to Dashboard Pages](#)
- [Delaying the Execution of Dashboard Pages](#)
- [About Creating Custom Layouts for Printing and Exporting Dashboard Pages](#)
- [Creating Custom Layouts for Printing and Exporting Dashboard Pages](#)
- [Editing, Replacing, or Removing Custom Layouts](#)
- [Deleting Objects on Dashboard Pages](#)
- [Deleting Subpages from Dashboards](#)
- [Deleting Dashboard Pages](#)
- [Saving Dashboards by Other Names and in Other Locations](#)
- [Opening and Using Dashboards](#)
- [What Are Saved Customizations for Dashboard Pages?](#)
- [Saving Customizations](#)
- [Applying Saved Customizations](#)
- [Editing Saved Customizations](#)
- [Clearing Your Current Customization](#)
- [About Dashboard Template Pages for New Users](#)

- [Creating Dashboard Template Pages for New Users](#)
- [Publishing Dashboard Pages](#)
- [About Creating Links to Dashboard Pages](#)
- [Creating Links to Dashboard Pages](#)
- [Working with Briefing Books](#)

What Are Dashboards?

Dashboards provide personalized views of corporate and external information.

A dashboard consists of one or more pages.

Pages can display anything that you can access or open with a web browser, including the following:

- The results of analyses
The results of an analysis is the output returned from the Oracle BI Server that matches the analysis criteria. It can be shown in various views, such as a table, graph, and gauge. Users can examine and analyze results, print as PDF or HTML, save as PDF, or export them to a spreadsheet.
- Alerts from agents
- Action links and action link menus
- Images
- Text
- Views of folders in the Oracle BI Presentation Catalog
- Links to web sites
- Links to documents
- Embedded content (such as web pages or documents)
- Oracle BI Publisher reports

When you open a dashboard, the content of the dashboard is displayed in one or more dashboard pages. Dashboard pages are identified by tabs across the top of the dashboard. A toolbar at the top right contains buttons that let you:

- Edit the dashboard, if you have the appropriate permissions and privileges. See [What Is the Dashboard Builder?](#)
- Display various options for working with a Dashboard page, such as printing the current page. See [Opening and Using Dashboards](#).

Typical Workflow for Building Dashboards

To start building dashboards, refer to the typical workflow described in the following list:

- Create multiple analyses — Build analyses on which you can create views that you display on a dashboard.
- Create a dashboard — Create a dashboard to display data from analysis.

- Add content to a dashboard page — Add content to dashboard pages to display items such as views and prompts.
- Add prompts to dashboard pages — Add prompts to dashboard pages to drive the content on the pages.
- Add pages to a dashboard — Optionally add one or more pages to the dashboard to display the data in various ways.
- Recall personal settings for dashboards — Create customizations that enable you to view pages in their current state or with your favorite choices already selected.

Who Creates and Edits Dashboards?

The ability to create dashboards is controlled by the Manage Dashboard privilege, which is managed by the administrator.

Dashboard editing, which is performed in the Dashboard builder, is allowed for users with the appropriate permissions and privileges to the dashboard and to objects that can be added to a dashboard page. See [Assigning Permissions](#) and Managing Presentation Services Privileges in *Security Guide for Oracle Business Intelligence Enterprise Edition*.

What Is the Dashboard Builder?

The Dashboard builder lets you add dashboard pages to a dashboard and edit the pages in a dashboard. You can add objects to and control the layout of dashboard pages.

Pages contain the columns and sections that hold the content of a dashboard. Every dashboard has at least one page, which can be empty. Dashboard pages are identified by tabs across the top of the dashboard. Multiple pages are used to organize content. For example, you might have one page to store results from analyses that you refer to every day, another that contains links to the web sites of your suppliers, and one that links to your corporate intranet.

The objects that you can add to a dashboard page include:

- **Dashboard objects** — Items that are used only in a dashboard. Examples of dashboard objects are sections to hold content, action links, and embedded content that is displayed in a frame in a dashboard.
- **Catalog objects** — Objects that you or someone else has saved to the Oracle BI Presentation Catalog (for example, analyses, prompts, and so on) and for which you have the appropriate permissions.

In a dashboard, the results of an analysis can be shown in various views, such as a table, graph, and gauge. (The results of an analysis are the output that is returned from the Oracle BI Server that matches the analysis criteria.) Users can examine and analyze results, save or print them, or export them to a spreadsheet.

What Controls the Look-and-Feel of a Dashboard?

You can customize what dashboards look like in a variety of ways.

The look-and-feel of a dashboard is highly customizable and controlled by several attributes.

- **Skins** — Skins define the visible graphic features and control the way that the Oracle BI EE user interface is displayed, such as background colors, corporate logos, and style sheets. Skins can be automatically assigned to users when they log on. Administrators can customize the default skin and create new skins.
- **Styles** — Styles control the appearance of a dashboard and its various views. In other words styles control how the results are formatted for display, such as the color of text and links, the font and size of text, the borders in tables, and the colors and attributes of graphs.

Styles and skins are organized into folders that contain Cascading Style Sheets (files with a `.css` extension). Cascading style sheets provide control over any object within Oracle Business Intelligence. Administrators can customize style sheets and create new style sheets. You can override some elements in style sheets, such as table borders and text size, when you format results in the Results tab.

You can specify a style for a particular dashboard on the Dashboard Properties dialog in the General Properties area using the Styles list.

- **Cosmetic formatting** — Cosmetic formatting affects the visual appearance of data in columns and hierarchy levels, views, and columns and sections on dashboard pages. See [What is Cosmetic Formatting?](#) and [Applying Formatting to Dashboard Pages](#).

About the ALTA Style

Oracle BI EE includes several styles, including ALTA.

This style provides a clean, consistent appearance across Oracle Business Intelligence products and presents crisp visual trends, such as light colors and small gradients and border sizes. See *Customizing the Oracle BI Web User Interface in Security Guide for Oracle Business Intelligence Enterprise Edition*.

Note:

Oracle recommends using ALTA as a starting point, if you plan to create a new custom style.

Creating Dashboards

You use the Dashboard builder to create (and edit) dashboards.

See [What Are Dashboards?](#)

1. In the global header, click **New**, then select **Dashboard**.
2. In the New Dashboard dialog, enter a name and description for the dashboard.
3. Select the location for the dashboard.
 - If you save the dashboard in the Dashboards subfolder directly under / *Shared Folders/first level subfolder*, then the dashboard is listed in the **Dashboard** menu in the global header. If you save it in a Dashboards subfolder at any other level (such as /*Shared Folders/Sales/Eastern*), then it is not listed.

- If you choose a folder in the Dashboards subfolder directly under `/Shared Folders/first level subfolder` in which no dashboards have been saved, then a new **Dashboards** folder is automatically created in that folder in which to save the new dashboard. For example, if you choose a folder named `/Shared Folders/Sales` in which no dashboards have been saved, a new Dashboards folder is automatically created and the Location entry changes to `/Shared Folders/Sales/Dashboards`. (A new **Dashboards** folder is not automatically created if you choose a folder at any other level.)
4. Specify whether you want to add content to the new dashboard now or later.
 5. Click **OK**.
 6. If you specified to add content:
 - Now, then the new dashboard, which contains one blank page, is displayed in the Dashboard builder for editing.
 - Later, then an empty dashboard is created (but not displayed) to which you can add content later.

Editing Dashboards

You can edit dashboards to which you have appropriate permissions and privileges.

You can add or delete dashboard pages, add content such as columns and sections, and edit properties and settings such as print options. For example, you can add content to a Sales Performance dashboard to track your team's progress by adding a Brand Revenue analysis from the catalog.

1. In the global header, click **Catalog**.
2. In the Catalog page, navigate to the dashboard to edit and click the **Edit** link.
3. In the Dashboard builder, perform one or more of the following tasks, as needed:
 - Add a dashboard page.
 - Delete a dashboard page.
 - Add content.
 - Use the options available on the **Tools** button of the Dashboard builder to:
 - Set dashboard and dashboard page properties.
 - Specify settings for printing and exporting a dashboard page.
 - Set the report links for a dashboard page.
 - Specify whether to allow users to create personal saved customizations on the page.
 - Publish the page to a shared dashboard location so that you can share the page with others.
 - Set advanced page properties so that you can set the navigation parameters for the dashboard page or the dashboard.
4. Perform one of the following steps at any time:
 - To preview the dashboard page, click the **Preview** button.

- To save your changes, click the **Save** button.
- To exit the Dashboard builder and return to the Dashboard, click **Run**.

Adding New Pages to Dashboards

You can add new pages to dashboards.

For example, you can first add a new dashboard page that contains regional sales data in a table and in a bar graph. Then, you can add another that contains links to various competitors' web sites.

1. Edit the dashboard.
2. Click the **Add Dashboard Page** button in the Dashboard builder, then select **Add Dashboard Page**.
3. In the Add Dashboard Page dialog, enter a name and description for the page, and click **OK** to see the new page as a tab in the Dashboard builder.
4. Click the **Save** button.

After you add a new page, you can add content to it.

Adding Subpages to Dashboards

You can add new subpages to dashboards.

Adding subpages allows a second level of information to be presented to users. For example, you can first add a new dashboard page that contains regional sales data in a table and in a bar graph. Then, you can add a subpage that contains links to various competitors' web sites.

1. Edit the dashboard.
2. Select the dashboard page you want to create a subpage for.
3. Click the **Add Dashboard Page** button in the Dashboard builder, then select **Add Subpage**.
4. In the Add Subpage dialog, enter a name and description for the page, and click **OK**.

The page is displayed as a subpage of the dashboard in the Dashboard builder.

5. Click the **Save** button.

After you add a new subpage, you can add content to it.

Adding Content to Dashboards

Adding content to a dashboard provides a way for users to see a variety of data organized in a single place.

You can add the following content to dashboards:

- Dashboard objects, including objects that let you lay out the content, such as columns and sections, as well as objects such as text, folders, action links, and so on.

- Objects that you or someone else has saved to the presentation catalog and for which you have the appropriate permissions, such as analyses, prompts, and so on.

For example, you can add content to the newly created Sales Performance dashboard to track your team's progress. To do so, you can add a Brand Revenue analysis from the catalog.

 **Note:**

Dashboard modification is reserved for users with the appropriate permissions and privileges.

Adding a performance tile to a dashboard performs in the same manner as adding any other view, including prompt behavior. Drag and drop the analysis containing the performance tile view from the catalog into a column, save the dashboard, and run it to view the tile. To ensure that a group of performance tiles are tightly spaced, place each performance tile in a dashboard section or column and then assign a fixed size to the section or column to prevent the tiles from spreading out.

1. Edit the dashboard.
2. Add the objects to include on the page. Select an object from the Dashboard Objects pane or the Catalog pane, and then drag and drop the object to the Page Layout area.

 **Tip:**

To locate an object in the Catalog pane, you can browse either by the catalog folder in which the object is stored or by the dashboard on which the object is displayed.

For information on adding Oracle BI Publisher reports, see [Adding Oracle BI Publisher Reports to Dashboard Pages](#).

When you drag and drop a scorecard object to the Page Layout area, the Dimension Pinnings dialog might be displayed, where you pin (or set) values for KPI dimensions that are associated with the scorecard object.

3. Set the properties of each object, as appropriate. To do so, hover the mouse pointer over the object in the Page Layout area to display the object's toolbar and click the **Properties** button.

What is displayed depends on the type of object. For some objects, a properties dialog is displayed. For other objects, a menu of options is displayed.

4. Click the **Save** button.

Dragging and Dropping Objects to the Page Layout Area in the Dashboard Builder

You can build your page layout in a dashboard by dragging and dropping.

When you drag and drop objects to the Page Layout area of the Dashboard builder, keep in mind the following:

- As you drag an object in the Page Layout area, a blue bar is displayed to indicate the drop location relative to another object. When you hover over a valid target in which to drop the object, the border of the target container changes to orange.
- When you drop an object that does not have a name to the Page Layout area, it is assigned a default name, such as Section 1, Link 1, and so on. You can rename some objects to assign meaningful, descriptive names.
- When you hover the mouse pointer over an object that has been dropped to the Page Layout area, it is highlighted with an orange border and its toolbar is displayed.
- Columns are used to align content, while sections within columns hold the actual content. If you drag and drop an object to an empty Page Layout area, or drag and drop an object to a column without first adding a section to hold it, then the proper containers for it are created automatically. For example, if you drag and drop a section to an empty Page Layout area, a column is created automatically. If you drag and drop an analysis, then both the column and section are created automatically.
- When you drag and drop an analysis to the Page Layout area, the compound view is shown by default. If you want to show another view, then click the **Properties** button for the analysis, select **Show View**, and select the view that you want.
- When you drag a second object to a section, you can drop it either horizontally or vertically within the section, which sets the layout for the section. Additional objects that you drag and drop have that layout. To change the layout after it has been set, you can use the **Horizontal Layout** and **Vertical Layout** buttons on the section toolbar.

 **Note:**

Keep the system font small to ensure text from different sections lays out properly.

- If you drag a section from one column into another column, then any content in that section is also included.

Setting Advanced Page Properties

You can set advanced page properties to specify incoming navigation parameters you want to set on the current dashboard page.

Setting advanced page properties enables you to control how parameters associated with the navigation actions are applied. For example, if a navigation link includes a prompt value, then you can choose the context of the incoming navigation link to be

applied to all pages associated with a dashboard or limit the scope of the context of incoming navigation link to the landing page.

1. Edit the dashboard.
2. Navigate to the page for which you want to set scope of the incoming navigation parameters.
3. Click **Tools** and then select **Advanced Page Properties**.
4. In the Advanced Page Properties dialog, determine the navigation type you use to access the dashboard or dashboard page:
 - Prompted URL
 - Go URL
 - Navigate to BI Content
5. Perform one of the following actions:
 - To set the incoming navigation parameters and context so that when you access this dashboard page the scope of the passed parameters and context is restricted to the landing page, select **Page**.
 - To set the incoming navigation parameters for the dashboard, select **Dashboard**.
6. Repeat for all navigation types associated with the dashboard.
7. Click **OK**.

Adding Oracle BI Publisher Reports to Dashboard Pages

Oracle BI Publisher reports add configured analyses to dashboard pages.

This section describes how to add Oracle BI Publisher reports to dashboard pages. It contains the following topics:

- [How Do Oracle BI Publisher Reports and Dashboard Pages Interact?](#)
- [Adding Reports to Dashboard Pages](#)
- [Using Prompts with Parameterized Reports](#)

How Do Oracle BI Publisher Reports and Dashboard Pages Interact?

Learn how Oracle BI Publisher reports and dashboard pages can be made to interact with each other.

This section contains the following topics:

- [About Oracle BI Publisher and Dashboard Pages](#)
- [About Adding Reports to Dashboard Pages](#)

About Oracle BI Publisher and Dashboard Pages

View these topics to learn more about Oracle BI Publisher and Dashboard Pages.

This section contains the following topics:

- [Interacting with Reports on Dashboard Pages](#)
- [About Briefing Books and Printing BI Publisher Reports](#)

For general information on BI Publisher, see [Integration of Oracle BI EE with Oracle BI Publisher](#).

Interacting with Reports on Dashboard Pages

You can run, view, and interact with a BI Publisher report on a dashboard page.

When included on a dashboard page, the BI Publisher report can include a toolbar that can offer options for selecting a layout template, changing the BI Publisher report's output format, exporting the BI Publisher report, sending the BI Publisher report to an available destination (for example, printer, fax, email, or FTP), scheduling the BI Publisher report, and analyzing the data.

About Briefing Books and Printing BI Publisher Reports

You can print briefing book or dashboard page that contains a BI Publisher report in limited formats.

If you plan to print a dashboard page that contains a BI Publisher report or to include the page in a briefing book, then you must keep the following points in mind:

- If you print the briefing book as PDF and if the output format of the BI Publisher report is PDF, then the BI Publisher report is printed after the other objects on the page. If you print a dashboard page that contains a BI Publisher report as PDF, but the dashboard page is not part of a briefing book, then the BI Publisher report is not printed.
- If you print the dashboard page or briefing book as MHTML, then the BI Publisher report is not printed.

About Adding Reports to Dashboard Pages

Adding reports to dashboard pages allows the reports to be shared with other users.

You can add one or more existing reports to a dashboard page. The advantage is that you can share reports with other users and schedule the dashboard pages using agents. An agent sends the entire dashboard to the user, including all data pages that the report references.

When configuring an agent for a dashboard page that contains a BI Publisher report, ensure that the following criteria are met:

- The output format of the BI Publisher report must be PDF.
- The agent must be set to deliver PDF.

You can add reports to a dashboard page as embedded content and as a link. Embedded means that the report is displayed directly on the dashboard page. The link opens the report in BI Publisher within Oracle BI EE.

If you modify the report in BI Publisher and save your changes, then refresh the dashboard page to see the modifications.

Adding Reports to Dashboard Pages

Adding a report to a dashboard page makes the report easily accessible to users.

Reports consolidate information in a single place, and can help users navigate to information they may need.

1. Edit the dashboard.
2. Navigate to the page to which you want to add a report.
3. Select a report in one of the following ways:
 - Select the report from the Catalog pane and drag and drop it into a section on the dashboard page.
 - To add a report from a dashboard page, select the report from the folder that contains its dashboard in the Catalog pane.
4. Set the properties of the object. To do so, hover the mouse pointer over the object in the Page Layout area to display the object's toolbar, and click the **Properties** button.
5. Complete the fields in the BI Publisher Report Properties dialog.
6. Click **OK** and then click **Save**.
7. If required, add a prompt to the dashboard page to filter the results of an embedded parameterized report.
8. You can also schedule the dashboard with an agent.

Using Prompts with Parameterized Reports

You can use prompts to filter the results of embedded parameterized BI Publisher reports to show only results that match the prompt criteria.

When you can configure an embedded parameterized BI Publisher report to display online, the parameters display the appropriate values from either an analysis or a direct connection to a subject area. However, when you schedule that same report, the parameters from the analysis can't be passed, and the report displays default values from parameters for the analysis. For a direct connection with a scheduled report, the parameters are passed and the values are displayed correctly in the report.

The BI Publisher report can be either of the following:

- A BI Publisher report that receives its data from an Oracle BI EE analysis. For this report, you must have the report columns to filter on set to **Is Prompted** in the analysis. This type of report supports the full range of prompt expressions.
 - A BI Publisher report that was created using a direct connection to a subject area. See *Creating Reports Using a Direct Connection to a Subject Area* in *Report Designer's Guide for Oracle Business Intelligence Publisher*.
1. In BI Publisher, open the report and locate the parameters that it uses. Set a default value for each required parameter so that the report displays correctly without user interaction.
 2. Create a new column prompt for each parameter by following these steps:
 - a. In the global header, click **New**, then **Dashboard Prompt**.

- b. Select either the subject area that includes the columns from the report or a subject area whose columns closely match those in the report.
- c. In the Definition pane, click the **New** button, select **Column Prompt**, then select a column to use for the prompt. If the BI Publisher report was created using a direct connection to a subject area, make sure that you select the same column that you selected in the BI Publisher report.

For more information on creating prompts, see [Prompting in Dashboards and Analyses](#).

3. Complete the New Prompt: Column dialog and click **OK**. Verify the following settings:
 - Set the Operator field to **is equal to/is in**.
 - Define a presentation variable with the exact same name as the parameter from the report. When using variable names in prompts, ensure that you spell them correctly and adhere to case-sensitivity. Make the data type of the parameter match the data type of the column, if they are not based on the same database column.
 - If the BI Publisher report was created using a direct connection to a subject area, specify the value of the variable using the following format:

```
"Subject Area Name"."Folder Name"."Column Name"
```

For example:

```
"Sample Sales Lite"."Time"."Per Name Year"
```

If the column is in a nested folder, list all folders. For example:

```
"Sample Sales Lite"."Time"."More Time Objects"."Day of Week"
```

4. Click the **Save Prompt** button to save the prompt to the catalog in a shared folder.
5. Navigate to the dashboard that contains the parameterized report and click **Edit Dashboard** .
6. In the Catalog pane of the Dashboard builder, navigate to the folder that contains the prompt to add.
7. Drag and drop the prompt into the section on the dashboard page that contains the report.
8. Click **Save** .

Changing the Properties of a Dashboard and its Pages

You can change the properties of a dashboard and its pages.

Specifically, you can:

- Change the style (or appearance) and description of the dashboard.
- Add hidden named prompts to the dashboard and to its pages.
- Specify which links (**Analyze**, **Edit**, **Refresh**, **Print**, **Export**, **Add to Briefing Book**, and **Copy**) are to be included with analyses at the dashboard level. You can set these links at the dashboard page level and the analysis level, which override the links that you set at the dashboard level. See the Report Links dialog.
- Rename, hide, reorder, set permissions for, and delete pages.

- Specify which accounts can save shared customizations and which accounts can assign default customizations for pages, and set account permissions.
- Specify whether the **Add to Briefing Book** option is to be included in the Page Options menu for pages.
- Specify whether the execution of a dashboard page is to be delayed.

To change the properties of a dashboard and its pages:

1. Edit the dashboard.
2. Click the **Tools** button and select **Dashboard Properties**.
The Dashboard Properties dialog is displayed.
3. Make the property changes that you want and click **OK**.
4. Click the **Save** button.

Changing the Properties of Objects Added to Dashboard Pages

You can change the properties of objects that have been added to a dashboard page from the Dashboard Objects pane and from the Catalog pane.

You change the properties by editing the dashboard.

1. Edit the dashboard.
2. Navigate to the page that contains the object.
3. Hover the mouse pointer over the object in the Page Layout area to display the object's toolbar and click the **Properties** button.

What is displayed depends on the type of object. For some objects, a properties dialog is displayed. For other objects, a menu of options is displayed.

4. Make the property changes that you want.
5. Click the **Save** button.

Delaying the Execution of Dashboard Pages

You may want to delay the execution of dashboard pages for a variety of reasons, such as presenting data only when it is current or with user interaction.

You can delay the execution of dashboard pages, if allowed at your organization. This is helpful, for example, if you want to:

- Enhance performance by generating queries only when actual data is needed
- Allow end users to specify prompt values (rather than use default prompt values) before analyses content is displayed on a dashboard page

When the execution of a dashboard page is delayed, the actual content of analyses is not loaded. Instead:

- A message is displayed at the top of the page, which indicates that the page is not fully loaded. It also instructs the end user to select prompt values and click **Continue**. Clicking **Continue** reloads the content on the page using the prompt

values the end user specifies. If the end user does not specify any prompt values, then default prompt values are used.

- Static information about the objects that were not loaded is displayed, including the object name, an icon representing the object view, the view name, and the object description (if available).
- On the Page Options menu (displayed from the **Page Options** button on the Dashboard page toolbar), all options except the **Edit Dashboard** option, are disabled.
- The **Apply** button on dashboard prompts is not displayed. Instead any prompt values will be applied automatically when the end user clicks the **Continue** button.

While the content of analyses is not loaded on the dashboard page, other objects (such as dashboard prompts, embedded content, text, and so on), are loaded.

Oracle BI EE remembers whether the execution of a page was delayed. When a user visits the same page again in the same context, it will load the entire page (rather than delay the execution), if the page had previously been loaded.

The administrator can control the display of the **Prompt before Opening** box. See *Manually Changing Presentation Setting Defaults in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

To delay the execution of a dashboard page:

1. Edit the dashboard.
2. Click **Tools** and select **Dashboard Properties**.
3. In the Dashboard Properties dialog, locate the page in the Dashboard Pages area and select **Prompt before Opening**.
4. Click **OK**.
5. Click **Save**.

About Creating Custom Layouts for Printing and Exporting Dashboard Pages

The layout of a dashboard page can be specified for printing or exporting.

You can create custom layouts for printing and exporting dashboard pages, if allowed at your organization:

- Custom print layouts allow your end users to produce high-quality printed dashboard content. See [Printing Dashboard Pages](#).
- Custom export layouts allow your end users to export dashboard content customized for Excel. See [About Exporting Dashboards and Dashboard Pages](#).
- See [Creating Custom Layouts for Printing and Exporting Dashboard Pages](#).

When you create a custom layout:

- The dashboard page is exported to BI Publisher and the following items are generated automatically:
 - A BI Publisher Report with a layout based on the exported dashboard layout
 - A data model to retrieve data for the dashboard page components

- BI Publisher Report Editor opens in a new browser window with the autogenerated layout displayed as a thumbnail. The report editor allows you to edit or delete the layout, or add a new layout.

Once you have saved the custom layouts in BI Publisher, they are available for that dashboard page and appear in the Custom Print & Export Layouts area of the Print & Export Options dialog.

You then make the custom layouts that you have created available to end users (on the Print menu or Export to Excel menu of a dashboard page) by selecting them in the Custom Print & Export Layouts area of the Print & Export Options dialog.

You then make the custom layouts that you have created available to end users using the following options in the Custom Print & Export Layouts area of the Print & Export Options dialog:

- **PDF** — Selecting this option makes the custom layout available in the Print menu of a dashboard page.
- **Excel** — Selecting this option makes the custom layout available in the Export to Excel menu of a dashboard page.

The analysis and dashboard font size is in pixels while the Excel font size is in points. Therefore, when you export to Excel from an analysis or dashboard, the font size decreases to 75% of the analysis or dashboard font size.

The default table heading format in Excel is Wrap Text. To change the Wrap settings for the table heading:

1. In the Title, click **Edit View**.
2. To the right of the Title field, click **Title**.
3. In the Format Title page, deselect **Wrap Text**, and click **OK**.

If you delete the data model or the layout manually from the Oracle BI Presentation Catalog, then the associated BI Publisher report will no longer work and the custom layouts will no longer be available. If you delete an analysis, then the data model and layout will be available but will fail when run.

As you create custom layouts, be aware that some customizations and some views may not be supported in BI Publisher. Among some of the items that are not supported are hierarchical columns, performance tiles, map views, trellis views, and dashboard prompts. If an item is not supported, it will be removed from the layout and a message will be displayed as to the reason it is unsupported.

Items Not Supported When Using Custom Print Layouts

Custom print layouts support a limited set of items.

The following items are not supported in BI Publisher when using a custom print layout to print a dashboard page:

- Column Selector views
- Create Segment views
- Create Target List views
- Funnel graph views
- Legend views

- Logical SQL views
- Map views
- Narrative views
- Performance Tile views
- Ticker views
- Trellis views, including microcharts
- View Selector views
- These types of gauge views:
 - Bulb
 - Vertical Bar
 - Horizontal Bar
- These types of graph views:
 - Pie graphs with multiple measures; instead a separate pie is displayed for each measure
 - Time Series Line graphs
 - Scatter graphs
 - Waterfall graphs
- These graph settings in the Graph Properties dialog:
 - In the General tab: **Zoom and Scroll**.
 - In the Style tab: conditional formatting settings.
 - In the Scale tab: all settings.
 - In the Titles and Labels tab, the following formatting settings:
 - * **Truncate** in the Display Options tab of the Font Format Item dialog for the graph title and axis titles.
 - * **Treat Numbers As, Negative Format**, and **Use 1000's Separator** in the Number Format tab of the Format Item dialog for vertical axis labels and data markers and **Decimal Places** in the Number Format tab of the Format *Item* dialog for vertical axis labels.
 - * **Label Orientation** in the Display Options tab of the Format *Item* dialog for vertical axis labels and horizontal axis labels and **Abbreviate** in the Display Options tab of the Format *Item* dialog for vertical axis labels.
- Hierarchical columns.
- Dashboard column formatting.
- Dashboard prompts.
- Pivot table or table prompts.
- Prompt edge on a view.
- Dashboard columns that have been frozen.

You use the Freeze Column option in the Column Properties menu to freeze a column at an edge (top or left) of a dashboard layout.
- A fixed size specified for a dashboard column or section.

You specify a fixed size by setting the **Size** option in the Additional Formatting Options area of the Section Properties dialog and the Column Properties dialog.

- Fixed headers of rows and columns in a table or pivot table.

You specify fixed headers by selecting **Fixed headers with scrolling content** as the method to use to browse data. See the Style tab of the Table Properties dialog, the Pivot Table Properties dialog, and General tab of the Trellis Properties dialog.

- The grouping functionality for bubble graphs (achieved by the Bubbles drop target), scatter graphs (achieved by the Points drop target), and pie graphs (achieved by the Pies drop target).

You also need to be aware of the following expected object behavior in BI Publisher: pivot tables are expanded.

Creating Custom Layouts for Printing and Exporting Dashboard Pages

You can create custom layouts for printing and exporting dashboard pages.

You can create one or more custom layouts for dashboard pages when they are printed or exported. See [About Creating Custom Layouts for Printing and Exporting Dashboard Pages](#).

The administrator can control the display of the **Custom Print & Export Layouts** component. See *Enabling the Ability to Export Dashboard Pages to Oracle BI Publisher in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

1. Edit the dashboard.
2. Navigate to the dashboard page.
3. Click the **Tools** button and select **Print & Export Options**.
4. In the Print & Export Options dialog, click the **Custom Print & Export Layouts** button and select **Create Layouts**. BI Publisher Report Editor opens in a new browser window with the autogenerated layout displayed as a thumbnail.
5. In BI Publisher:
 - a. Edit the layout as desired and save it.
 - b. Create additional layouts, as desired.
 - c. Exit BI Publisher.
6. If you want to make custom layouts available to end users for the dashboard page, display the Print & Export Options dialog by clicking the **Tools** button and select **Print & Export Options**.
7. For each custom layout in the Custom Print & Export Layouts area that you want to make available, select:
 - **PDF** to make the layout available in the Print menu of a dashboard page.
 - **Excel** to make the custom layout available in the Export to Excel menu of a dashboard page.
8. Click **OK**.

9. Save the dashboard.

Editing, Replacing, or Removing Custom Layouts

You can edit, replace, or remove custom layouts that you have created.

For example, you might want to remove a custom print layout if the dashboard page to which the layout is associated has changed.

1. Edit the dashboard.
2. Navigate to the dashboard page.
3. Click the **Tools** button and select **Print & Export Options**. The Print & Export Options dialog is displayed.
4. Click the **Custom Print & Export Layouts** button and select one of the following options:
 - **Create and Edit Layouts** — A warning is displayed to report that existing layouts may not work properly if the dashboard page has been modified. Respond to the warning as follows:
 - Select **Keep existing layouts** to keep the existing layouts. BI Publisher Report Editor opens, where you can edit the layouts.
 - Select **Remove existing layouts and create new layouts** to remove the existing layouts and create new ones. BI Publisher Report Editor opens, where you can create new layouts.
 - **Replace Layouts** — A warning is displayed to report that the existing layouts will be replaced. Confirm that you want to replace the existing layouts. If you click **OK**, then the existing data model and BI Publisher report are deleted and new ones autogenerated, and BI Publisher Report Editor opens, where you can create new layouts.
 - **Remove Layouts** — A warning is displayed. Confirm that you want to remove all existing layouts. If you click **OK**, then all layouts (as well as the associated BI Publisher report and data model) are removed.
5. When you have finished editing, replacing, or removing custom layouts, click **OK** in the Print & Export Options dialog to close it.
6. Save the dashboard.

Deleting Objects on Dashboard Pages

If you add an object that you later decide that you do not want, then you can delete it.

For example, you can delete last year's Brand Revenue analysis from the Sales Performance dashboard, to replace it with the current year's analysis.

Keep the following points in mind when deleting objects:

- When you delete an object that contains other objects, such as a column or section, you also delete all objects in that container.
- When you delete a column, other columns on the page might resize automatically to maintain column alignment.

- For objects that are saved in the catalog, the object is deleted from the dashboard page only. It is not deleted from the catalog. Users with the appropriate permissions can edit the contents of the catalog. See [Managing Objects in the Oracle BI Presentation Catalog](#).
1. Edit the dashboard.
 2. Navigate to the page that contains the object to delete.
 3. Hover the mouse pointer over the object in the Page Layout area to display the object's toolbar and click the **Delete** button.

Deleting Subpages from Dashboards

You can delete subpages from dashboards.

Deleting a subpage from a dashboard removes the subpage and all of its content.

1. Edit the dashboard.
2. Select the dashboard page you want to delete a subpage from.
3. Click the **Tools** button in the Dashboard builder, then select **Dashboard Properties**.
4. In the Dashboard Pages area of the Dashboard Properties dialog, select the subpage you want to delete and click the **Delete** button in the Dashboard Pages area toolbar.
5. In the Confirm Deletion dialog, click **Yes**.
6. Click **OK** in the Dashboard Properties dialog to delete the subpage from the Dashboard page.

Deleting Dashboard Pages

If you want to start over building a dashboard page or simply remove a dashboard page, you can delete it.

You can delete:

- The current dashboard page
- One or more dashboard pages from the Dashboard Properties dialog

Deleting the Current Dashboard Page

You can delete the currently visible dashboard page.

As you are working on a dashboard page, you can delete it.

1. Edit the dashboard.
2. Navigate to the page to delete.
3. Click the **Delete Current Page** button.
4. Confirm the deletion.

Deleting One or More Dashboard Pages

You can delete one or more than one dashboard pages at a time.

Deleting dashboard pages allows you to keep only the most relevant dashboards for users.

1. Edit the dashboard.
2. Click the **Tools** button and select **Dashboard Properties**.
3. In the Dashboard Properties dialog, for each page to delete:
 - a. In the **Dashboard Pages** area, select the page.
 - b. Click **Delete** in the Dashboard Pages toolbar.
 - c. Confirm the deletion.
4. Click **OK**.

Saving Dashboards by Other Names and in Other Locations

Dashboards can be saved with alternate names and in multiple locations.

You can save a dashboard:

- By another name

The new name for the dashboard must not exist in the destination folder, otherwise, the save operation fails.

- Anywhere in the Oracle BI Presentation Catalog

If you save the dashboard in the Dashboards subfolder directly under */Shared Folders/first level subfolder*, then the dashboard is listed in the **Dashboard** menu in the global header. If you save it in a Dashboards subfolder at any other level (such as */Shared Folders/Sales/Eastern*), then it is not listed. The dashboard is also not listed if you save it in a subfolder under the Dashboards subfolder, such as */Shared Folders/Sales/Dashboards/Eastern*.

If you choose a folder in the Dashboards subfolder directly under */Shared Folders/first level subfolder* in which no dashboards have been saved, then a new **Dashboards** folder is automatically created in that folder in which to save the new dashboard. For example, if you choose a folder named */Shared Folders/Sales* in which no dashboards have been saved, a new Dashboards folder is automatically created and the Location entry changes to */Shared Folders/Sales/Dashboards*. (A new **Dashboards** folder is not automatically created if you choose a folder at any other level.)

1. Edit the dashboard.
2. Click the **Save Dashboard As** button to display a dialog, where you specify the save criteria.

Opening and Using Dashboards

Dashboards provide a means for users to access data analyses in a variety of formats.

You can add almost any object to dashboards.

1. In the global header, click **Catalog** to display the Catalog page.
2. Navigate to the dashboard to open and click the **Open** link.

The dashboard is opened to the first Dashboard page. If no content has been added, then an empty dashboard page notification message is displayed.

3. (optional) Perform any of the following tasks:
 - Display the dashboard in the Dashboard builder for editing.
 - Navigate among dashboard pages by clicking the page tabs.
 - Print a page. See [About Briefing Books and Printing BI Publisher Reports](#).
 - Refresh a page.
Perform this task to ensure that the refresh operation bypasses saved information in the Oracle BI Presentation Services cache and is issued to the Oracle BI Server for processing.

When you select a specific dashboard or analysis, Presentation Services checks its cache to determine if the identical results have recently been requested. If so, Presentation Services returns the most recent results, thereby avoiding unnecessary processing by the BI Server and the back-end database. If not, the analysis is issued to the BI Server for processing. You cannot force the analysis past the BI Server's cache.

Administrators can configure cache settings that control what is cached and for how long. See *Managing Performance Tuning and Query Caching in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

- Add a page to a briefing book. For information, see [Adding Content to New or Existing Briefing Books](#).
- Create a bookmark link or a prompted link to the page. See [About Creating Links to Dashboard Pages](#) and [Creating Links to Dashboard Pages](#).
- Apply saved customizations. See [What Are Saved Customizations for Dashboard Pages?](#) and [Applying Saved Customizations](#).
- Edit saved customizations. See [What Are Saved Customizations for Dashboard Pages?](#) and [Editing Saved Customizations](#).
- Save the current customizations. See [What Are Saved Customizations for Dashboard Pages?](#) and [Saving Customizations](#).
- Clear the current customizations. See [What Are Saved Customizations for Dashboard Pages?](#) and [Clearing Your Current Customization](#).

You can use keyboard shortcuts in a dashboard. See [Keyboard Shortcuts for Oracle BI EE and Oracle BI Publisher](#).

What Are Saved Customizations for Dashboard Pages?

Saved customizations allow users to save and view later dashboard pages in their current state with their most frequently used or favorite choices for items such as filters, prompts, column sorts, drills in analyses, and section expansion and collapse.

By saving customizations, users need not make these choices manually each time that they access the dashboard page.

Users with the appropriate permissions and dashboard access rights can perform the following activities:

- Save various combinations of choices as saved customizations, for their personal use or use by others.
- Specify a saved customization as the default customization for a dashboard page, for their personal use or use by others.
- Switch between their saved customizations.

See [Applying Saved Customizations](#), [Clearing Your Current Customization](#), [Saving Customizations](#), and [Editing Saved Customizations](#).

Example Scenarios for Creating and Using Saved Customizations

There are several situations when you may want to create saved customizations.

This section describes two example scenarios that describe the creation and use of saved customizations.

- [Scenario 1: Saved Customizations Created by a Group for Use by Others](#)
- [Scenario 2: Saved Customizations Created for Use by an Individual User](#)

Scenario 1: Saved Customizations Created by a Group for Use by Others

You may want to save a group's customizations so that they can be used by other groups or users.

An IT group in a consumer goods company builds a master dashboard that contains the content that various product groups need to view. The dashboard contains filters and prompts from which members of the product groups would ordinarily make customizations to view relevant results.

The master dashboard contains two analyses, one that shows sales for the east, west, north, and south regions, and another that shows all products shipped in those regions. The analysis for sales by region contains a prompt that allows users to select their particular region. The analysis for all products shipped contains a filter that allows users to select their products.

An IT consultant customizes the view for the Fizzy Brands product group for each region. The consultant first selects the east region and the Fizzy Brand products from the filters and prompts on the dashboard, and then saves these choices as a customization that can be shared by other users. The consultant then assigns this customization as the default view customization to members of the east region group that sells Fizzy Brand products. The consultant repeats this process for the west, north, and south regions.

When a Fizzy Brands sales representative for the western region signs in to Oracle Business Intelligence and views the dashboard, the representative initially views sales and shipment information based on the region and product choices assigned as the default view customization for that group. All sales representatives in that group who would typically make identical choices for region and product no longer have to do so.

Scenario 2: Saved Customizations Created for Use by an Individual User

Customizations can be used by a specific user who has unique needs.

A business user's dashboard contains two reports, one that shows sales for all regions, and another that shows all products shipped. Each report contains a prompt, allowing the user to select a particular region and product. The user selects the eastern region and the Fizzy Brands product. The dashboard refreshes to show the user this view of the data. The user saves this view as a customization, indicates that the customization is for personal use, and that it is the default customization the user wants to see when viewing the dashboard. Then, this user creates additional combinations of the product and region sets in which the user is most interested, and saves them for later retrieval. The user can also access customizations that were saved by the IT group as shared customizations. To view sales in the western region for Fizzy Brands, the user clicks the **Page Options** button, selects **Apply Saved Customizations**, and selects the view named Dollar Sales, Western Region, Fizzy Brands. The dashboard refreshes with the new view of the data.

Saving Customizations

You can save customization for use by you or by others.

You can also specify whether the customization is to be the default customization for a dashboard page, for you or for others. See [What Are Saved Customizations for Dashboard Pages?](#)

1. Open the dashboard in which you want to save a customization.
2. Navigate to the page on which you want to save a customization.
3. Make your customizations.
4. Click the **Page Options** button on the dashboard page and select **Save Current Customization**.
5. In the Save Current Customization dialog, enter a descriptive name for the customization.
6. Specify for whom the customization is to be saved:
 - To save the customization for your personal use, select **Me**.
 - To save the customization for use by others, select **Others** and then click **Set Permissions** to display the Saved Customization Permissions and Defaults dialog, where you specify the accounts that have permission to use the customization and whether the customization is to be the default customization for the accounts.
7. Optionally, to assign this customization as your default customization, select **Make this my default for this page**.
8. Click **OK**.

Applying Saved Customizations

You can apply customizations that you have saved for your own personal use or that have been saved by someone else for your use.

You can also apply customizations that have been saved by someone else for your use. For example, you can apply a shared Sales Team customization that was created for customized viewing of a Brand Revenue analysis by members of the sales team. See [What Are Saved Customizations for Dashboard Pages?](#)

1. Open the dashboard in which you want to apply a saved customization.
2. Navigate to the page that contains the customization to apply.
3. Click the **Page Options** button and select **Apply Saved Customization**.

Your personal saved customizations, if any, are shown at the beginning of the list. Shared saved customizations are listed next. Your current default customization is shown in bold type.

4. Click a saved customization in the list to apply it to the dashboard page.

Editing Saved Customizations

You can rename customizations, change which customization to use as your default, change permissions for those customizations that have been shared with others, and delete customizations.

See [What Are Saved Customizations for Dashboard Pages?](#)

1. Open the dashboard in which you want to edit a customization.
2. Navigate to the page that contains the customization to edit.
3. Click the **Page Options** button on the dashboard page and select **Edit Saved Customizations**.
4. In the Edit Saved Customizations dialog, rename customizations, change which customization to use as your default, change permissions for those customizations that have been shared with others, and delete customizations, as appropriate.
5. Click **OK**.

Clearing Your Current Customization

You can clear your current customization if you decide the choices for items such as filters, prompts, column sorts, drills in analyses, and section expansion and collapse are not what you want.

For example, you can clear a customization that collapses the display of the Brand Revenue analysis.

See [What Are Saved Customizations for Dashboard Pages?](#)

- Click the **Page Options** button on the dashboard page and select **Clear My Customization**.

About Dashboard Template Pages for New Users

The first dashboard page new users see is a dashboard template page.

Dashboard template pages are dashboard pages that are used to populate the personal dashboards (My Dashboard) of new users on their initial login. This allows users to see one or more dashboard pages with content rather than an empty dashboard when they first log in. It also gives users a starting point to build their own dashboard pages.

How Dashboard Template Pages Work

You create dashboard template pages for your users in dashboards that have a designated name (by default the designated name is **default**) and that you save in subfolders of `/Shared Folders`.

When a new user logs in for the first time, Oracle BI EE searches for dashboard template pages in all dashboards that have the designated name, copies all dashboard template pages to which the user has permission to the user's My Dashboard folder, and displays them in the user's My Dashboard.

If a user has permissions to dashboard template pages in multiple dashboards, then Oracle BI EE copies all template pages from those dashboards to the user's My Dashboard folder and displays them alphabetically by name in the user's My Dashboard. If two pages have the same name, then the name of one of the pages is prefixed with the name of the folder in which the dashboard was saved.

Where Oracle BI EE Searches for Dashboard Template Pages

By default, Oracle BI EE searches for dashboard template pages in all dashboards that are named **default** and that have been saved in subfolders of `/Shared Folders`. It searches only subfolders under `/Shared Folders` (for example, `/Shared Folders/Finance`) and not the entire hierarchy (for example, not `/Shared Folders/Finance/Div1`.)

If your organization has designated a name other than **default** for the name of dashboards that contain dashboard template pages, then Oracle BI EE searches for dashboard template pages in dashboards with that name (for example, **Templates**) rather than **default** in subfolders of `/Shared Folders`.

To designate a name other than **default** for the name of dashboards that contain dashboard template pages, your administrator must set the **DefaultName** element in the `instanceconfig.xml` file. See *Manually Changing Presentation Settings in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

How Users Can Work with Dashboard Template Pages

Dashboard template pages provide a pre-built starting point to create custom dashboard pages.

Users can use dashboard template pages:

- As a starting point to build their own dashboard pages.

Users can change any of the content on these dashboard template pages. Any changes that they make to the content are made to their local copies of the dashboard template pages in their My Dashboard folders, and not to the original dashboard template pages.

- As examples of additional pages that they might want to build.

If users delete a dashboard template page from their My Dashboard, then they cannot repopulate My Dashboard with the page. However, if users delete their entire My Dashboard, when they log in again or navigate to My Dashboard again, their My Dashboard is recreated with all the latest dashboard template pages.

Creating Dashboard Template Pages for New Users

You can create dashboard template pages for users so that they see one or more dashboard pages with content rather than an empty dashboard when they first log in.

For more information on dashboard template pages, see [About Dashboard Template Pages for New Users](#).

Users have access only to content to which they have appropriate permissions. If you later change the dashboard content or the permissions to the dashboard, then the changes take effect only for new users on first login, not for users whose My Dashboard has been populated with the dashboard template pages.

1. Create one or more dashboards to contain the dashboard template pages. For each dashboard, specify the following:
 - In the **Name** field, enter `default` unless your organization has designated another name for the name of dashboards that contain dashboard template pages, in which case, enter the name your organization has designated.
 - In the **Location** box, select a Dashboard folder in a subfolder of `/Shared Folders`, for example `/Shared Folders/Finance/Dashboards`.
2. Create one or more dashboard pages and add content to the pages.
3. Assign permissions on the dashboard to allow read access for all users whose My Dashboard you want to populate with the dashboard pages.

Publishing Dashboard Pages

You can publish a dashboard page to a shared dashboard location so that you can share the page with others.

When you publish a dashboard page:

- Personal content (such as analyses, prompts, and so on) is copied to a destination location that you specify and references updated as appropriate.
- References to shared content are retained.
- If you have made changes to the page but have not saved them, then the unsaved changes are published along with the saved changes.
- Ensure that other users who might display the published dashboard page have the appropriate privileges for the objects on the page. For example, if the page contains a BI Publisher report, then users must have the appropriate privilege to see that report.

1. Edit the dashboard.
2. Navigate to the page to publish.
3. Click **Tools** and then select **Publish Page to Dashboard**.
4. In the Publish Page to Dashboard dialog, specify the name of the destination dashboard in the **Dashboard** field.
5. If the Publish Dashboard Page warning is displayed to indicate that content (such as the page, analyses, prompts, and so on) exists in the destination location, then click:
 - **OK** to continue with the publishing operation and replace the existing content.
 - **Cancel** to discontinue the publishing operation and not replace the existing content.
6. Click **OK**.

The dashboard page is copied to the destination location.

About Creating Links to Dashboard Pages

Links to dashboard pages allow others easy access to the data..

You can create links to dashboard pages, if allowed at your organization. This lets you, for example, save a link as a bookmark or copy and send a link to other users in email. See [Creating Links to Dashboard Pages](#).

There are two types of links that you can create — bookmark links and prompted links. The following sections describes these links:

- [What Are Bookmark Links?](#)
- [What Are Prompted Links?](#)

What Are Bookmark Links?

You can create a link to a dashboard page and its states.

A bookmark link is a URL that captures the path to a dashboard page and all aspects of the page state, for example:

```
http://localhost/10.1.3.2/saw.dll?Dashboard&_scid=7ndOC-SjmWo&PortalPath=%2Fusers%2Fadministrator%2F_portal&Page=p2&PageIdentifier=7fsg0r2sdssvgen4&BookmarkState=r78anlmbj0fj4lmqhdjfnvvai
```

After you create a bookmark link, you can:

- Save the link as a bookmark so that you can return to the exact same page content at a later time.
- Copy and send the link to other users who then can view the exact same content that you are viewing, providing they have the same permissions as you and have access to the page.

When you create a bookmark link, the state of a dashboard page is saved in the catalog as a hidden bookmark object for the amount of time that your organization specifies. The default is 30 days. See the administrator for the amount of time that your organization specifies. Because the state of a dashboard page is saved when you

create a bookmark link, you can continue to modify the content of the page after you create the link.

What Are Prompted Links?

Prompted links lead to simplified dashboard presentations.

A prompted link captures the path to a dashboard page and a simplified presentation of the dashboard prompts, for example:

```
<Content Path>&Action=Navigate&coll="Products"."P1 Product"&vall="Bluetooth  
Adaptor"&psal="A - Sample Sales"
```

When you create a prompted link, you can manually or programmatically manipulate the link, such as by adding different values for the prompts. With a prompted link, you cannot capture all aspects of the page state as you can with a bookmark link. This is because you cannot replicate the exact state of non-prompt parameters.

A URL that captures the path to a dashboard page and a simplified presentation of the dashboard prompts can also be manually constructed rather than created by a prompted link. See *Description of Services and Methods in Oracle BI EE Web Services in Integrator's Guide for Oracle Business Intelligence Enterprise Edition*.

See [Basic Syntax of Prompted Links](#), [Parameters for Prompted Links](#), and [Guidelines for Manipulating Prompted Links](#).

Basic Syntax of Prompted Links

Prompted links must follow basic syntax rules.

The basic syntax of a prompted link is:

```
<Content Path>&Action=Navigate&coll&op1&vall&col2&op2&val2&var3&op3&val3...
```

where Content Path is any of these base URLs:

```
http://<obiee url path>/saw.dll?Dashboard&PortalPath=<dashboard path>  
http://<obiee url path>/saw.dll?Dashboard&PortalPath=<dashboard path>&Page=<page  
name>  
http://<obiee url path>/saw.dll?PortalGo&path=<analysis or prompt path>  
http://<obiee url path>/saw.dll?Go&path=<analysis or prompt path>
```

Parameters for Prompted Links

You can change prompted links using parameters.

The parameters that you can use to modify prompted links are as follows:

- **&Action=** — Specifies the action that the prompted link is to take. Valid values are:
 - **Navigate** — Navigates to the dashboard page.
 - **Print** — Format results for printing to PDF, without paging controls, hot links, and so on.
 - **Download** — Downloads the results to Microsoft Excel.

You cannot use **Print** and **Download**, if the `viewState` argument exists. For more information, see *Optional Parameters for the Oracle BI Presentation Services Go URL* in *Integrator's Guide for Oracle Business Intelligence Enterprise Edition*.

- **&col#** — Identifies the column used in a column prompt.

Example:

```
&col1="EASTERN REGION"
```

- **&var#** — Identifies the variable used in a variable prompt or a variable that is set by a column prompt.

The scope of all variables is dashboard page, by default, unless you explicitly reference the variable.

Example using the default scope controlled by the optional parameter `&var1=`:

```
&var1="myRegion"
```

Example of explicitly setting to dashboard scope:

```
&var1=dashboard.variables['myRegion']
```

Example of explicitly setting to dashboard page scope:

```
&var1=dashboard.currentPage.variables['myRegion']
```

If you need to set both dashboard scope and dashboard page scope, include both variables in the URL.

You cannot set a session variable with this parameter. You can, however, override a session variable by using setting a request variable. For example, you can override the `NQ_SESSION.REGION_VAR` by setting this request variable:

```
&var1=requestVariables['REGION_VAR']
```

- These value parameters:
 - **&val#** — Specifies the value of a prompt.

Example:

```
&val1="EASTERN REGION"
```

- **&valgrp#** — Sets the value of a prompt to a custom group's catalog path.

Example:

```
&valgrp1="/shared/folder/myCustomGroup"
```

- **&valsv#** — Sets the value of a prompt to a server variable.

Example:

```
&valsv1="SALESREGION"
```

The `val#` and `valgrp#` parameters can co-exist with each other but not with the `valsv#` parameter. In other words, the prompt can have any combination of `val#` and `valgrp#`, but cannot have both `valsv#` and `val#`.

- **&cov#** — Sets the variable of a column prompt that also sets a variable.

Example:

```
&var1=myRegion&cov1="Markets"."Region"&val1="EASTERN.REGION"+"WESTERN REGION"
```

- **&op#** — (optional) Specifies the operator, for example equal (eq).

Use the same operators as those for the Go URL. For a list of these operators, see Navigation Parameters in *Integrator's Guide for Oracle Business Intelligence Enterprise Edition*.

Example:

```
&coll="Markets"."Region"&vall="EASTERN REGION"+"WESTERN REGION"&opl=in
```

- **&psa#=#** — (optional) Identifies a primary subject area for a prompt.

Use this parameter if a prompt requires that the data types of values be correctly identified by subject area.

Example:

```
&var1=myRegion&cov1="Markets"."Region"&vall="EASTERN REGION"+"WESTERN REGION"&psal=Paint
```

If a prompted link includes multiple subject areas, specify the prompts that do not identify a subject area first (for example, `&psa1="Products"."P1 Products"`) and those that do identify a subject area last (for example, `&psa2="B-Sample Target"."Products"."P1 Products"`).

- **&formulause#=#** — Identifies whether a prompt value is a code value or a display value (in a repository that is configured for the double column feature).

If you do not use this parameter, then it is assumed that the value is a display value.

Example:

```
&var1=myRegion&cov1="Markets"."Region"&vall="2"+"3"&formulause1=code
```

- For prompts that use hierarchical columns:
 - **&hierid#=#** — (required) Identifies the hierarchy ID.
 - **&dimid#=#** — (required) Identifies the dimension ID.
 - **&tblnm#=#** — (required) Identifies the table name.

Example:

```
&coll="Products"."Products Hierarchy"&hierid1=Products Hierarchy&dimid1=H1 Products&tblnm1="Products"&vall="*"+"all"&psal="A - Sample Sales"
```

If there are multiple values across multiple levels, you need to expand the syntax of values. See [Expanding the Syntax of Values](#).

- **&P1=#** — Defines the scope of all prompted link parameters. Valid values are:
 - **dashboard**
 - **dashboardPage** (default if the scope is not provided)
 - **report**

This parameter affects both filters and variables of the prompted link.

Example:

```
&P1=dashboard
```

Expanding the Syntax of Values

In a prompted link that includes hierarchical columns, if there are multiple values across multiple levels, you need to expand the syntax of values.

You can expand the syntax of the values by adding levelID and concatenating each array.

1. Group values based on their levelID.
2. Put all values belonging to the same level into one array and add the corresponding levelID to the front of each array as follows:

```
"Detail Product"+"7"+"4"
```

3. Concatenate each array and separate them with +*.
4. Put the entire concatenated string into a &val#= parameter. For example:

```
&col1="Products"."Products Hierarchy"&hierid1=Products Hierarchy&dimid1=H1
Products&tblnm1="Products"&val1="LOB"+"Digital"+"*"+ "Brand"+"HomeView"+"*"+ "Detail
Product"+"7"+"4"&psal="A - Sample Sales"
```

Guidelines for Manipulating Prompted Links

Prompted links can be changed in several ways.

The guidelines for manipulating prompted links are as follows:

- Use any combination of &col#= and &var#= but number them consecutively starting from 1 to N. For example, you could use var1, col2, col3, or you could use col1, var2, or col3.
- Use plus signs (+) to separate values.
- Use these locale-independent formats for date, time, and timestamp:

For the date format:

```
YYYY-MM-DD
```

For the time format:

```
hh24:mm:ss
```

For the timestamp format (the expected time zone is UTC):

```
YYYY-MM-DD hh24:mm:ss
```

- Make sure that you properly encode the URL. Not all browsers or platforms allow unescaped URLs. For example, encode a double quote (") as %22, a whitespace character as %20, and so on.
- Be aware that the URL character length that browsers support varies among browsers. If a URL is longer than the supported length, it will be truncated. The workaround is to use a bookmark link or another browser that supports the longer length.
- Optionally omit the double quotes if there are no white spaces inside the values.



Tip:

To quickly and accurately construct a prompted URL manually, navigate to a dashboard page with the corresponding prompts, apply the desired prompt values, create a prompted link to generate the prompted URL, and then use the URL as a template.

Creating Links to Dashboard Pages

You can create links to dashboard pages, if allowed at your organization.

The administrator can control the display of the **Create Bookmark Link** and **Create Prompted Link** options by settings in the `instanceconfig.xml` file and by setting privileges. See *Enabling the Ability to Create Links to Dashboard Pages in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition* and *Managing Presentation Services Privileges in Security Guide for Oracle Business Intelligence Enterprise Edition*.

If you drill in an analysis that has been set to replace the dashboard with the new results (rather than show the new results directly in the dashboard), then the **Create Bookmark Link** option is displayed as a link below the new results rather than as an option on the Page Options menu. (To specify how drilling works in an analysis, you use the **Drill in Place** option on the Properties menu for a section.

See [About Creating Links to Dashboard Pages](#).

1. Open the dashboard in which you want to create a link to a dashboard page.
2. Navigate to the page for which you want to create a link.
3. Click the **Page Options** button on the dashboard page and:
 - To create a bookmark link, select **Create Bookmark Link**.
 - To create a prompted link, select **Create Prompted Link**.The link is displayed in the Address Bar of the browser.
4. If the link is a:
 - Bookmark link, then you can save it as a bookmark or copy and send it to other users.
 - Prompted link, then you can manually or programmatically manipulate the link.

Working with Briefing Books

Briefing books allow data presentations to be organized and distributed to users.

The following topics explain what briefing books are and how you work with them:

- [What Are Briefing Books?](#)
- [Adding Content to New or Existing Briefing Books](#)
- [Editing Briefing Books](#)
- [Downloading Briefing Books](#)
- [Adding a List of Briefing Books to a Dashboard Page](#)

- [Using Agents to Deliver Briefing Books](#)

What Are Briefing Books?

A briefing book is a collection of static or updatable snapshots of dashboard pages, individual analyses, and BI Publisher reports.

You can:

- Add the content of dashboard pages (including pages that contain BI Publisher reports) or individual analyses to new or existing briefing books. See [Adding Content to New or Existing Briefing Books](#).
- Edit briefing books to reorder content, delete content, and change the content type, navigation link properties, and content description. See [Editing Briefing Books](#).
- Download briefing books in PDF or MHTML format for printing and viewing. See [Downloading Briefing Books](#).

The PDF version of a briefing book contains an automatically generated table of contents. See [About the Table of Contents in a PDF Version of a Briefing Book](#).

- Add a list of briefing books to a dashboard page. See [Adding a List of Briefing Books to a Dashboard Page](#).
- Update, schedule, and deliver briefing books using agents, if your organization licensed Oracle Business Intelligence Delivers. See [Using Agents to Deliver Briefing Books](#).

About the Table of Contents in a PDF Version of a Briefing Book

The PDF version of a briefing book contains a table of contents that is automatically generated.

The table of contents contains an entry for each dashboard page, analysis, and report in the briefing book. Each of these entries includes a time stamp and the page number within the PDF file. The time stamp value depends on how the content was saved to the briefing book. If the content was saved as updatable, then the time stamp is current. If the content was saved as a snapshot, then the time stamp is the time of the snapshot.

Indented beneath each entry for a dashboard page are any briefing book links included on that page, up to a maximum of nine links. These entries do not include timestamps. For example:

Table of Contents

```
My Dashboard Page 7/11/2008 9:15:20 AM . . . . .1  
Years to Dollars Dashboard . . . . .2
```

The administrator can modify the template for the table of contents so that the table of contents that is generated in your briefing books might have a different look.

 **Note:**

The table of contents is always generated in English. Other languages are not supported. Therefore, you might want to translate the tables of contents that are generated in briefing books.

For more information about including BI Publisher reports with briefing books, see [About Briefing Books and Printing BI Publisher Reports](#).

Adding Content to New or Existing Briefing Books

You can add the content of dashboard pages (including pages that contain BI Publisher reports) or individual analyses to briefing books.

You can add content to existing briefing books or to new briefing books that you create.

1. Open the dashboard that contains the content to add to a briefing book. See [Opening and Using Dashboards](#).
2. Navigate to the page to add or that contains the analysis to add.
3. Perform one of the following actions:
 - To add the contents of the dashboard page to a briefing book, click the **Page Options** button on the dashboard page and select **Add To Briefing Book**.
The **Add to Briefing Book** option is not available on an empty dashboard page or if the **Show Add to Briefing Book** box in the Dashboard Properties dialog has not been selected for the page.
 - To add the results of an individual analysis to a briefing book, locate the analysis on the dashboard and click the **Add to Briefing Book** link.
This link is displayed only if the **Add to Briefing Book** option was selected in the Report Links dialog when the analysis was added to the dashboard. For information about setting the **Add to Briefing Book** option, see Report Links dialog.
4. In the Save Briefing Book Content dialog, click **Browse** to display the Save As dialog.
5. In the Save As dialog, to save the contents to:
 - A new briefing book, specify the location in which to save the briefing book in the **Save In** field, enter a name for the briefing book in the **Name** field, optionally enter a description in the **Description** field, and click **OK**.
 - An existing briefing book, select the briefing book and click **OK**.
6. In the Save Briefing Book Content dialog, complete the remaining fields as appropriate and click **OK**.

Editing Briefing Books

You can edit briefing books to reorder content, delete content, and change the content type, navigation link properties, and content description.

Keep briefing books updated by reviewing and editing them regularly.

1. To edit a briefing book:
 - In the global header of the catalog, click **Catalog**.
 - On a dashboard page, open the dashboard page that contains the briefing book.
2. Navigate to the briefing book to edit and click **Edit**.
3. In the Edit Briefing Book dialog, change the content:
 - a. Select the content.
 - b. Click **Edit Page**.
 - c. In the Page Properties dialog, change the content type, the number of navigation links to follow for updatable content, or the content description as needed.
 - d. Click **OK**.
4. To reorder content, select the content and then drag and drop it to the desired location.
5. To delete content, select the content and click **Delete**.
6. Click **OK**.

Downloading Briefing Books

You can download a collection of static or updatable snapshots of dashboard pages, individual analyses, and BI Publisher reports in the form of a briefing book.

You can:

- Download briefing books to your computer in MHTML format and then share them for offline viewing.
- Download briefing books in PDF format and print them.

The Adobe Reader application is required to view or print a briefing book PDF file.

BI Publisher reports that are contained in the briefing book are only included in the PDF file if the reports themselves are enabled for PDF output.

The setting of the **Print Rows** list in the Print & Export Options dialog for the analysis or dashboard determines whether all rows or only the visible rows of an analysis are shown in the PDF.

The PDF version of a briefing book contains an automatically generated table of contents. See [About the Table of Contents in a PDF Version of a Briefing Book](#) .

1. In the global header, click **Catalog** to display the Catalog page.
2. Navigate to the briefing book to download.
3. Perform one of the following actions:
 - To download the briefing book in PDF format, click **PDF** and then open or save the file.
 - To download the briefing book in MHTML format, click **Web Archive (.mht)** and then open or save the file. Downloaded briefing books are saved with an `.mht` file extension and can be opened in a browser. You can then email or share the briefing book.

Adding a List of Briefing Books to a Dashboard Page

You can add a list of briefing books to a dashboard page.

Listing briefing books provides an easy way for users to access information related to the dashboard.

1. Edit the dashboard.
2. Navigate to the page where you want to add a list of briefing books.
3. From the Dashboard Objects pane, drag and drop a folder object into a section.
4. Hover the mouse pointer over the folder object in the Page Layout area to display the object's toolbar and click the **Properties** button.
5. In the **Folder** field of the Folder Properties dialog, enter the folder that contains the briefing books to list.
6. In the **Expand** box, specify whether to show an expanded view of the folder.
7. In the **Show RSS Link** box, specify whether to add an RSS feed option to the folder.
8. Click **OK** and then click **Save** to save the dashboard.

The folder is added to the dashboard. On the Dashboard page, to:

- See a list of the briefing books if the folder is not expanded, click the folder.
- Edit a briefing book, click its **Edit** link.
- Download a briefing book in PDF format, click its **PDF** link.
- Download a briefing book in MHTML format, click its **Web Archive (.mht)** link.

Using Agents to Deliver Briefing Books

You can configure an agent to deliver briefing books to users.

Ensure your users are receiving the most recent briefing books by delivering them via an agent.

1. Create or edit the agent to be used to deliver the briefing book.
2. In the Delivery Content tab of the Agent editor, click **Browse** to select the briefing book.

When the agent runs, the briefing book is delivered.

6

Filtering and Selecting Data for Analyses

This chapter explains how to construct filters, selection steps, groups, and calculated items in Oracle Business Intelligence Enterprise Edition. It explains how to use these objects to specify the data that is displayed in analyses and dashboards.

 [Video](#)

 [Video](#)

Topics

This chapter includes the following sections:

- [Saving Objects as Inline or Named](#)
- [What are Filters and Selection Steps?](#)
- [Working with Selections of Data](#)
- [Creating Column Filters](#)
- [Editing Column Filters](#)
- [Working with the EVALUATE_PREDICATE Function](#)
- [Applying a Named Filter to an Analysis](#)
- [Combining and Grouping Column Filters](#)
- [Using a Saved Analysis as a Filter](#)
- [Creating and Editing the SQL Statements for a Column Filter in an Analysis](#)
- [Working with Calculated Measures](#)
- [Working with Groups and Calculated Items](#)

Saving Objects as Inline or Named

This section describes saving objects as inline or named. It contains the following topics:

Topics

- [What are Inline or Named Objects?](#)
- [What is the Folder Structure for Named Objects?](#)
- [Saving Filters as Inline or Named](#)
- [Saving Groups and Calculated Items as Inline or Named](#)

What are Inline or Named Objects?

As you work with certain objects, you can create other objects that are saved with those objects.

When you save one object with another, that object is saved "inline." You can save filters, groups, and calculated items inline. For example, you can create a group as part of an analysis. When you save the analysis, the group is saved "inline" or along with the analysis.

In addition to saving these objects inline, you can save them as individual objects with the subject area in the Oracle BI Presentation Catalog. When you save an object on its own, it becomes a "named" object. Named objects provide reusability, because you can create one object and use it multiple times with any analysis, dashboard (for filters), or dashboard page (for filters) that contains the columns that are specified in the named object. When the named object is updated and saved, those updates are immediately applied to all objects where the named object is used.

For example, after you save a group inline with an analysis, you can save the group as its own object in the catalog. You can then apply that named group from the Catalog pane to other analyses.

What is the Folder Structure for Named Objects?

Named filters, groups, and calculated items are generally saved to their related subject area folder.

By saving the objects to a subject area folder, you ensure that they are available when you create an analysis for the same subject area.

Named objects saved in the `/My Folders` folder are available only to you. Objects saved in the `/Shared Folders` folder are available to other users who have permission to access the folders. If a subject area folder does not exist in your `/My Folders` folder or within the `/Shared Folders` folder, then the subject area folder is created automatically. When you save the object, the Save As dialog displays a default save path to `/My Folders/Subject Area Contents/<subject area>`. However, the dialog's Folders area continues to display all instances of the subject area folder in the catalog.

Saving Filters as Inline or Named

You can save a filter as an inline filter or a named filter.

When you create an inline filter in the Criteria Tab's Filters pane of the Analysis editor, you can optionally save the inline filter as a named filter. Named filters can also be created at the analysis level or as a standalone object from the global header.

A named filter can filter all or some of the analyses that are embedded in a dashboard or analyses that are embedded on the same dashboard page.

Saving Groups and Calculated Items as Inline or Named

Saving groups and calculated items allows those functions to be re-used throughout the application.

You can save groups and calculated item as an inline or named object:

- When you create a group or calculated item while editing and saving a view or while working in the Compound Layout, the group or calculated item is saved inline with the analysis.
- When you work in the Selection Steps pane:

- You can save a group or calculated item that is within a step as a named object in the catalog.
- You can save a set of steps or the resulting members list for a column as a named object. You cannot save a set of steps as a group if one of the steps includes a calculated item.

See [Adding a Group to Another Analysis](#).

To save a calculated item or group as a named object to the catalog:

1. Display the Selection Steps pane.
2. Click the link for the calculated item or group, then click **Save Calculated Item As** or **Save Group As** to display the Save As dialog.
3. Complete the dialog to save the object to the catalog.

To save a set of steps as a group to the catalog:

1. Display the Selection Steps pane.
2. Click the **Save Selection Steps** button to the far right of the column name.
3. Complete the Save Selection Steps dialog to save the group as an object to the catalog.

What are Filters and Selection Steps?

You use both filters and selection steps to limit the results that are displayed when an analysis is run, so that the results answer a particular question.

You use both filters and selection steps to limit the results that are displayed when an analysis is run. This means that the results answer a particular question. Together with the columns that you select for an analysis, filters and selection steps determine what the results contain. Based on the filters and selection steps, only those results that match the criteria are shown. For example, depending on the industry in which you work, you can use filters and selection steps to learn who are the top ten performers. You can also learn the dollar sales for a particular brand, and which are the most profitable customers.

Filters and selection steps are applied on a column-level basis and provide two methods for limiting the data in an analysis. A filter is always applied to a column before any selection steps are applied. Steps are applied in their specified order. Filters and selection steps differ in various ways:

- Filters are applied directly to columns before the query is aggregated. Filters affect the query and thus the resulting values for measures. For example, suppose that you have a list of members in which the aggregate sums to 100. Over time, more members meet the filter criteria and are filtered in, which increases the aggregate sum to 200.
- Selection steps are applied after the query is aggregated and affect only the members displayed, not the resulting aggregate values. For example, suppose that you have a list of members in which the aggregate sums to 100. If you remove one of the members using a selection step, then the aggregate sum remains at 100. Selection steps are per column and cannot cross columns.

Together with the columns that you select for an analysis, filters and selection steps determine what the results contain. Based on the filters and selection steps, only those results that match the criteria are shown. For example, depending on the industry in

which you work, you can use filters and selection steps to learn who are the top ten performers, what are the dollar sales for a particular brand, which are the most profitable customers, and so on.

Another kind of filter, called a prompt, can apply to all items in a dashboard. You can use prompts to complete selection steps and filters at runtime. See [Prompting in Dashboards and Analyses](#).

Oracle BI Enterprise Edition provides the Filters view and Selection Steps view, which you can add to an analysis to display any filters or selection steps applied to the analysis. Adding these views can help the user understand the information displayed in the analysis. See [Adding Views for Display in Dashboards](#).

How Do Filters and Selection Steps Differ?

Filters and selection steps are applied on a column-level basis and provide two methods for limiting the data in an analysis.

A filter is always applied to a column before any selection steps are applied. Steps are applied in their specified order. Filters and selection steps differ in various ways.

Filters

You can apply filters directly to attribute columns and measure columns. You must apply filters before the query is aggregated and affect the query and thus the resulting values for measures. For example, suppose that you have a list of members in which the aggregate sums to 100. Over time, more members meet the filter criteria and are filtered in, which increases the aggregate sum to 200.

Selection Steps

Selection steps are applied after the query is aggregated and affect only the members displayed, not the resulting aggregate values. For example, suppose that you have a list of hierarchical members in which the aggregate sums to 100. If you remove one of the members using a selection step, then the aggregate sum remains at 100.

You can create selection steps for both attribute columns and hierarchical columns. Selection steps are per column and cannot cross columns. Because attribute columns do not have an aggregate member, the use of selection steps versus filters for attribute columns is not as distinctive as for hierarchical columns. While measure columns are displayed in the Selection Steps pane, you cannot create steps for them so steps do not affect them. Measures are used to create condition steps for attribute and hierarchical columns, such as Sales greater than \$1 million.

Applying Filters to Attribute Columns to Affect Hierarchical Columns

You can use a filter on a related attribute column to affect the display of members in a hierarchical column.

For example, suppose a hierarchical column contains the levels Year, Quarter, and Month. Suppose that a filter exists on the attribute column that corresponds to the Year hierarchy level. If you create a filter on Year to limit it to 2008 and 2009, then when the hierarchical column is displayed in a view, only those two years are visible. This functionality depends on the way that the logical columns have been defined in the business layer of the subject area in the Oracle BI Administration Tool.

Working with Selections of Data

As you specify which data members to include in an analysis, you create selections of data from the data source.

Each selection specifies the criteria for a set of members for a particular column, such as Product or Geography. Each selection consists of one or more steps. A step is an instruction that affects the selection, such as add Product members whose values contain the text `ABC`. The order in which steps are performed affects the selection of data. Each step acts incrementally on the results from previous steps, rather than acting on all the members for that column.

You can view these selection steps in the Selection Steps pane. Steps are created using the following means:

- When you add a column to an analysis, a selection step is created automatically to start with all members, unless you explicitly add specific members. As you drag and drop column members in the Results tab to add to the analysis, steps are also created automatically. For example, suppose that you drag and drop the FY2007 and FY2008 members from the Year hierarchical column to a pivot table. The selection step **Add FY2007, FY2008** is created.
- As you add groups and calculated items, steps are created automatically.
- When you use right-click interactions (such as **Add Related** or **Keep Only**) to refine the selection of data for a particular hierarchical column or attribute column, steps are created automatically. To remove these selection steps, use right-click interactions such as **Remove Group** or **Remove Calculated Item**. See [Right-Click Interactions in Views](#).
- You can create steps directly using the Selection Steps pane, to refine the selection of data for a particular hierarchical column or attribute column. You can display the Selection Steps pane from various places including the Results tab, the Criteria tab, and some view editors.

Selection steps are one of the following types:

- **Explicit list of members** — A step can include a list of members for a column, such as Boston, New York, Kansas, South. For hierarchical columns, the members can be from different hierarchy levels. For attribute columns, the members are from only that column.
- **Condition step** — A step can specify that members are selected from a column based on a condition, which can be one of various types including based on measures or on top/bottom values. This member list is dynamic and determined at runtime.

When working with selection steps, if you search for members in hierarchical columns that are non-text (for example, date or time), then the search will yield no results.

- **Based on hierarchy step** — A step for hierarchical columns that enables you to select the type of relationship with which to select members. You can select a family relationship (such as children of or parent of), a specific hierarchy level (for level-based hierarchies only), or a level relationship (for level-based hierarchies only).

- Groups and calculated items — A step can include a group or calculated item. You can use groups and calculated items only with Add steps; you cannot use them in Keep Only or Remove steps.
See [Working with Groups and Calculated Items](#).

Creating Selection Steps

You create steps in the Selection Steps pane, which you can display in various places.

You create a selection step to provide the instructions for specifying the criteria for selections of data from the data source. When you add a column to an analysis, an implicit **Start with all members** step is added. The "all" implies all the members of the column after filters are applied.

For example, you can create a step to specify criteria for the following members in an Office column: Baltimore, Austin, and Athens.

Creating selection steps in the Results tab allows users to choose the data most important to them.

1. Display the Results tab of the Analysis editor.
2. If the Selection Steps pane is not visible, then click the **Show Selection Steps pane** button on the toolbar to display it.

The pane might also be collapsed at the bottom of the Results tab. Click the plus sign icon to expand it.

3. For the column whose steps you want to define, click the **Then, New Step** link.
4. From the menu, select the option for the step type to create and complete the resulting dialog.

Selection steps are automatically created when you use the right-click interactions (such as **Add Related** or **Keep Only**) to refine the selection of data for a particular hierarchical column or attribute column in a view. See [Right-Click Interactions in Views](#).

After you add selection steps to the analysis, you can go to the Results tab of the Analysis editor and add the Selection Step view to the analysis. If you add the Selection Steps view, at runtime the user can view the selection steps that are applied to the analysis. See the Selection Steps editor of the Results tab.

Editing Selection Steps

You can edit existing selection steps in an analysis.

Use the Selection Steps pane to make changes to selection steps.

- Hover the mouse pointer over the step in the Selection Steps pane and click a button on the resulting toolbar.

You can perform various tasks such as displaying a dialog for editing the step, deleting the step, or changing the order of the step in the list of steps.

For a group or calculated item, click its name to display a menu with options for editing and saving.

Saving Selection Steps as a Group Object

Saving selection steps as a group object lets them be reused in multiple places.

If you have created a set of selection steps, then you can save and reuse the set as a group object. See [Saving Groups and Calculated Items as Inline or Named](#).

Working with Selection Steps and Double Columns

If your repository is configured for double columns, then you can create a selection step on a double column.

To create a selection step on a double column, select the display values for that column and the step is automatically evaluated using the code values that correspond to those display values.

If you use double columns, then use care with the New Calculated Item dialog. You can include a positional operator in the custom formula for the calculated item, such as \$1, which specifies the column from the first row in the data set. When you include a positional operator, the display values cannot be mapped to the code values when evaluating the formula.

See [Understanding the Double Column Feature](#).

Creating Column Filters

You can create a named or inline filter in columns to display specific data.

See [Editing Column Filters](#).

If your repository is configured for double columns, and you want to use an operator other than **is equal to / is in**, **is not equal to / is not in**, or **is between** and specify code values rather than display values, then you should explicitly choose the code column rather than the display column. See [Understanding the Double Column Feature](#).

1. To create a named filter:
 - a. From the Oracle Business Intelligence Home page, locate the global header, hover over the **New** menu, and from the menu select **Filter**.
 - b. From the Select Subject Area dialog, choose the subject area for which you want to create a filter.
 - c. From the Subject Areas pane of the Filter editor, double-click the column for which you want to create the filter.
2. To create an inline filter:
 - a. Either create an analysis or access an existing analysis for which you want to create a filter. Click the **Criteria** tab.
 - b. Locate the Filters pane and from the Filters Pane's toolbar, click the **Create a filter for the current Subject Area** button. The analysis' selected columns are displayed in the cascading menu.
 - c. Select a column name from the menu. Or select the **More Columns** option to access the Select Column dialog from which you can select any column from the subject area.

If you want to add a filter for a column located in a different subject area, then you must first add that subject area to the analysis by clicking the **Add/Remove Subject Area** button in the Subject Areas pane.

3. In the **Operator** field of the New filter dialog, choose an operator for the filter. The operator list from which you can choose is populated based on the type of column that you selected. For more information about each operator, including the **is prompted** and **is based on the results of another analysis** operator options, see Operators.
4. In the **Value** field, specify one or more values to use when applying the filter or condition. You can:
 - Type values, using a semicolon to separate the values.
 - Select values from the list or calendar.
To search for specific values, click **Search** in the list box. The Select Values dialog is displayed, where you can search for and select values.

If your repository is configured for double columns, and you are creating the filter on a display column, then by default, you specify display values. However, if your organization allows the display of code values, then you can specify code values rather than display values, but only if you use one of the following operators:

- **is equal to / is in**
- **is not equal to / is not in**
- **is between**

To specify code values, select the **Select by Code Column** box and then specify the values.

5. If your repository is configured for double columns, and you are creating the filter on a display column and want to filter on display values rather than code values, then deselect the **Filter by Code Column** box.
6. Click the **Add More Options** button to add a SQL expression, Session variable, Repository variable, Presentation variable, or Global variable to the filter. If you are setting the filter's value with a SQL expression or variable, leave the **Value** field blank.
7. Select the **Protect Filter** box to protect the filter's value from being overridden by a matching prompt's value or when the user navigates to another report within the analysis. When you navigate from one report to another report within an analysis, any prompt values that you specified in the first report can be transferred to the second report.
8. To convert the filter to SQL statements, select the **Convert this filter to SQL** box. The Advanced SQL Filter dialog is displayed.

This is a one-way conversion. After you select the **Convert this filter to SQL** box, you can no longer view and edit the filter in the Edit Filter dialog. After you convert the filter to SQL statements, you can only view and edit the filter item as SQL statements in the Advanced SQL Filter dialog. See [Creating and Editing the SQL Statements for a Column Filter in an Analysis](#).

9. When you are finished specifying the filter's criteria, click **OK**.
10. Save the filter in one of the following ways:
 - From the Analysis Editor, you can click **Save Analysis** to save the filter as an inline filter.

- From the Filter Editor, you can click **Save Filter** to save the filter as a named filter.

See [Saving Objects as Inline or Named](#).

Editing Column Filters

Use the following procedure to open and edit a saved filter.

If you edit and save a named filter, the changes that you make to the filter are propagated to wherever the filter is used.

1. To open a named filter:
 - a. In the global header, click **Catalog**.
 - b. On the Catalog page, navigate to the filter to edit and click the **Edit** link.
2. To open an inline filter:
 - a. In an analysis, click the **Criteria** tab.
 - b. In the Filters pane locate the filter that you want to edit and click its **Edit Filter** button.
3. In the Filter editor, make the desired changes.
4. Save the filter.

Working with the EVALUATE_PREDICATE Function

This SQL function allows you to add a non-standard filter.

This section provides the following topics on working with the EVALUATE_PREDICATE function:

- [How Can I Use the EVALUATE_PREDICATE Function with a Filter?](#)
- [Adding the EVALUATE_PREDICATE Function to an Inline Filter](#)

See *Logical SQL Reference Guide for Oracle Business Intelligence Enterprise Edition*.

How Can I Use the EVALUATE_PREDICATE Function with a Filter?

You can add an EVALUATE_PREDICATE function as an inline filter clause.

You *cannot* use this function with hierarchical columns. Use this function when you cannot create the appropriate filter clause with the Oracle BI EE filter operators. This function is intended for database functions with a return type of Boolean, and can be used only for SQL functions. Support for EVALUATE_PREDICATE does not extend across all multidimensional data sources. Also, you cannot use EVALUATE_PREDICATE with XML data sources.

To add an EVALUATE_PREDICATE function as an inline filter clause, you must have been granted the Add EVALUATE_PREDICATE Function privilege by the administrator.

Example

The following is an example of how you can use the EVALUATE_PREDICATE function. This example requests that Products.P4 Brand values be greater than 6

characters. After it is run, this example returns any rows where the length of the data in the P4 Brand column is greater than 6 characters (for example, BizTech and HomeView).

```
SELECT
0 s_0,
"A - Sample Sales"."Products"."P3 LOB s_1,
"A - Sample Sales"."Products"."P4 Brand" s_2,
"A - Sample Sales"."Base Facts"."1- Revenue" s_3
FROM "A - Sample Sales"
Where EVALUATE_PREDICATE('length(%1)>6',"A - Sample Sales"."Products"."P4 Brand").
ORDER BY 1,2,3
```

Adding the EVALUATE_PREDICATE Function to an Inline Filter

This procedure describes how to add the EVALUATE_PREDICATE function to an inline filter.

You cannot use this function with hierarchical columns. For more information see [How Can I Use the EVALUATE_PREDICATE Function with a Filter?](#) and *Logical SQL Reference Guide for Oracle Business Intelligence Enterprise Edition*.

1. Go to the Analysis Editor's Filters pane, click the **More Options** button, and select the **Add EVALUATE_PREDICATE function** option.
2. Enter the function's formula in the New EVALUATE_PREDICATE Function dialog. See [How Can I Use the EVALUATE_PREDICATE Function with a Filter?](#)
3. Click **OK** to display the EVALUATE_PREDICATE function in the Filters pane.

Applying a Named Filter to an Analysis

If you want to filter data in an analysis, you can apply any named filter.

Use the following procedure to apply a named filter to an analysis.

1. Create or open the analysis to which you want to add a named filter.
2. Within the Criteria tab of the Analysis Editor, locate the Catalog pane and navigate to the appropriate folder that holds the named filter. Filters are usually saved within the Subject Area subfolder. For example, `Shared Folders/2. Functional Examples/Filters/A - Sample Sales/Demo`.
3. Select the named filter and click the **Add More Options** button to display the Apply Saved Filter dialog.
4. Specify how you want to add the named filter to the analysis. You can select one or both of the following options:
 - Select the **Clear all existing filters before applying** box to remove all existing filters from the analysis before adding the named filter.
 - Select the **Apply contents of filter instead of a reference to the filter** box to copy the actual contents of the filter to the analysis. Copying the contents enables you to manipulate the filter criteria without altering the saved filter. When you deselect the **Apply contents of filter instead of a reference to the filter** box, a reference to the filter is added to the analysis. From the analysis, you can view but not alter the named filter's contents.
5. Click **OK**.

Combining and Grouping Column Filters

Combining and grouping column filters with AND and OR Boolean operators enables you to create complex filters without requiring you to know SQL statements.

Grouping or combining column filters enables you to establish the precedence in which Oracle BI EE filters an analysis.

If you want to group filters, then the filter must contain three or more filter items.

1. Create or open a named filter or analysis that contains an inline filter.
2. If you are working with a named filter, then locate the Saved Filter pane and confirm that the filter contains two or more filter items. If you are working with an inline filter, then locate the Filters Pane and confirm that the filter contains two or more filter items.

After you add the second filter item, the **AND** operator is displayed before the second filter item.

3. To change an **AND** operator to an **OR** operator, click the word **AND**. You can toggle between **AND** and **OR** this way. Keep in mind:
 - The **AND** operator means that the criteria specified in each filter must be met. This is the default method for combining column filters.
 - The **OR** operator means that the criteria that is specified in at least one of the column filters must be met.
4. As you add filter items, click **AND** and **OR** operators as necessary to construct the appropriate filter combinations.
5. Save the filter in one of the following ways:
 - From the Analysis Editor, you can select **Save Analysis** to save the filter as an inline filter.
 - From the Filter Editor, you can select **Save Filter** to save the filter as a named filter.

For more information, see [Saving Objects as Inline or Named](#).

Using a Saved Analysis as a Filter

You can create a filter based on the values that are returned by another analysis.

Any saved analysis that returns a column of values can be used to filter the matching column in an analysis.

1. Create or open a named filter or analysis that contains an inline filter.
2. If you are working with a named filter, then locate the Saved Filter pane and from the Subject Areas pane, select the column for which you want to create a filter.

If you are working with an inline filter, then locate the Filters Pane, and from the Filters Pane toolbar, click the **Create a filter for the current Subject Area** button and select the column for which you want to create the filter.
3. In the **Operator** field of the New Filter dialog, select **is based on the results of another analysis**.

The **Saved Analysis**, **Relationship**, and **Use values in Column** fields are displayed.

4. In the **Saved Analysis** field, either enter the complete path to the saved analysis or click the **Browse** button to locate the analysis upon which to base the filter.
5. Select a column name from the saved analysis from the **Use Values in Column** field, and in the **Relationship** field, select the appropriate relationship between the results and the column to be filtered.
6. Click **OK**.

Creating and Editing the SQL Statements for a Column Filter in an Analysis

You can create and edit the logical SQL WHERE clause to be used as a filter.

While generally not necessary, this feature is available for users who want advanced filtering capability. For descriptions of SQL clauses, see *Oracle Fusion Middleware LogicalSQL Reference Guide for Oracle Business Intelligence Enterprise Edition*.

After you convert a filter to SQL statements, you can view and edit the filter item as SQL statements in the Advanced SQL Filter dialog, only. You can no longer view and edit the filter in the Edit Filter dialog.

1. Create or open a named filter or an analysis that contains an inline filter.
2. If you are working with a named filter, then locate the Saved Filter pane and from the Subject Areas pane, select the column for which you want to create a filter.

If you are working with an inline filter, then locate the Filters Pane, and from the Filters Pane toolbar, click the **Create a filter for the current Subject Area** button and select the column for which you want to create the filter.
3. In the New Filter dialog, specify the filter's criteria and select **Convert this filter to SQL**.
4. Click **OK**.
5. In the Advanced SQL Filter dialog, enter your modifications in the **SQL** field, and click **OK**.

After you convert the filter to a SQL statement, you can no longer view and edit the filter in the Edit Filter dialog.

Working with Calculated Measures

Calculated measures are derived from other measures and created by using formulas.

You cannot add calculated measures to direct database queries or combined requests.

To create a calculated measure:

1. Perform one of the following actions:
 - To create a calculated measure for data views that contain columns within the Compound Layout, click the **New Calculated Measure** button on the Analysis editor: Results tab.

- To create a calculated measure for a specific data view within the Compound Layout, edit the specific data view, and then click the **New Calculated Measure** button on the Data View editor of the Results tab.
2. Complete the New Calculated Measure dialog.
 3. Click the **OK** button.

To edit a calculated measure:

You can edit a calculated measure from the Criteria tab of the Analysis editor.

1. In the Criteria tab, click the **Options** button to the right of the column name for the calculated measure.
2. Modify the columns as needed.
 - Specify the sort order for columns. (You cannot specify the sort order for hierarchy levels.)
 - Edit formulas for attribute columns and measure columns, including customizing headings, and specifying the aggregation rule. (You cannot customize headings, specify the aggregation rule, or edit the formulas for hierarchical columns or for hierarchy levels.)
 - Edit column properties to control the formatting and interaction of columns and hierarchy levels.

Working with Groups and Calculated Items

You can create a group or calculated item as a way to display data in a heat matrix, table, pivot table, trellis, or graph.

Groups and calculated items allow you to add new "members" to a column, when those members do not exist in the data source. These members are also known as "custom members."

- A group is a static list of members that you select or a static or dynamic list that is generated by selection steps. A group is represented as a member. You can drill in a group that was created for a hierarchical column but not in one that was created for an attribute column.

A group uses the existing aggregation function of the measure column with which it is displayed. The aggregation is performed up from the lowest detail level in the Oracle BI Server, but no values are double-counted.

- A calculated item is a computation between members, which is represented as a single member that cannot be drilled. When you create a calculated item, you add a new member in which you have selected how to aggregate the item, such as Sum or Average or a custom formula. The calculation is performed at the aggregated level, not at the lowest detail level.

Both groups and calculated items become selection steps for the entire analysis when you select the **All Views** option while creating the group or calculated item. Therefore, they apply to all views for that analysis. These groups and calculated items can be saved as inline or named objects. For information, see [Saving Objects as Inline or Named](#).

If you create a group or calculated item for a specific view by selecting the **Current View** option, the group or calculated item only applies to the specific active view.

What are Groups?

A group (also known as a "saved selection" in other products) is a user-defined member of a column.

A group can be a list of members or a set of selection steps that can be executed to generate a list of members. All the members must be from the same attribute column or hierarchical column, and in a hierarchical column, members can be from different hierarchy levels. Groups are always displayed at the bottom of the column list in the order in which they were added (as shown in the Selection Steps pane). Groups can contain members or other groups. You can create a custom group and add the custom group to a column within a view.

You can save a group to the catalog and reuse it. For example, you can apply a group to analysis and dashboard column prompts or variable prompts. If a group is applied to a prompt, then the prompt presents either the group as a choice list option or members of the group as choice list options to the user at runtime. See [Overriding a Selection Step With a Column Prompt](#) for information on overriding selection steps with prompts when the user selects groups or column members.

What are Calculated Items?

A calculated item is a calculation between members, which is represented as a single member.

A calculated item enables you to override the default aggregation rule that is specified in the Oracle BI repository, and for an existing analysis, the aggregation rule chosen by the designer. You can define a calculated item using a custom formula (which is the default) or by combining selected members with a function (for example, SUM).

A calculated item is a user-defined member of a column. A calculated item can contain members or other calculated items. Calculated items are always displayed at the bottom of the column list in the order in which they were added (as shown in the Selection Steps pane). You can save a calculated item to the catalog and reuse it.

A calculated item is useful when you want to view and manipulate a set of members as a single entity. For example, you might define calculated items for:

- Key accounts in a geographic region
- High-end products
- Non-standard time periods, such as the first three weeks in September

You can create calculated items for columns in various places. Calculations differ from the default aggregation rules that are applied to measures. See [Adding Totals to Tables and Pivot Tables](#). Internally, calculated items are processed as SQL SELECT statements, and the indicated functions are performed on the result set. See *Oracle Fusion Middleware LogicalSQL Reference Guide for Oracle Business Intelligence Enterprise Edition*.

Creating Groups and Calculated Items

Use a group or calculated item to add new "members" to a column.

For example, you can review how much revenue was generated for mobile devices and compare that number to other product types. You can create a group called

Mobile Devices for the Product column that includes Flip Phones and Smart Phones. Use the following procedure to create a calculated item or group.

1. Perform one of the following actions:
 - Click the button to create a calculated item or group.

The button is available in multiple locations. The following list provides a few of these locations:

 - On the toolbar of the view editor, click the **New Calculated Item** button or the **New Group** button. The new calculated item or group will be created for all views.
 - In the Layout pane, in the *<view-type>* Rows or Columns area, click the **More Options** button to the right of a column name, then select **New Calculated Item**. You can choose to add this calculated item or group to the current view or to all views.
 - Click the **Then, New Step** link in the Selection Steps pane.
 - In a heat matrix, table, pivot table, or trellis (on an outside edge), select the column or column header, member, group or calculated item to include, then right-click and select **Create Group** or **Create Calculated Item**.
2. Complete the appropriate dialog, either New Calculated Item dialog or New Group dialog.
3. Consider the following when adding a calculated item or group:
 - From within the Compound Layout:
 - If you are using the right-click menu, then select either the **Current View** or **All Views** option button to add the group or calculated item to the specific active view or to all views in the Compound Layout.
 - If you are using the toolbar buttons or Selection pane, then the group or calculated item will be added to **All Views** in the Compound Layout.
 - From within a view editor, then select either the **Current View** or **All Views** option button to add the group or calculated item to the specific active view or to all views in the Compound Layout.
 - From within the Pivot Table or Table editors by using the **More Options** button, then select either the **Current View** or **All Views** option button to add the group or calculated item to the specific active view or to all views in the Compound Layout.
 - If you add a calculated item or group to a view within a dashboard by using the right-click menu, the calculated item or group will only be added to the **Current View**.
 - If you add a group or calculated item by using the **All Views** option button, any new view that you add will also have the group or calculated item added to it.
 - If you add a group or calculated item by using the **Current View** option button, any new view that you add will not have the group or calculated item added to it.
4. When the calculated item or group is complete, click **OK**.

If any errors are detected, then a message is displayed. Correct the error and click **OK** again.

You might encounter an error when using groups when Oracle Online Analytical Processing (OLAP) is the data source for the analysis. If the group is included in a view and an error message is displayed, then the problem is likely that a measure column in that analysis uses an external aggregation.

Check with the administrator about implementing one of the following possible solutions:

- Explicitly specify the aggregation rule for the measure in the repository.
- Create the appropriate group of values as a dimension member in the Oracle OLAP analytic workspace.

Editing Groups and Calculated Items

You can update groups and calculated items to present the most useful information to users.

You can edit groups and calculated items in various ways:

- In the Selection Steps pane, click the link for the calculated item or group, then click **Edit** to display the appropriate dialog.
- If you have saved the object to the catalog, then select the object in the Catalog pane and click **Edit** to display the appropriate dialog.
- In a heat matrix, table, pivot table, or trellis (on an outside edge), right-click the group or calculated item and select **Edit Group** or **Edit Calculated Item**.

The value of a group or calculated item might be affected by filters and selection steps in several ways:

- Filters — A group or calculated item is evaluated using only those members that have not been removed using filters. For example, if you have a calculated item for SUM (EAST + WEST) but WEST is removed through a filter, then only the EAST sum is included for the calculated item. If all members have been removed, then a null value is returned, which shows as an empty cell in a heat matrix, table, pivot table, or trellis.
- Selection steps — When you create selection steps, you can add a group or a calculated item in a step. Subsequent Keep Only or Remove steps might reference members that were included in the group or calculated item.
 - A group list is affected by members that are kept or removed in subsequent steps, but the group outline value remains the same. For example, suppose the MyNewYork group contains Albany and Buffalo and its value is 100. Suppose Albany is removed in a later step. The value of the MyNewYork group remains at 100, but Albany is no longer listed with the group.
 - A calculated item is not affected by members that are kept or removed in subsequent steps.

If you remove a group or calculated item from all views that was created by using the **Current View** option button, the group or calculated item remains and will not be added to any new view that you subsequently add.

If you remove a group or calculated item from all views that was created by using the **All Views** option button, the group or calculated item remains and will be added to any new view that you subsequently add.

Consider the following if you are removing a group or calculated item by using the right-click menu:

- From a view within a dashboard page — The calculated item or group will be removed only from the current view.
- From a view within a view editor — The calculated item or group will be removed only from all views.

Adding a Group to Another Analysis

You can add a group to the same column on which it was created in another analysis.

Groups added to an analysis can be either a list of members or a set of selection steps. For information on these groups, see [Saving Selection Steps as a Group Object](#).

To add the group, you can use the Results tab, or you can do so in the Catalog pane. You can also add a group using the following means:

- In the Edit Member Step dialog, select **Start with Group or Calculated Item** in the **Action** box, then select the group from the Catalog pane in the Available list.
 - In the Selection Steps pane, click **Then, New Step** for the appropriate column, select **Add Groups or Calculated Items**, select **Select Existing Groups and Calculated Items**, and select the group in the resulting dialog.
1. On the Results tab, display an analysis that contains the same column to which you want to apply the selections from a group.
 2. Locate the Catalog pane and navigate to the appropriate folder that holds the saved group.
 3. Select the group and click the **Add More Options** button on the toolbar of the Catalog pane.
 4. Select one of the following:
 - **Add** to add the group itself, which generates an outline value for the group. In the heat matrix, table, pivot table, or trellis, you see the group name, which can be expanded to see its member values. (Default)
 - **Add Members** to add only the group members to the analysis. You do not see the outline value.

The group or its members are included as an Add step on the Selection Steps pane. You can reorder the steps as appropriate.

Nesting Groups and Calculated Items

As you work with groups and calculated items, you might want to "nest" them; that is, create a group within a group, for example.

The following list provides various scenarios for nesting groups and calculated items:

- Groups can be nested; that is, they can include other groups. Nested groups are "flattened." For example, suppose that the `my_favorite_countries` group includes the `my_favorite_cities` group. When you display and expand the `my_favorite_countries` group in a table, you do not see the `my_favorite_cities` group. Instead, you see the member values of the `my_favorite_cities` group.
- Calculated items can be nested; that is, they can include other calculated items.
- Groups cannot contain calculated items nor can calculated items contain groups.

- When you work with selection steps:
 - You can save selection steps that include groups or calculated items as either a series of steps whose results are generated at runtime or as results that are static and are redisplayed each time.
 - You can apply a group that is a saved selection of steps, using the Catalog pane. If you do so when the saved selection contains a step for a calculated item, then you can only add the members of the group. You cannot add the group itself.

Examples of Calculated Items

To understand calculated items, you must have a basic understanding of SQL.

The examples and explanations in this section assume that you have a basic understanding of SQL statements and their syntax. The syntax shown in these examples applies to the Custom Formula function in the New Calculated Item dialog. The examples are hypothetical. Not all possible calculated items are shown.

Example 6-1 Obtaining the Value of the Current Measure

This example shows the code required to obtain the value of the current measure, such as dollar sales, for each of the products `SoftDrinkA`, `SoftDrinkB`, and `SoftDrinkC`, and adds the values.

This is equivalent to selecting `Sum` from the Function list, and then typing or clicking '`SoftDrinkA`','`SoftDrinkB`','`SoftDrinkC`' to add them to the Function field.

```
sum('SoftDrinkA','SoftDrinkB','SoftDrinkC')
```

Example 6-2 Obtaining the Minimum Current Measure

This example shows the code required to obtain the minimum current measure, such as dollars in sales, for `SoftDrinkA` or `SoftDrinkB`, whichever is lower.

```
min('SoftDrinkA','SoftDrinkB')
```

In this example and the previous one, each functional calculated item is performed for each member in the outer layer, such as the Product layer. For example, if Year and Product are positioned on an axis, and one of the preceding calculated items is built on the Product layer, then the results are computed per year.

Example 6-3 Obtaining the Values of Each Item in the Outer Layer

This example shows the code required to obtain the values for each item in the outer layer, such as Year and Product, and adds them.

Instead of specifying a named item for an attribute column, such as `SoftDrinkA`, you can specify `$n` or `$(n)`, where `n` is an integer that indicates the item's row position. If you specify `$n`, then the measure is taken from the `n`th row. If you specify `$(n)`, then the measure is taken from the `n`th to the last row.

For example, for dollar sales, `$1` obtains the measure from the first row in the data set, and `$(1)` obtains the measure from the last row in the data set.

```
sum(*)
```

Example 6-4 Obtaining the Values of Measures and Summing Them

This example shows the code required to obtain the current measure, such as dollar sales, of the item from the first, second, and third rows, and sums them.

```
sum($1,$2,$3)
```

Example 6-5 Adding Sales Values

This example shows the code required to add sales of `SoftDrinkA`, `SoftDrinkB`, and `SoftDrinkC`. The two calculated items shown in the example are equivalent. That is, `Sum` is the default function; therefore, it can be omitted.

```
'SoftDrinkA' + 'SoftDrinkB' + 'SoftDrinkC'  
sum('SoftDrinkA','SoftDrinkB','SoftDrinkC')
```

Example 6-6 Adding Sales Values and Returning the Maximum

This example shows the code required to add sales of `SoftDrinkA` with sales of diet `SoftDrinkA`, then adds sales of `SoftDrinkB` with sales of diet `SoftDrinkB`, and returns the maximum of these two amounts.

```
max('SoftDrinkA' + 'diet SoftDrinkA', 'SoftDrinkB' + 'diet SoftDrinkB')
```

7

Prompting in Dashboards and Analyses

This chapter explains how to construct prompts in Oracle Business Intelligence Enterprise Edition and use them to specify the data that is displayed in dashboards and analyses. It also describes the auto-complete functionality and explains how to add dashboard prompts to dashboards and dashboard pages.

Topics

This chapter includes the following sections:

- [What Are Inline and Dashboard Prompts?](#)
- [What are Column Prompts?](#)
- [Other Prompt Types](#)
- [What Types of User Input Options Can I Use With a Column or Variable Prompt?](#)
- [How Do Prompts Work in Oracle BI Mobile?](#)
- [Can Dashboard Prompts and Analysis Prompts Interact?](#)
- [In What Order Does Oracle BI EE Apply Prompts with Default Values?](#)
- [What Is Auto-Complete?](#)
- [Creating a Column Prompt](#)
- [Overriding a Selection Step With a Column Prompt](#)
- [Creating an Image Prompt](#)
- [Creating a Currency Prompt](#)
- [Creating a Variable Prompt](#)
- [Editing Prompts](#)
- [Adding a Dashboard Prompt to a Dashboard or Dashboard Page](#)
- [Adding a Hidden Dashboard Prompt to a Dashboard or Dashboard Page](#)

What Are Inline and Dashboard Prompts?

The two differences between inline prompts and dashboard prompts is where they are stored and their runtime behavior.

A prompt that is created at the analysis level is called an inline prompt because the prompt is embedded in the analysis and is not stored in the Oracle BI Presentation Catalog and, therefore, cannot be added to other analyses. Inline prompts allow the end users to specify the data values that determine the content of the analysis. An inline prompt can be a column prompt, variable prompt, image prompt, or currency prompt. When you create an inline prompt, you select the columns and operators for the prompt and specify how the prompt is displayed to the users and how the users select the values. The user's choices determine the content of the analyses that are embedded in the dashboard. An inline prompt is an initial prompt, meaning that it only

displays when the analysis is rendered. After the user selects the prompt value, the prompt fields disappear from the analysis and the only way for the user to select different prompt values is to re-run the analysis.

A prompt that is created at the dashboard level is called a dashboard prompt because the prompt is created outside of a specific dashboard and is stored in the catalog as an object, which can then be added to any dashboard or dashboard page that contains the columns that are specified in the prompt. Dashboard prompts allow the end users to specify the data values that determine the content of all of the analyses and scorecard objects contained on the dashboard. A dashboard prompt can be a column prompt, variable prompt, image prompt, or currency prompt. Dashboard prompts are reusable, because you can create one prompt and use it many times. When the prompt object is updated and saved, those updates are immediately displayed in all dashboards where the prompt is used. A dashboard prompt is a specific kind of filter that, when created, saved, and applied to a dashboard or dashboard pages, can filter all or some of the analyses and scorecard objects that are embedded in a dashboard or analyses and scorecard objects that are embedded on the same dashboard page. A dashboard prompt is interactive and is always displayed on the dashboard page so that the user can prompt for different values without having to re-run the dashboard. Users can create and save dashboard prompts to either a private folder or to a shared folder.

For a dashboard using a column that was renamed in the Business Model, the existing dashboard prompts based on the renamed column do not work with newly created analyses. The workaround for this issue is to use Catalog Manager to rename the column in the catalog.

See [Creating a Column Prompt](#).

What are Column Prompts?

A column prompt is the most common and flexible prompt type.

A column prompt enables you to build very specific value prompts to either stand alone on the dashboard or analysis or to expand or refine existing dashboard and analysis filters. Column prompts can be created for hierarchical, measure, or attribute columns at the analysis or dashboard level.

You can create intelligent prompts that are specialized for the user's business needs and roles so that the user can quickly and accurately find the appropriate data that is needed to make a key business decision.

Oracle BI Enterprise Edition also enables you, as the content designer, to create currency prompts, image prompts, and variable prompts. See [Other Prompt Types](#).

How Do Column Prompts and Selection Steps Interact?

Selection steps allow the user to provide or refine the data from attribute columns and measures columns and to provide a kind of filter for hierarchical columns. Selection steps are applied after data aggregation. When you create selection steps for a column, you have the option of overriding one step of the selection with a dashboard or analysis column prompt. All selection steps before and after the override step are processed as specified, and the override step is processed using the user-specified data values that are collected by the column prompt. Column prompts that are created for hierarchical columns allow you to include only the Choice List input option.

See [What are Filters and Selection Steps?](#), [Working with Selections of Data](#), and [Overriding a Selection Step With a Column Prompt](#).

Other Prompt Types

In addition to column prompts, you can create currency prompts, image prompts, and variable prompts.

The following list contains information about these prompt types.

For information about column prompts, see [What are Column Prompts?](#).

- **Currency Prompt** — A currency prompt enables the user to change the currency type that is displayed in the currency columns on an analysis or dashboard. For example, suppose that an analysis contains the sales totals for a certain region of Canada in Canadian dollars. However, because the users viewing the analysis reside in the United States, they can use the currency prompt to change the sales totals from Canadian dollars to US dollars. The prompt's currency selection list is populated with the currency preferences from the user's My Account dialog: Preferences tab. The Currency Prompt option is available only if the administrator has configured the `userpref_currencies.xml` file. See [Configuring Currency Options in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition](#). See [Creating a Currency Prompt](#).
- **Image Prompt** — An image prompt provides an image that users click to select values for an analysis or dashboard. For example, in a sales organization, users can click their territories from an image of a map to see sales information, or click a product image to see sales information about that product. If you know how to use the HTML `<map>` tag, then you can create an image map definition. See [Creating an Image Prompt](#).
- **Variable Prompt** — A variable prompt enables the user to select a value that is specified in the variable prompt to display on the dashboard. A variable prompt is not dependent upon a column, but can still use a column. For example, you can use variable prompts to allow the user to specify existing data to perform sales projections. For example, you can create a variable prompt called Sales Projections and specify the variable prompt values as 10, 20, and 30 percent. Then you create an analysis that contains the Region and Dollars columns. Within the Dollars column formula, you select the multiply operator and insert the Sales Projection variable. When users run this analysis, they can select a percentage by which to recalculate the Dollars column. See [Creating a Variable Prompt](#).

What Types of User Input Options Can I Use With a Column or Variable Prompt?

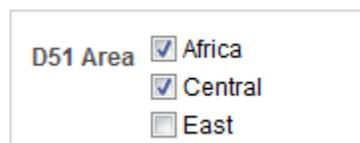
At design time, you must specify the prompt's user interface component.

The user interface component enables the user to enter a prompt value at runtime. You can select from several user input options. The **Radio Button** option enables the user to specify only one prompt value. The **Check Boxes**, **Choice List**, **List Box**, and **Text Field** options allow the user to select either one or multiple prompt values. The **Slider** option enables the user to select multiple values by specifying a range of values, or all values that are lesser than or greater than a specified value (for example, include everything equal to 200 and greater). The available input option types depend upon the column type that you are working with.

Check Boxes

The **Check Boxes** input option provides the user with a visible list of all prompt values where a small, selectable box displays before each value item. This input option is suitable for a prompt that contains a smaller set of data. The **List Box** input option is suitable for a prompt that contains a larger set of data. This user input type automatically enables the user to select one or more prompt values. To select a specific prompt value, the user scans the list and clicks the box that corresponds to a particular item.

The following illustration shows an example of the **Check Boxes** user input option for a column or variable prompt. The column being prompted is D51 Area, and each value option (Africa, Central, and East) is displayed next to a small box. To select a value, the user clicks the small box that is adjacent to the prompt value. This example shows that Africa and Central are selected, which illustrates that the user can select multiple prompt values.

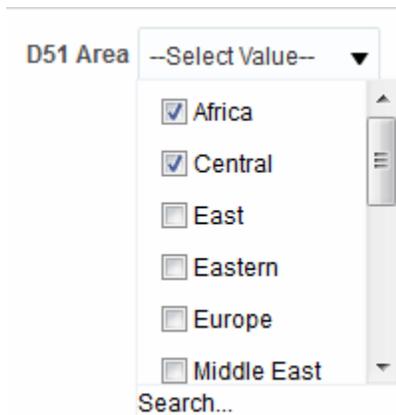


Choice List

The **Choice List** input option provides the user with a collapsed list of all prompt values. This option is useful for a long list of values where you want to provide the user with the ability to search for a specific value. You can set up this user input type to accept only one prompt value or multiple prompt values.

This input option provides a field and list that, when the user clicks the down-arrow button, expands and contains a list of all prompt values. To select a specific prompt value from the expanded list, the user scrolls through the list (or searches the list) and clicks the box that corresponds to a particular value. If you are using this input option with hierarchical columns, then a search dialog is displayed where the user can search for the prompt values.

The following illustration shows an example of the **Choice List** user input option for a column or variable prompt. The column being prompted is D51 Area. The user accesses the list of values by clicking the down-arrow button next to the D51 Area field. After accessing the list of values, each value option (Africa, Central, East, Eastern, Europe, and Middle East) is displayed next to a small box. To select a value, the user clicks the small box that is adjacent to the prompt value. This example shows that Africa and Central are selected, which illustrates that the user can select multiple prompt values. The user can also click Search at the end of the list of values to search for a specific value.

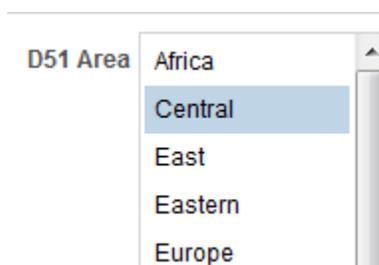


List Box

The **List Box** input option provides the user with a visible list of all prompt values. This input option is suitable for a prompt that contains a large set of data. The **Check Boxes** input option is suitable for a prompt that contains a smaller set of data. You can set up this user input type to allow the user to select only one prompt value or multiple prompt values by using Ctrl+ click or Shift+ click.

To select a specific prompt value, the user scans the list and selects the prompt value name (for example, Chicago), similar to how a user would click a hyperlink. The **List Box** option is very similar to the **Check Boxes** option, but the **List Box** option does not include a box before each value item.

The following illustration shows an example of the **List Box** user input option for a column or variable prompt. The column being prompted is D51 Area. The list contains each value option (Africa, Central, East, Eastern, and Europe). To select a value, the user clicks a value. This example shows that Central is selected.



Radio Buttons

The **Radio Buttons** input option provides the user with a visible list of all prompt values where a **Radio Button** is displayed before each prompt value. This option type is useful for short lists of values where the user is to select only one prompt value. To select a prompt value, the user scans the list and selects the radio button that corresponds to a particular item.

The following illustration shows an example of the **Radio Buttons** user input option for a column or variable prompt. The column being prompted is D51 Area. The list contains each value option (Africa, Central, East, Eastern, Europe, and Middle East).

To select a value, the user clicks a radio button that corresponds to the value. This example shows that the Central radio button is selected.

D51 Area Africa
 Central
 East
 Eastern
 Europe
 Middle East

Slider

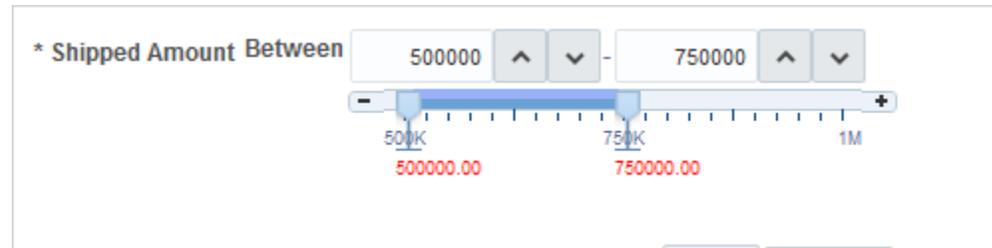
This option is not available for Variable Prompts.

Note:

The **Prompt Width** option, which sets the prompt's field size and the **Wrap Label to Fit Prompts** page setting option cannot be specified for or applied to a Slider.

You can use the **Slider** input option for numeric data values only. Depending upon the operator that you select, this option enables the user to select multiple values by specifying a range of values, or all values that are lesser than, greater than, or equal to a specified value. You select the **Slider** option to provide the user with a number line representation of the range of prompt values. The number line displays the prompt values in a range, for example 10,000 to 20,000. To select a prompt value, the user can either click a value on the number line or click and drag the thumb to select the desired value. A spinner box is also provided with up and down-arrow buttons that the user can click to select the desired value. If you selected the **Slider** option and the **is between** operator for the prompt, then the user can click and drag two thumbs to select the desired range of values for the prompt. Two spinner boxes are provided where you can either type or use the up and down-arrow buttons to specify a range of values.

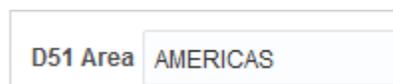
The following illustration shows an example of the **Slider** user input option that accepts a range of values for a column prompt. The column being prompted is 7- Shipped Amount. The slider itself is a number line and on the left end is the number label 500K, in the middle is the number label 750K, and on the right end is the number label 1M. There are also two spinner boxes above the number line. From these spinner boxes, the user can specify either a single number (for example, 500000 in the first spinner box and 500000 in the second spinner box) or two numbers to specify a range of numbers (for example, 500000 in the first spinner box and 750000 in the second spinner box). To specify numbers in the spinner boxes, the user can either type the value or use the box's up and down arrows to scroll to the desired value. To select a value from the number line, the user clicks and drags the thumb to the desired value or clicks and drags both thumbs to specify the desired range of values. This example shows that a range of values from 500000 to 750000 is selected.



Text Field

The **Text Field** input option provides the users with a field into which they can type a specific prompt value. You cannot use this option for multiple prompt values. Only the field and the field label display for this option. This option is useful in instances where the user knows the prompt value and does not have to search for it, or for prompts with numeric values. The prompt value that you enter must match the column's value. For example, if a column's data values include AMERICAS (in all capital letters), then the user must type AMERICAS into the text field. Numeric values cannot contain commas. If your repository is configured for double columns, and you are creating a prompt on a display column and specify **Text Field**, then filtering occurs on display values, not on code values.

The following illustration shows an example of the **Text Field** user input option for a column or variable prompt. The column being prompted is D52 Area. The field next to the D51 Region label is blank. In this field, the user enters the name of the Region (for example (AMERICAS, APAC, and EMEA). This example shows that the AMERICAS was entered into the text field.



How Do Prompts Work in Oracle BI Mobile?

While prompts function the same way on a mobile device—viewed in the Oracle BI Mobile application—they render differently and users interact with them differently.

Any customizing of prompt labels that is done in the desktop version of Oracle Business Intelligence has no bearing on prompts as displayed in Oracle Business Intelligence Mobile. All properties related to the formatting of prompts are ignored in Oracle BI Mobile.

Can Dashboard Prompts and Analysis Prompts Interact?

You can combine and wire prompts in various ways to create dashboards and reports that allow users to request precise, meaningful data.

Combining and wiring prompts enables you to specify how dashboard prompts interact with analysis prompts. Currency prompts and variable prompts cannot be combined or wired.

For example, you can create analysis A that contains information about the amount of product that is sold by region and to the Region column add the **Is protected** option

and then add a Region prompt. You can then create analysis B that contains information about sales person by region and analysis C that contains information about city by region. You then create and save a dashboard prompt for Region. When you create a dashboard and add analyses A, B, and C and the Region dashboard prompt and run the dashboard, the dashboard prompt input drives only what is displayed in analyses B and C. In this scenario, analysis A does not use the Region value that is specified in the dashboard prompt because you set analysis A's Region column filter value to **Is protected**. Therefore, the only way that analysis A accepts a prompt value is if the user specifies a prompt value in Region A's prompt fields.

There are various ways that you can combine and wire prompts. This table describes each method.

Wiring Method	Description
Auto wiring	<p>Oracle BI Enterprise Edition's auto wiring functionality assumes that you intended to create a functioning prompt for the column and, therefore, activates and applies the prompt. Oracle BI EE applies the auto wiring method when you create an analysis and add a column prompt or image prompt. This auto wiring method does not require the is prompted filter operator. Any unprotected filter can be used.</p> <p>Setting the filter operator to is prompted provides a more precise level of control between prompts and filters than the auto wiring method. For more information, see the <i>Filter operator is set to is prompted</i> row in this table.</p>
Constrained Prompts	<p>Use this method with several columns in a prompt to constrain the user's prompt choice based on subsequent choices. Constrained prompts can be set up on the Prompt options dialog to specify which prompt narrows the choices. For example, if one column filters on region and the next column filters on city, then the city column can be constrained to show only cities in the selected region.</p>
Filter operator is set to is prompted	<p>Use this method to build complex prompts that interact with filters. When you use this method, you have full control over how the dashboard prompts, inline prompts, and filters are applied to the embedded analysis.</p>
Selection steps Override with Prompt option	<p>Use this method to use an analysis or dashboard column prompt to provide the data choices for a specific member selection step on a hierarchical or attribute column. Since you cannot use filters with hierarchical columns, selection steps are the only way that you can use prompts with hierarchical columns. Only one selection step per column selection step set can be overridden with a prompt. All selection steps before and after the overridden step are processed as specified.</p> <p>See What are Filters and Selection Steps?, Working with Selections of Data, and Overriding a Selection Step With a Column Prompt.</p>
Protected versus Unprotected filters	<p>Use this method to determine whether the dashboard prompt can supply the inline prompt's value when the corresponding column's filter value is set to something other than Is prompted. The unprotected and protected filter settings can be used when a dashboard prompt and inline prompt reside on the same dashboard and both prompts were created for the same column.</p> <p>When the column's filter value is unprotected, the dashboard prompt value determines the analysis' results. If the filter value is set to something other than Is prompted (for example, Is equal to/is in) and the filter is set to protected filter, then the dashboard prompt cannot determine the report results.</p> <p>See the Filters pane.</p>

In What Order Does Oracle BI EE Apply Prompts with Default Values?

Because prompting enables you to build flexible dashboards and analyses, it is important to understand how Oracle BI EE initiates a complex dashboard's prompts. The following list presents the order in which, at runtime, Oracle BI EE applies prompts with default values:

1. Hidden prompts whose scope is the dashboard page. See [Adding a Hidden Dashboard Prompt to a Dashboard or Dashboard Page](#).
2. Hidden prompts whose scope is the whole dashboard.
3. Prompts whose scope is the dashboard page. The precedence order of dashboard page prompts is unspecified.
4. Prompts whose scope is the whole dashboard.
5. Prompts, either inline or named, whose scope is the analysis.

What Is Auto-Complete?

Auto-complete functionality is available for specific types of prompts.

Oracle BI EE provides auto-complete functionality for prompts, which, when enabled, suggests and highlights matching prompt values as the user types in the prompt selection field.

Auto-complete is only available for the Choice List prompt type when the prompt designer selected the **Enable User to Type Value** option in the New Prompt dialog. Auto-complete is not available for hierarchical prompts.

The administrator configures the auto-complete functionality to be case-sensitive or case-insensitive, and then specifies the matching level. The matching level determines how Oracle BI EE matches the column's values to what the user types. There are three different ways that the administrator can set up auto-complete matching:

- **Starts With** — As the user types, Oracle BI EE suggests the column values that begin with the letter or text that the user is typing. For example, if the administrator configured auto-complete to be case-insensitive and the matching level to Starts With and the user types *m*, then Oracle BI EE suggests *Micropod* and *MP3 Speakers System*.
- **Word Starts With** — As the user types, Oracle BI EE suggests the column values that contain any words whose first letter matches what the user is typing. For example, if the administrator configured auto-complete to be case-insensitive and the matching level to **Word Starts With** and the user types *c*, then Oracle BI EE suggests *ComCell*, *MPEG Camcorder*, and *7 Megapixel Digital Camera*.
- **Match All** — As the user types, Oracle BI EE suggests the column values that contain any letter that the user is typing. For example, if the administrator configured auto-complete to be case-insensitive and the matching level to **Match All** and the user types *l*, then Oracle BI EE suggests *LCD 36X Standard*, *LCD HD Television*, *7 Megapixel Digital Camera*, and *Plasma HD Television*.

When the administrator properly configures the prompts setting in the Oracle BI EE instance configuration file, the auto-complete functionality highlights matching values when the user accesses the Select Values dialog to search for a prompt value. However, the matching level is not determined by the preference set by the administrator. Instead, the user selects the matching level in the Select Values dialog.

The prompts auto-complete functionality is enabled by the administrator at the system level, but the dashboard designer can exclude the auto-complete functionality from dashboards, and user can turn auto-complete off by using the My Account dialog. Consider the following relationships between auto-complete settings:

- **System Setting** — The administrator modifies the system configuration file to enable the auto-complete functionality for Oracle BI EE. When this functionality is turned on, all users can access the auto-complete prompts functionality. If this functionality is turned off, then all auto-complete fields are disabled on the Oracle BI EE user interface. For more information, see *Configuring for Prompts in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.
- **Dashboard Setting** — If auto-complete is enabled for Oracle BI EE, then the dashboard designer can remove the auto-complete functionality from individual dashboards by setting the **Prompts Auto-Complete** field to **Off** in the Dashboard Properties dialog. However, the auto-complete prompts functionality will be available for other dashboards where the **Prompts Auto-Complete** setting is set to **User Preference**.
- **User Preference Setting** — If auto-complete is enabled for Oracle BI EE and for individual dashboards, users can disable the auto-complete prompts functionality for their accounts by setting the **Prompts Auto-Complete** field in the Preferences tab of the My Account dialog to **Off**. Setting this option to **Off** overrides the system and dashboard settings, and no auto-complete functionality will appear for the user.

Creating a Column Prompt

A column prompt enables users to select the values to populate a column in a dashboard or analysis.

Use the following procedure to create a named column prompt that you can apply to one or more dashboards, or to create an inline column prompt that is embedded in an analysis. This procedure does not include information about selection steps or hierarchical columns. See [Overriding a Selection Step With a Column Prompt](#) and [Editing Prompts](#).

1. To create a column prompt:
 - a. Navigate to the Oracle BI Enterprise Edition Home page, locate the global header, hover the mouse pointer over the **New** menu to access the menu, and select **Dashboard Prompt**. From the Select Subject Area menu, select the subject area for which you want to create a prompt.
 - b. In the Definition Pane, click the **New** button to access the prompt type selection list. From the list, select **Column Prompt**. The Select Column dialog is displayed.
 - c. Select a column and click **OK**. The New Prompt dialog displays.
 - If your repository is configured for double columns, then ensure that you select the correct display column. See [Understanding the Double Column Feature](#).

- The number of columns that you include in a prompt can affect performance. In general, you should limit the number of columns to as few as possible.
 - If you are creating a dashboard prompt and want to add or remove related subject areas, then click the **Select subject area** button in the Select Column dialog to display the Add/Remove Subject Areas dialog.
2. To create an inline prompt:
 - a. Create a new analysis or access an existing analysis for which you want to create a prompt. Click the **Prompts** tab. The Definition pane is displayed.
 - b. In the Definition Pane, click the **New** button to access the prompt type selection list. From the list, select **Column Prompt**. The analysis' selected columns are displayed in the cascading menu that is adjacent to the Column Prompt selection item.

If the appropriate column is not available from the list, click the **More Columns** options in the cascading list and select the appropriate column from the Select Column dialog.
 - c. Select a column. The New Prompt dialog displays.
 - If you want to create the prompt for a column that is not displayed in the column list, then select the **More Columns...** option. The Select Column dialog is displayed where you can browse for and select a column.
 - If your repository is configured for double columns, then ensure that you select the correct display column. See [Understanding the Double Column Feature](#).
 - The number of columns that you include in a prompt can affect performance. In general, you should limit the number of columns to as few as possible.
 - If you are creating a dashboard prompt and want to add or remove related subject areas, then click the **Select subject area** button in the Select Column dialog to display the Add/Remove Subject Areas dialog.
 3. (Optional) Click the **Edit Formula** button to display the Column Formula tab of the Edit Column Formula dialog where you can modify the formula for the column.
 4. In the **Label** field, change the default label, if necessary, by entering a caption for the column filter prompt. The caption displays as the prompt's field label.
 5. In the **Description** field, enter a short description for the prompt. This description is displayed as tooltip text, which is displayed when the user hovers the mouse pointer over the prompt's label in the dashboard or analysis.
 6. From the **Operator** list, select the operator to use.
 7. In the **User Input** field, select how you want the prompt interface to ask the user for input (for example, prompt the user with a radio button to select only one prompt value). The column type determines the user input options from which you can select.
 8. Within the Options section, select prompt options to specify how you want the list values to be displayed to the user, and how you want the user to interact with the prompt. The prompt options vary depending on the user input type and list values type that you selected. For more information about the individual prompt options, see the New Prompt dialog.

9. In the **Default selection** field, select the prompt value or values that users see initially. If you select a default type, the values are generated from the server variable and must be configured to show the selection each time — select specific values, or specify how you want the default values to be determined. For example, if you select **SQL Results**, you must supply a SQL statement to generate the list of values. The SQL statement might be:

```
SELECT "Products"."Product", DESCRIPTOR_IDOF("Products"."Product") FROM "Sample
Sales Lite" WHERE "Products"."Product"= VALUEOF(NQ_SESSION."username") FETCH
FIRST 65001 ROWS ONLY]
```

10. Click **OK**. The prompt is displayed in the Definition pane.
11. Save the prompt:
 - If you are creating a dashboard prompt, then click the **Save Prompt** button in the Prompt editor, specify the folder in which you want to save the prompt, and give the prompt a descriptive name. Dashboard prompts that are saved in personal folders are available only to you. Dashboard prompts that are saved in shared folders are available to other users that have permission to access the object.
 - If you are saving a dashboard prompt for use with an Oracle BI Publisher report that receives its data from a SQL query against the Oracle BI Server, Oracle Database, or other JDBC source, then the dashboard prompt's name must match the name of the report's parameter.
 - If you are creating an inline prompt, then save the analysis.
12. Use the arrow buttons in the Definition Pane to reorder the selected prompt. Reordering the prompts controls the order in which the choices are displayed to users at runtime, so ensure that the order is logical, especially if you are creating constrained prompts.
13. Select the type of layout you want on the prompts page by clicking either the **New Row** button or **New Column** button in the Definition pane's toolbar. In the Definition table, click the check box corresponding to the prompt item that you want to display in a new row or column.
14. To preview how the prompt is displayed on the dashboard, either use the **Display pane** to preview the prompt with sample data, or click the **Preview** button (if available) in the Definition Pane toolbar to view the prompt with actual prompt values.

If the **Preview** button is not available, then the administrator has suppressed its display.

Overriding a Selection Step With a Column Prompt

Use the following procedure to create a selection step with a column prompt override.

You can override a selection step with either a dashboard or an analysis prompt. For example, you can specify that the Products.Brand selection step be overridden with a column prompt specifying the BizTech and FunPod members.

The following list provides examples of overriding selection steps with prompts when the user selects groups or column members:

- One or more groups, such as My Regions and My Cities, can override a selection step only of the Add type.

- One or more members, such as Central and Eastern, can override a selection step of any type.
- One or more groups and one or more members, such as My Regions and Central, can override a selection step of any type. However, groups are ignored and members are supported.

For more information about using a column prompt to override a selection step, see the following topics:

- [Other Prompt Types](#)
 - [What are Filters and Selection Steps?](#)
 - [Working with Selections of Data](#)
1. In the analysis in which you want to create or edit a column prompt to override a selection step, navigate to the Selection Steps pane and specify the selection steps.
 2. Determine which selection step you want to override with a column prompt and click its **Edit** button.
 3. In the Edit Member Step dialog, select the **Override with** box and then select **Prompt**.
 4. Click **OK** and save the analysis.
 5. If needed, create either a named or inline prompt.

Creating an Image Prompt

An image prompt provides users with an image that contains sections or areas that they can click to select a specific prompt value.

For example, an image prompt can be a map of the United States with sections that represent the North, South, East, West, and Central sales divisions. Users can then click the divisions that correspond to the sales information that they want to view in the dashboard or analysis.

You can apply image prompts to one or more dashboards, or embed them in analyses. Use the following procedure to create or edit an image prompt. See [Editing Prompts](#).

1. To create a named image prompt:
 - a. Navigate to the Oracle BI Enterprise Edition Home page, locate the global header, hover the mouse pointer over the **New** menu to access the menu, and select **Dashboard Prompt**. The Select Subject Areas menu is displayed
 - b. From the Select Subject Area menu, select the subject area for which you want to create the prompt. The Definition pane is displayed.
2. To create an inline prompt, either create an analysis or access an existing analysis for which you want to create a prompt. In the Analysis editor, click the **Prompts** tab. The Definition pane is displayed.
3. Click the **New** button in the Definition Pane. From the list, select **Image Prompt**.
4. In the Image Map Prompt Properties dialog, enter a caption for the image prompt in the **Caption** field. The caption is displayed as the prompt's field label.

5. In the **Description** field, enter a short description for the prompt. This description is displayed as tooltip text, which is shown when the user hovers the mouse pointer over the prompt's label in the dashboard or analysis.

The descriptions are also displayed when administrators view the stored prompt object from the Catalog Manager.

6. Enter the location and name of the image in the **Image URL** field.

The image file must reside on a web server. Oracle recommends that you put the image files in the directory that contains all web resource files (for example, `app\res\region3.jpg`). Placing the image files with the web resource files prevents a security warning message from displaying when the user accesses the image from the dashboard or analysis.

However, if you are using a web server, such as WebLogic, where the resource files are located in the deploy directory, you must put the image file in the deploy directory and the directory that contains all web resource files.

7. Enter the appropriate HTML `<map>` tags and data in the **HTML** field. In the map tags, indicate the map region's shape, X and Y coordinates, and region name. For example:

```
<MAP Name="mymap">
<AREA Shape="poly" Coords="70,84,51,300,455"
  Href="http://www.map.com/region1.html">
<AREA Shape="poly" Coords="25,180,125,280,485,668"
  Href="http://www.map.com/region2.html">
<AREA Shape="poly" Coords="152,106,186,225,340,193"
  Href="http://www.map.com/region3.html">
<AREA Shape="poly" Coords="675,763,929,286,10,908"
  Href="http://www.map.com/region43.html">
</MAP>
<IMG Src="../images/imagemap.gif" Width="500" Height="300"
  Alt="Image Map" Usemap="#mymap" Ismap>
```

8. To extract the image map information from the HTML, click **Extract Image Map from HTML**.

The Image Map Prompt Properties dialog expands to show the area titles, shapes, and coordinates that were entered in the **HTML** field.

- For each area, in the **Column** field, enter the name of the column to pass when a user clicks it, and the value to use. The column must be a fully qualified column name in the format Folder.Column Name.
- Place double quotes around any column names that contain spaces. For example:

```
- "Country name"
- "Units shipped"
```

9. Click **OK**. The prompt is displayed in the Definition pane.

10. Save the prompt:

- If you are creating a dashboard prompt, then click the **Save** button in the prompt's editor, specify the folder in which you want to save the prompt, and give the prompt a descriptive name. Dashboard prompts that are saved in personal folders are available only to you. Dashboard prompts that are saved in shared folders are available to other users that have permission to access the object.

- If you are saving a dashboard prompt for use with an Oracle BI Publisher report that receives its data from a SQL query against the Oracle BI Server, Oracle Database, or other JDBC source, then the dashboard prompt's name must match the name of the report's parameter.
 - If you are creating an inline prompt, then save the analysis.
11. Use the arrow buttons in the Definition Pane to reorder the selected prompt. Reordering the prompts controls the order in which the choices are displayed to users at runtime, so ensure that the order is logical, especially if you are creating constrained prompts.
 12. If you want to add a new row or column to the prompts page, then click the **New Row** button or **New Column** button in the Definition pane's toolbar. In the Definition table, click the check box corresponding to the prompt that you want to display in a new row or column.
 13. To preview how the prompt is displayed on the dashboard, either use the Display pane to preview the prompt with sample data, or click the **Preview** button (if available) in the Definition Pane toolbar to view the prompt with actual prompt values.

If the **Preview** button is not available, then the administrator has suppressed its display.

Creating a Currency Prompt

A currency prompt enables users to change the currency type that is displayed in the dashboard or analysis.

When applied to a dashboard or embedded in an analysis, the prompt provides users with a list where they can select a currency. The currency types in this list are specified by the administrator in `userpref_currencies.xml`. The same list of currencies is displayed in the Preferences tab of the My Account dialog.

Use the following procedure to create a currency prompt that you can apply to one or more dashboards, or to create a currency prompt that is embedded in an analysis. See [Editing Prompts](#).

1. To create a named currency prompt, use the following sub-procedure.
 - a. Navigate to the Oracle BI Enterprise Edition Home page, locate the global header, hover the mouse pointer over the **New** menu to access the menu, and select **Dashboard Prompt**.
 - b. From the Select Subject Area menu, select the subject area for which you want to create the prompt. The Definition pane is displayed.
2. To create an inline prompt, either create an analysis or access an existing analysis for which you want to create a prompt. In the Analysis editor, click the **Prompts** tab.
3. In the Definition pane, click **New** . From the list, select **Currency Prompt**.

The Currency Prompt option is available only if the administrator has configured the `userpref_currencies.xml` file. See *Configuring Currency Options in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.
4. In the New Prompt dialog, enter a label for the currency prompt in the **Label** field. The label is displayed as the prompt's field label.

5. In the **Description** field, enter a short description for the prompt. This description is displayed as tooltip text, which is displayed when the user hovers the mouse pointer over the prompt's label in the dashboard or analysis. The descriptions are also displayed when administrators view the stored prompt object from the Catalog Manager.
6. Click **OK**. The prompt displays in the Definition pane.
7. Save the prompt:
 - If you are creating a dashboard prompt, then click the **Save** button in the prompt's editor, specify the folder in which you want to save the prompt, and give the prompt a descriptive name. Dashboard prompts that are saved in personal folders are available only to you. Dashboard prompts that are saved in shared folders are available to other users that have permission to access the object.
 - If you are saving a dashboard prompt for use with an Oracle BI Publisher report that receives its data from a SQL query against the Oracle BI Server, Oracle Database, or other JDBC source, then the dashboard prompt's name must match the name of the report's parameter.
 - If you are creating an inline prompt, then save the analysis.
8. Use the arrow buttons in the Definition Pane to reorder the selected prompt. Reordering the prompts controls the order in which the choices are displayed to users at runtime, so ensure that the order is logical, especially if you are creating constrained prompts.
9. If you want to add a new row or column to the prompts page, then click **New Row** or **New Column** in the Definition pane's toolbar. In the Definition table, click the check box corresponding to the prompt that you want to display in a new row or column.
10. To preview how the prompt is displayed on the dashboard, either use the Display pane to preview the prompt with sample data, or click the **Preview** button (if available) in the Definition pane toolbar to view the prompt with actual prompt values.

If the **Preview** button is not available, then the administrator has suppressed its display.

Creating a Variable Prompt

You can create a variable prompt that you can apply to one or more dashboards, or to create a variable prompt that is embedded in an analysis.

A variable prompt is not dependent upon a column, but can still use a column. For example, you can use variable prompts to enable the user to specify existing data to perform sales projections. You might create a variable prompt called Sales Projections and specify the variable prompt values as 10, 20, and 30 percent. Then you create an analysis that contains the Region and Dollars columns. Within the Dollars column formula, you select the multiply operator and insert the Sales Projection variable. When users run this analysis, they can select a percentage by which to recalculate the Dollars column.

See [Other Prompt Types](#), [Using Variables](#), and [Editing Prompts](#).

1. To create a named variable prompt:

- a. Navigate to the Oracle BI Enterprise Edition Home page, locate the global header, hover over the **New** menu to access the menu, and from the menu select **Dashboard Prompt**.
 - b. From the Select Subject Area menu, select the subject area for which you want to create the prompt.
2. To create an inline prompt, either create an analysis or access an existing analysis for which you want to create a prompt. In the Analysis editor, click the **Prompts** tab.
3. In the Definition Pane, click the **New** button and select **Variable Prompt** from the list.
4. In New Prompt dialog **Prompt for** box, select the variable type that you are creating and then enter the name of the variable.
5. In the **Label** field, enter a caption for the variable filter prompt. The caption is displayed as the prompt's field label.
6. In the **Description** field, enter a short description for the prompt. This description is displayed as tooltip text, which is displayed when the user hovers the mouse pointer over the prompt's label in the dashboard or analysis. The descriptions are also displayed when administrators view the stored prompt object from the Catalog Manager.
7. In the **User Input** field, select how you want the prompt interface to ask the user for input. For example, prompt the user with a radio button to select only one prompt value.
8. If you selected either the **Choice List**, **Check boxes**, **Radio buttons**, and **List box** user input type, then you must also specify the prompt's list of values.
9. Within the Options section, select the prompt options. The prompt options vary depending on the user input type that you selected. The prompt options allow you to further specify how you want the user to interact with the prompt (for example, whether user input is required).
10. In the **Default selection** field, select the prompt value that users see initially. If you select a specific value, then the **Default Value** field is displayed in which you can enter a value.
11. Save the prompt:
 - If you are creating a dashboard prompt, then click the **Save** button in the prompt's editor, specify the folder in which you want to save the prompt, and give the prompt a descriptive name. Dashboard prompts that are saved in personal folders are available only to you. Dashboard prompts that are saved in shared folders are available to other users that have permission to access the object.
 - If you are saving a dashboard prompt for use with an Oracle BI Publisher report that receives its data from a SQL query against the Oracle BI Server, Oracle Database, or other JDBC source, then the dashboard prompt's name must match the name of the report's parameter.
 - If you are creating an inline prompt, then save the analysis.
12. Use the arrow buttons in the Definition Pane to reorder the selected prompt. Reordering the prompts controls the order in which the choices are displayed to users at runtime, so ensure that the order is logical, especially if you are creating constrained prompts.

13. If you want to add a new row or column to the prompts page, then click the **New Row** button or **New Column** button in the Definition pane's toolbar. In the Definition table, click the check box corresponding to the prompt that you want to display in a new row or column.
14. To preview how the prompt is displayed on the dashboard, either use the Display pane to preview the prompt with sample data, or click the **Preview** button (if available) in the Definition Pane toolbar to view the prompt with actual prompt values.

If the **Preview** button is not available, then the administrator has suppressed its display.

Editing Prompts

You can edit a saved dashboard prompt or inline prompt, to propagate its changes to wherever the prompt is used.

For example, you can edit the prompt for the Brand column to change the user input to a choice list. This change is propagated to the Brand Revenue analysis where the prompt is used

If you edit and save a named prompt, the changes that you make to the prompt are propagated to wherever the prompt is used.

1. To open a dashboard prompt:
 - a. In the global header, click **Catalog**.
 - b. On the Catalog page, navigate to the prompt to edit and click the **Edit** link. The Prompt editor is displayed.
2. To open an inline prompt:
 - a. In an analysis, click the **Prompts** tab.
 - b. In the Definition pane highlight the prompt to edit and click the **Edit** button. The Prompt editor is displayed.
3. Make the desired changes.
4. Save the prompt.

Adding a Dashboard Prompt to a Dashboard or Dashboard Page

Adding dashboard prompts to dashboards or dashboard pages allows the user to interact with the dashboard.

See [What Are Inline and Dashboard Prompts?](#)

1. Create a new dashboard or open an existing dashboard and click the **Edit Dashboard** button.

 **Tip:**

When adding a column object to a dashboard, you can drag and drop the column to display vertically on the dashboard. You can then add dashboard prompts to this column, and at runtime, the dashboard's prompts displays in a pane on the side of the dashboard.

2. In the Dashboard builder's Catalog pane, locate and drag and drop an object such as an analysis or KPI watchlist onto a section in the dashboard.
3. In the Dashboard builder's Catalog pane, locate and drag and drop the dashboard prompt onto a section in the dashboard.

 **Tip:**

If you do not want a new browser window to open after the user selects prompt values, then click the dashboard section's **More Option** button and select **Drill in Place**.

4. Hover the mouse pointer over the prompt object in the Page Layout area to display the object's toolbar, click the **Properties** button, and select **Scope** to choose an option:
 - If you select **Dashboard**, then the prompt affects all dashboard pages that contain the prompt. The prompt value that the user selects for the dashboard level prompt overrides values for page level dashboard prompts.
 - If you select **Page**, then the dashboard prompt affects only the page or pages to which you add the prompt.
5. Hover the mouse pointer over the prompt object in the Page Layout area to display the object's toolbar, click the **Properties** button, and select **Prompt Links....** In the Prompt Links dialog, specify whether to display the **Edit** and **Copy** links with the prompt at runtime.

Adding a Hidden Dashboard Prompt to a Dashboard or Dashboard Page

You can add a hidden dashboard prompt to a dashboard or dashboard pages.

At runtime, the hidden dashboard prompt sets the default values for all of the corresponding prompts on the dashboard or dashboard page, and the unprotected inline prompts that are located on the analyses on the dashboard or dashboard page. You can add one or more hidden dashboard prompts to the dashboard or dashboard page.

1. Create and save a dashboard prompt, which contains specific data values, to use as a hidden prompt.
2. Create a new dashboard or open an existing dashboard and click the **Edit Dashboard** button.
3. In the Dashboard builder, click the **Tools** button and select **Dashboard Properties**. The Dashboard Properties dialog is displayed.

4. If you want to add the hidden prompt to the whole dashboard, then click the **Filters and variables Edit** button. The Dashboard Filters and Variables dialog is displayed.

If you want to add the hidden prompt to a dashboard page, then select the page from the Dashboard Pages table and click the **Select a prompt to capture default filters and variables** button, which is located above the Dashboard Pages table. The Filters and Variables - page dialog is displayed.

5. Click the **Embed New Hidden Dashboard Prompt** button to browse for and select the dashboard prompt. Click **OK**.
6. In the Dashboard Properties page, click the **OK** button to save the dashboard's properties.

8

Formatting Analyses, Views, and Dashboard Pages

This chapter explains how to apply formatting to analyses, views, and dashboard pages in Oracle Business Intelligence Enterprise Edition. It describes cosmetic formatting, conditional formatting, custom format masks, and custom format strings.

Topics

This chapter includes the following sections:

- [What Can be Formatted?](#)
- [Formatting Columns in Analyses](#)
- [What is Cosmetic Formatting?](#)
- [Applying Conditional Formatting to Tables, Pivot Tables, Performance Tiles, Graphs, Heat Matrixes, and Trellises](#)
- [Storing Custom Files Locally and Using the fmap Function to Reference Them](#)
- [Custom Format Masks](#)
- [Custom Format Strings](#)

What Can be Formatted?

After you create and run an analysis, default formatting rules are applied to the analysis' results.

Default formatting rules are based on cascading style sheets and XML message files. You can create additional formatting to apply to specific results. Additional formats help you to highlight blocks of related information and call attention to specific data elements. You can also use additional formatting to customize the general appearance of analyses and dashboards.

You can apply formatting to the following:

- Columns in analyses. See [Applying Formatting to Columns in Analyses](#)
- Views. See [Applying Formatting to Views](#)
- Dashboard pages. See [Applying Formatting to Dashboard Pages](#)

Applying Formatting to Columns in Analyses

As you work with columns in an analysis, you can specify their formatting.

The formatting that you apply is visible when the column is displayed in views such as tables and pivot tables. See [Formatting Columns in Analyses](#).

Applying Formatting to Views

There are multiple ways to apply formatting to views.

You can apply formatting to views in the following ways:

- In the View editor: When you edit a view in its editor, you can generally display various dialogs that allow you to format either the view itself or its pieces, as applicable. Formatting options are unique to the view type. Formatting that you specify in the view editor overrides any formatting that was specified for columns.
- In the Compound Layout: When you use the Compound Layout, you can click a button on the toolbar of the container for each view to display a formatting dialog. Use that dialog to apply formatting to the view's container, such as to place a green background on the container for a table.

Applying Formatting to Dashboard Pages

You can apply formatting to the page layout columns and sections of dashboard pages.

When you edit a dashboard page, you can edit the properties of its columns and sections and apply cosmetic formatting. For information, see [What is Cosmetic Formatting?](#) and [Building and Using Dashboards](#).

Formatting Columns in Analyses

Applying specific formatting to columns helps bring attention to data when it meets criteria.

When you build an analysis, you can edit properties for columns to control their appearance and layout. You can also specify formatting to apply only if the contents of the column meet certain conditions. By default, the specifications for a column apply only to the current analysis.

If your account has the appropriate privileges, then you can save the user-specified column properties as the systemwide default settings to use every time that data from that column, or columns of that particular data type, is displayed in results. The properties that you can save as defaults include formatting ones and other properties such as those that affect interactions and data write back.

Because groups and calculated items are simply members of their respective columns, they inherit the formatting from the column and follow the same precedence order as for other members, unless you specifically apply formatting to the groups or calculated items.

This section contains the following topics:

- [What Kinds of Formatting Can I Apply?](#)
- [Applying Formatting to a Column](#)
- [Saving Formatting Defaults](#)

What Kinds of Formatting Can I Apply?

You can use the tabs in the Column Properties dialog to customize how content is displayed for columns in views. Hierarchy levels provide an additional detail of formatting for hierarchical columns.

The following list provides examples of the kinds of formatting that you can apply:

- Apply cosmetic formatting to the column or hierarchy level, such as font family and size.
- Assign alternate folder and column heading names and apply custom formatting to them.
- Control the display of duplicate data, such as repeating column labels.
- Override the default formatting for columns and data values with custom formatting.
- Apply conditional formatting to the column or hierarchy level, which enables different formatting to be applied based on the values. For example, values greater than \$1 million can be formatted with a green color.

Applying Formatting to a Column

You can set default formatting for columns.

You can override the default settings by formatting columns in editors for data views, such as tables.

1. Open the analysis in which you want to edit formatting and behavior in the Criteria tab of the Analysis editor, and then:
2. Add or locate the column or hierarchy level to modify. (Expand a hierarchical column to see its levels.)
3. Click the **Options** button to the right of the column name or hierarchy level name in the Selected Columns pane, and click **Column Properties** or **Hierarchy Level Properties**.
4. In the Column Properties dialog, click the **Style** tab and specify how you want each cell and its contents to be displayed in the analysis. For example, change the cell border to red and the cell content to be displayed in a 14-point Arial font.
5. In the Column Properties dialog, click the **Column Format** tab to specify various properties such as those for heading names and value suppression.
6. Click the **Data Format** tab to specify how you want to override the data's default display characteristics. The options that display on this tab depend upon the data type (text, date and time zone, or numeric).
7. Click the **Conditional Format** tab to add conditional formatting to a column or hierarchy level.
8. If you accessed the Column Properties dialog from the Criteria tab, you can optionally click **Save as Default** and click the appropriate option to restore or to save defaults, if you have the appropriate privileges.
9. Click **OK** to save your changes.

Saving Formatting Defaults

You can override column formatting defaults using the provided style sheet.

When you use the tabs in the Column Properties dialog to customize how content is displayed for columns in views, you override the Oracle Business Intelligence style sheet and the system defaults for the column or hierarchy level.

You have the option of saving the modified properties for just the column or hierarchy level within the analysis, of saving the properties as systemwide defaults for the data type, or of saving the properties as systemwide defaults for the column or hierarchy level so that its formatting and behavior is the same no matter in which analysis it displays. Anyone who uses this column or hierarchy level or a column or hierarchy level of this data type in subsequent analyses therefore uses the settings in the Column Properties dialog by default. To save systemwide properties, you must have the appropriate privileges.

The ability to set a systemwide default can provide consistency and save time within your organization. For example, suppose that your organization had decided to use Arial as the font family for all text columns in all analyses. Suppose that a decision is later made to switch to Times New Roman for all text columns. You can simply save Times New Roman as the systemwide default for text columns. All existing analyses that contain text columns in which the font family is specified as Default (Arial) are updated automatically.

What is Cosmetic Formatting?

Cosmetic formatting affects the visual appearance of data in columns and hierarchy levels, views, and columns and sections on dashboard pages.

You can apply cosmetic formatting, copy and paste cosmetic formatting attributes, and save a formatted analysis to use with the columns of another analysis.

You can display various dialogs that provide access to and control over various cosmetic attributes. Depending on the object that you are formatting, the dialog displays different options, such as font, cell, and border controls, background color, additional formatting options such as cell padding, and custom CSS style options for HTML.

Using a Saved Analysis to Modify the Cosmetic Appearance of Other Analyses

You can import the formatting from a saved analysis into other analyses.

After you have customized the cosmetic appearance of an analysis using the Criteria tab and the Results tab and have saved it, you can import the formatting from the saved analysis and its views to new or existing analyses. Some views, such as gauge, graph, heat matrix, performance tile, and treemap do not support formatting by importing. This section contains the following topics:

- [Where is the Import Formatting From Another Analysis Button?](#)
- [Which View Types Support Imported Formatting?](#)
- [How is Imported Formatting Applied?](#)

- [Importing Formatting Using a Saved Analysis](#)

Where is the Import Formatting From Another Analysis Button?

You can use a saved analysis to modify the cosmetic appearance of other views by clicking the **Import formatting from another analysis** button.

This button is available on the following toolbars:

- The Compound Layout toolbar — When you click this button, the formatting is applied to all applicable views in the layout. See [Applying Formatting from Containers](#).
- The view editor toolbar — When you click this button, the formatting is applied only to the view that you are editing. See [Which View Types Support Imported Formatting?](#).

Which View Types Support Imported Formatting?

Some view types support formatting imported from other views.

The following list describes the components that support the use of a saved analysis for formatting other views:

- **View Types** — You can import formatting from the following view types:
 - Legend — Imports formatting for the legend title, the caption, and the legend container. Textual content is not imported.
 - Narrative — Imports only the text font color. Textual properties such as prefix, postfix, and narrative texts are not imported.
 - Pivot table, table, and trellis — Imports formatting for the columns, green bar specifications, sub-totals and grand totals, and section properties.
 - Static Text — Imports only the text font color. Textual content is not imported.
 - Title — Imports formatting for the title, logo, subtitle, start time, and help URL.
 - View Selector — Imports only the caption formatting.
- **Compound Layout** — You can import formatting that was specified after clicking the **Format Container** button for the view in the Compound Layout.

How is Imported Formatting Applied?

Imported formatting is applied differently than local formatting.

Formatting is applied slightly differently depending on whether you are importing formatting that was applied to columns, to views, or to view containers in the Compound Layout.

Applying Formatting from Columns

This functionality works best for views when attribute, measure, or hierarchical column numbers align precisely or for a single column template that can be applied to all columns.

If a single column exists in the saved analysis, then its formatting is applied to all columns in the tables, pivot tables, and trellises of the target analysis.

For multiple columns, formatting is applied positionally, from left to right for column headings and values. A column that exceeds the number in the saved analysis gets the closest column's format repeated. For example, suppose the saved analysis contains four columns formatted with these colors in this order: red, green, blue, yellow. In the target analysis, its six columns would acquire these colors in this order: red, green, blue, yellow, yellow, yellow.

Applying Formatting from Views

Formatting is applied to a view only if a view of that type exists in the target analysis.

The imported formatting applies to all views of that type in the target analysis. For example, suppose that a saved analysis contains a legend to which you have customized formatting. If you import that formatting into a target analysis that contains three legends, then all three legends inherit that formatting.

Applying Formatting from Containers

In the Compound Layout, you can specify formatting properties (such as background color, borders, and padding) for view containers.

When you import that container formatting using a saved analysis, the views in the target analysis inherit the exact container formatting properties as the views in the saved analysis.

The layout of the views in the two analyses need not be exactly the same for container formatting to work correctly. If the target analysis contains more views than the source analysis, then the extra views inherit the imported formatting. For example, suppose a saved analysis contains two tables that are stacked on top of each other in the Compound Layout. Suppose the target analysis contains four tables that are laid out two by two. The source analysis has only one layout column of two table views. The two tables in each of the first and second layout columns of the target analysis inherit the applied formatting.

Importing Formatting Using a Saved Analysis

Using a saved analysis to import formatting helps ensure consistency across analyses.

You can use the format of a saved analysis like a template.

1. Display either the analysis in which you want to import formatting in the Results tab of the Analysis editor, or display the view in its editor.
2. Click the **Import formatting from another analysis** button.
3. In the Select Analysis dialog, navigate to the saved analysis and click **OK**.

Applying Conditional Formatting to Tables, Pivot Tables, Performance Tiles, Graphs, Heat Matrixes, and Trellises

In tables, pivot tables, performance tiles, graphs, heat matrixes, and trellises conditional formatting helps direct attention to a data element if it meets a certain condition.

For example, you can show below-quota sales figures in a certain color, or display an image such as a trophy next to the name of each salesperson who exceeds quota by a certain percent.

This section describes how to apply conditional formatting in tables, pivot tables, performance tiles, heat matrixes, and trellises. See [Graph Formatting Based on Columns](#). This section contains the following topics:

- [How is Conditional Formatting Applied?](#)
- [Can Conditional Formats Be Based on Another Column?](#)
- [What Factors Affect Conditional Formats?](#)
- [Applying Conditional Formatting](#)
- [Example of Conditional Formatting for Ranking](#)

How is Conditional Formatting Applied?

You apply conditional formatting by selecting one or more columns or hierarchy levels in the analysis to use, specifying the condition to meet, and then making specifications for font, cell, border, and style sheet options to apply when the condition is met.

The conditional formats can include colors, fonts, images, and so on, for the data and for the cell that contains the data. Your specifications apply only to the contents of the columns or hierarchy levels in the tables and pivot tables for the analysis with which you are working.

You can add multiple conditions so that the data is displayed in one of several formats, based upon the value of the data. For example, below-quota sales can be displayed in one color, and above-quota sales can be displayed in another color. When you specify multiple conditions, all the conditions are verified and the formats are merged for the conditions that are true. In the event of a conflict when trying to merge multiple formats, the condition that is last verified as true affects the format that is displayed.

Conditional formatting is not supported for direct database requests.

Can Conditional Formats Be Based on Another Column?

You can create conditional formats to apply to one column based on the values of a second column, for display in tables, pivot tables, and trellises.

For example, you can create a conditional format to color the D50 Region column green when values of the 1 - Revenue column are greater than \$9 million, as shown.

T05 Per Name Year	D50 Region	1- Revenue
2010	AMERICAS	6,958,556
	APAC	7,092,042
	EMEA	9,449,403
2011	AMERICAS	6,767,910
	APAC	6,985,977
	EMEA	9,246,113
2012	AMERICAS	6,918,876
	APAC	7,221,563
	EMEA	9,359,560

You can create a condition using a column that is not displayed in views for the analysis, if you use the **Hide** option on the Column Format tab of the Column Properties dialog. If you place the column in the Excluded drop target of the Layout pane, then you cannot create a condition using that column.

Conditional formatting is applied based on the underlying value, even if you select the **Show Data As** options in the Layout pane to show the data as percentages or indexes.

Performance tiles cannot inherit conditional formatting based on another column, nor do performance tiles have an Excluded drop target.

What Factors Affect Conditional Formats?

Conditional formats are affected by a variety of factors.

The way that conditional formats are applied to columns depends on the factors that are described in the following list:

- [Layout, Order, and Conditional Formats](#)
- [Value Suppression and Conditional Formats](#)

Layout, Order, and Conditional Formats

The layout of the columns in the view affects the conditional formatting of the values of one column when the conditional format is based on another column.

Changing the layout of the columns in the view can change the display of the conditional formats. For example, suppose that you specify a conditional format on the D50 Region column where T05 Per Name Year is 2009. If D50 Region and T05 Per Name Year are on opposite edges of the pivot table, then no conditional formatting is visible.

The order of the columns as they are displayed in the view also affects conditional formatting. The order in the view affects the "grain" at which the values are displayed. You can think of "grain" as a level of aggregation. The conditional format applies when the column to format is displayed at a finer grain or the same grain as the column on which the format is based. If the column being formatted is of a higher grain than the column on which the format is based, then the format applies only if the condition is based on a measure column. If the format is based on an attribute column and the column to format is displayed at a higher grain, then the conditional format does not apply.

For example, consider the table in the illustration that follows. A conditional format has been specified to color the D50 Region when T05 Per Name Year is 2011. Notice that no light blue coloring is visible because D50 Region is on a different edge than T05 Per Name Year. See [Value Suppression and Conditional Formats](#).

Pivot Table

	2010	2011	2012
D50 Region	1- Revenue	1- Revenue	1- Revenue
AMERICAS	6,958,556	6,767,910	6,918,876
APAC	7,092,042	6,985,977	7,221,563
EMEA	9,449,403	9,246,113	9,359,560

Suppose that you change the order of the columns so that T05 Per Name Year is the first column in the table. Then the T05 Per Name Year column is displayed at a higher grain, and the appropriate conditional formatting is applied to the D50 Region column. The illustration that follows shows a pivot table with the appropriate conditional formatting.

Pivot Table (2)

T05 Per Name Year	D50 Region	1- Revenue
2010	AMERICAS	6,958,556
	APAC	7,092,042
	EMEA	9,449,403
2011	AMERICAS	6,767,910
	APAC	6,985,977
	EMEA	9,246,113
2012	AMERICAS	6,918,876
	APAC	7,221,563
	EMEA	9,359,560

Conditional formats can be displayed on any edge of the table, pivot table, or trellis. On the Prompts drop target (also known as the "page edge"), the conditional format applies only to the column member that is currently selected for that target. For example, suppose that you have a D50 Region column that has the members AMERICAS, APAC, and EMEA. Suppose the D50 Region column is on the Prompts drop target for a pivot table and the conditional format is set to color the region name green if 1 - Revenue is greater than \$6.5 million. If AMERICAS is the only region that meets that condition, then AMERICAS is colored green only when it is selected for the Prompts drop target.

Value Suppression and Conditional Formats

For tables, the value suppression setting in the Column Format tab of the Column Properties dialog affects conditional formatting.

If you set value suppression to **Repeat**, then the column that you are formatting is displayed at the detail grain of the view. No aggregation is needed on the column on which the format is based for applying the conditional format.

For example, consider the table in the first illustration. A conditional format has been applied to color the D50 Region column light blue when T05 Per Name Year is 2011. Notice that no light blue coloring is visible, because the value suppression is set to **Suppress**, which does not allow for repeating column values for the members of D50 Region.

D50 Region	T05 Per Name Year	1 - Revenue
AMERICAS	2010	6,958,556
	2011	6,767,910
	2012	6,918,876
APAC	2010	7,092,042
	2011	6,985,977
	2012	7,221,563
EMEA	2010	9,449,403
	2011	9,246,113
	2012	9,359,560

If the value suppression is set to **Repeat**, then column members are repeated and the appropriate conditional formatting is applied. The following illustration shows a table with repeat value suppression.

D50 Region	T05 Per Name Year	1- Revenue
AMERICAS	2010	6,958,556
AMERICAS	2011	6,767,910
AMERICAS	2012	6,918,876
APAC	2010	7,092,042
APAC	2011	6,985,977
APAC	2012	7,221,563
EMEA	2010	9,449,403
EMEA	2011	9,246,113
EMEA	2012	9,359,560

Applying Conditional Formatting

You can apply specified properties to analyses when specific conditions are met.

Conditional formatting allows you to bring attention to data based on specified conditions, such as making a negative number red bold text.

1. Open the analysis in which you want to edit formatting and behavior in the Criteria tab of the Analysis editor.

You can also apply conditional formatting to a performance tile from the Performance Tile editor of the Results tab by clicking the **Edit Conditional Formatting** link in the Performance Tile Properties dialog. This opens the Conditional Formatting dialog. You would then add the conditional formatting to your tile by completing steps 4 through 6 below. Conditional format is not reflected in the Styles pane.

2. Add or locate the column or hierarchy level to modify. Click the **Options** button to the right of the column name in the Selected Columns pane, and click **Column Properties** or **Hierarchy Level Properties**. The Column Properties dialog is displayed.

3. Click the **Conditional Format** tab of the Column Properties dialog.

You cannot apply conditional formatting to the data cell background or font color in a heat matrix.

4. Click **Add Condition**, then select the column to which to apply the condition.
5. Complete the New Condition dialog. You can click the **Edit Condition** button to the right of the condition name to display the Edit Condition dialog.

When you access the New Condition dialog from the Conditional Format tab, the dialog shows only the options that apply to conditional formats. For example, the Operator list shows the subset of operators that are used in conditional formats, and you can apply only presentation variables.

6. Complete the Edit Format dialog to apply formatting for the condition.

Example of Conditional Formatting for Ranking

This example describes how conditional formatting can be applied to results to show ranking.

Suppose an analysis includes ten ranking categories, with a value of 1 in the column indicating the worst ranking, and a value of 10 indicating the best ranking. You could create three conditional formats to show the following:

- One image to indicate a low rank for columns that contain 1, 2, or 3.
- Another image to indicate an average rank for columns that contain 4, 5, 6, or 7.
- A third image to indicate a high rank for columns that contain 8, 9, or 10.

In the Graphics dialog, selecting the **Images Only** image placement option would cause the columns to be displayed with only images, and not the ranking numbers, in the results.

Storing Custom Files Locally and Using the fmap Function to Reference Them

You can store custom files, such as images and help files, locally in your Oracle Business Intelligence environment and then reference them using the fmap function.

For example, you can store an image locally to display in a title view. Then, when you specify the image for the title view in the Title editor, you can use the fmap function to reference it.

To store custom files locally, you must use the following directory and expose it according to the instructions for the HTTP Server that your organization uses:

```
ORACLE_HOME\bi\bifoundation\web\appv2
```

See Approach 2: Deploying Using Shared Folders.

You can store files directly in this directory or its subdirectories. Because the `analyticsRes` directory gets replicated for every instance that is populated, you must replicate the custom files in each instance. It is strongly recommended that you use ASCII characters for names of custom files that you reference using the fmap syntax.



Note:

Store logo images and graphics are located in the `analyticsRes` directory in the same folder.

To reference custom files that are stored in the `analyticsRes` directory, use the following fmap syntax:

```
fmap:location/file_name
```

where:

- *location/* is the subdirectory path in the `analyticsRes` directory in which the custom file resides, if the custom file resides in a subdirectory of `analyticsRes` (for example: `Images/`).
- *file_name* is the name of the custom file (for example: `newlogo.gif`).

The following are examples of `fmap` commands:

```
fmap:mylogo.gif
fmap:Images/newlogo.gif
```

If you are trying to save an object that uses the `fmap` syntax, then you must have the Save Content with HTML Markup privilege. See *Security Guide for Oracle Business Intelligence Enterprise Edition* for information on privileges.

Custom Format Masks

A custom format mask provides additional options for formatting a column that contains numeric data (for example, revenue or billed quantity).

To set a custom format mask for a column that contains numeric data, you use the **Treat Numbers As** field in conjunction with the **Custom Numeric** field. See the Data Format tab of the Column Properties dialog for additional information.

The following table shows the mask character and a description. The third column is a specific example of a numeric field that uses the mask for the United States with a language-base of English.

Mask Character	Description	Example
#	Use a pound sign or hash mark for an optional digit (preceding and trailing zeroes will be removed)	Specifying #,###,##0.## as the mask for 12345.67, yields 12,345.67.
0	Use a zero for a required digit	Specifying #0.##0 as the mask for 12.34, yields 12.340.
" "	Use double quotations to display anything verbatim If you use the double quotations mask character to represent numeric data, you must remove the explicit mask character prior to exporting the results of the analysis to Excel because Excel cannot translate the mask character.	Specifying "++++" as part of a mask, yields +++++.
;	Use a semicolon to separate positive, negative, and null formats	Specifying "+"#0.000;"-"#0.000;"nulls" as the mask for 467482.18, yields +467482.18. See the illustration that follows.
[\$]	Use as a locale-specific currency symbol	Specifying [\$]#,##0.## as the mask for 5000.48, yields \$5,000.48 for a user having English-United States selected as the locale, and £5,000.48 if English-United Kingdom is selected as the locale.

The decimal and thousands separator characters that you use in the **Custom Numeric** field to define the format mask are always the:

- **Period** — Used to separate the whole part from the fractional part of a number
- **Comma** — Used to separate thousands

However, the separator characters that are actually displayed in analyses and dashboards are dependent upon the country and language in which you are running Oracle BI EE.

The following table shows examples for specific countries and language combinations. The examples shown in this table are not all inclusive, and are correct at the time of writing.

Format to Display	Use This Format Mask in BI EE	Pre-defined Country (Language) Separator Character	Typically Used in This Country (Language)
Decimal: 123,45 Thousands: 6.789	Decimal: ###.## Thousands: #,###	Decimal: , (comma) Thousands: . (period)	Argentina (Spanish), Denmark (Danish), Ecuador (Spanish), Germany (German), Greece (Greek), Italy (Italian), and Liechtenstein (German)
Decimal: 123.45 Thousands: 6,789	Decimal: ###.## Thousands: #,###	Decimal: . (period) Thousands: , (comma)	Australia (English), Egypt (Arabic), Guatemala (Spanish), Israel (Hebrew), Japan (Japanese), Singapore (Chinese), and the United States (English)
Decimal: 123.45 Thousands: 6'789	Decimal: ###.## Thousands: #,###	Decimal: . (period) Thousands: ' (apostrophe)	Switzerland (French, German, and Italian)
Decimal: 123,45 Thousands: 6 789	Decimal: ###.## Thousands: #,###	Decimal: , (comma) Thousands: (space)	Finland (Finish), Poland (Polish), and Sweden (Swedish)

A custom format mask allows you to override both the negative and null format by providing separate masks that are separated by semicolons. A fully defined mask might appear as `positivemask;negativemask>nullmask`. See the example shown.

- If you omit the null mask, then a blank displays for a null value.
- If you omit the negative mask, then the positive mask displays for the negative mask.
- You must use a negative mask, if you want to use a null mask.
- If you use all #'s as the mask, the value zero (0) displays as blank.
- In Excel, a fully defined mask might appear as `positivemask;negativemask;zeromask;text`. When you export a column that uses a null mask, the null mask is dropped because Excel does not support it. In addition, Excel's zero mask is not used as Oracle BI EE does not support a zero mask.

The example illustration shows a table of revenue that includes a year ago revenue calculation and a quarterly compounded yearly growth calculation by year and quarter for the Americas. The same custom format mask was used for all measure columns, and the text `null` was set to display for the measure calculation. See [Understanding Null Suppression](#). The custom format mask used in this table for the three columns is: `"+"#0.000;"-"#0.000;"null"`.

- A plus sign with a two decimal position mask displays for a positive number.
- A minus sign with a two decimal position mask displays for a negative number.
- If the value of the measure is null, the word `null` displays.

T05 Per Name Year	T03 Per Name Qtr	1- Revenue	155 Rev (Yago Full Year Sum)	133 Rev QAgO Compounded Yrly Gwth
2010	2010 Q1	+1089882.640	null	null
	2010 Q2	+2237585.990	null	+1676.642
	2010 Q3	+2094993.090	null	-23.156
	2010 Q4	+1536093.890	null	-71.097
2011	2011 Q1	+1060459.120	+6958555.610	-77.285
	2011 Q2	+2157762.270	+6958555.610	+1614.110
	2011 Q3	+2188051.930	+6958555.610	+5.734
	2011 Q4	+1361636.810	+6958555.610	-85.003
2012	2012 Q1	+1114405.490	+6767910.130	-55.133
	2012 Q2	+1833007.340	+6767910.130	+631.954
	2012 Q3	+2505106.440	+6767910.130	+248.857
	2012 Q4	+1466357.150	+6767910.130	-88.260

1. Open the analysis in which you want to edit formatting in the Criteria tab of the Analysis editor.
2. Add or locate the column to modify.
3. Click the **Options** button to the right of the column name in the Selected Columns pane.
4. Click **Column Properties**. The Column Properties dialog is displayed.
5. Click the **Data Format** tab of the Column Properties dialog.
6. Select the **Override Default Data Format** check box.
7. Select **Custom** from the **Treat Numbers As** list.
8. Enter the mask for the numeric field in the **Custom Numeric Format** text box and click the **OK** button.

Custom Format Strings

Custom format strings provide additional options for formatting columns or hierarchy levels that contain time stamps, dates, and times.

To set custom format strings to a column or hierarchy level, you use the **Custom Date Format** field (for date and time fields) or the **Custom Numeric Format** field (for numeric fields) in the Data Format tab of the Column Properties dialog.

This section contains the following topics:

- [Custom Format Strings for Date and Time Fields](#)
- [Custom Format Strings for Numeric Fields](#)

Custom Format Strings for Date and Time Fields

You can set custom format strings to a column or hierarchy level in the **Custom Date Format** field in the Data Format tab of the Column Properties dialog.

This section contains the following topics:

- [General Custom Format Strings](#)
- [ODBC Custom Format Strings](#)

General Custom Format Strings

You can create custom time or date formats using these strings.

The table shows the general custom format strings and the results that they display. These allow the display of date and time fields in the user's locale.

General Format String	Result
[FMT:dateShort]	Formats the date in the locale's short date format. You can also type [FMT:date].
[FMT:dateLong]	Formats the date in the locale's long date format.
[FMT:dateInput]	Formats the date in a format acceptable for input back into the system.
[FMT:time]	Formats the time in the locale's time format.
[FMT:timeHourMin]	Formats the time in the locale's time format but omits the seconds.
[FMT:timeInput]	Formats the time in a format acceptable for input back into the system.
[FMT:timeInputHourMin]	Formats the time in a format acceptable for input back into the system, but omits the seconds.
[FMT:timeStampShort]	Equivalent to typing [FMT:dateShort] [FMT:time]. Formats the date in the locale's short date format and the time in the locale's time format. You can also type [FMT:timeStamp].
[FMT:timeStampLong]	Equivalent to typing [FMT:dateLong] [FMT:time]. Formats the date in the locale's long date format and the time in the locale's time format.
[FMT:timeStampInput]	Equivalent to [FMT:dateInput] [FMT:timeInput]. Formats the date and the time in a format acceptable for input back into the system.
[FMT:timeHour]	Formats the hour field only in the locale's format, such as 8 PM.
YY or yy	Displays the last two digits of the year, padded to the left with zero, if necessary, for example, 01 for 2001.
YYY or yyy	Displays the four-digit year, padded to the left with zero, if necessary, for example, 0523.

General Format String	Result
YYYY or yyyy	Displays the four- digit year, for example, 2011
M	Displays the numeric month, for example, 2 for February.
MM	Displays the numeric month, padded to the left with zero for single-digit months, for example, 02 for February.
MMM	Displays the abbreviated name of the month in the user's locale, for example, Feb.
MMMM	Displays the full name of the month in the user's locale, for example, February.
D or d	Displays the day of the month, for example, 1.
DD or dd	Displays the day of the month, padded to the left with zero for single-digit days, for example, 01.
DDD or ddd	Displays the abbreviated name of the day of the week in the user's locale, for example, Thu for Thursday.
DDDD or dddd	Displays the full name of the day of the week in the user's locale, for example, Thursday.
DDDDD or ddddd	Displays the first letter of the name of the day of the week in the user's locale, for example, T for Thursday.
h	Displays the hour in 12-hour time, for example 2.
H	Displays the hour in 24-hour time, for example, 23.
hh	Displays the hour in 12-hour time, padded to the left with zero for single-digit hours, for example, 01.
HH	Displays the hour in 24-hour time, padded to the left with zero for single digit hours, for example, 23.
m	Displays the minute, for example, 7.
mm	Displays the minute, padded to the left with zero for single-digit minutes, for example, 07.
s	Displays the second, for example, 2. You can also include decimals in the string, such as s.# or s.00 (where # means an optional digit, and 0 means a required digit).
ss	Displays the second, padded to the left with zero for single-digit seconds, for example, 02. You can also include decimals in the string, such as ss.# or ss.00 (where # means an optional digit, and 0 means a required digit).
t	Displays the first letter of the abbreviation for ante meridiem or post meridiem in the user's locale, for example, a.
tt	Displays the abbreviation for ante meridiem or post meridiem in the user's locale, for example, pm.
gg	Displays the era in the user's locale.

ODBC Custom Format Strings

You can create custom format strings using ODBC.

The table shows the ODBC standard type custom format strings and the results that they display. These strings display date and time fields according to the ODBC standard.

ODBC Format String	Result
[FMT:dateODBC]	Formats the date in standard ODBC yyyy-mm-dd format (4-digit year, 2-digit month, 2-digit day).
[FMT:timeODBC]	Formats the time in standard ODBC hh:mm:ss format (2-digit hour, 2-digit minute, 2-digit second).
[FMT:timeStampODBC]	Equivalent to typing [FMT:dateODBC] [FMT:timeStampODBC]. Formats the date in yyyy-mm-dd format, and the time in hh:mm:ss format.
[FMT:dateTyped]	Displays the word <i>date</i> and then shows the date, in standard ODBC yyyy-mm-dd format. The date is shown within single quote characters (').
[FMT:timeTyped]	Displays the word <i>time</i> and then shows the time, in standard ODBC hh:mm:ss format. The time is shown within single quote characters (').
[FMT:timeStampTyped]	Displays the word <i>timestamp</i> and then the timestamp, in standard ODBC yyyy-mm-dd hh:mm:ss format. The timestamp is shown within single quote characters (').

Custom Format Strings for Numeric Fields

Setting custom format strings for numeric fields ensures data is interpreted accurately.

You can set custom format strings to a column or hierarchy level in the **Custom Numeric Format** field in the Data Format tab of the Column Properties dialog.

When applying a format from a different data type—for example, applying a date type format to a numeric field—if the actual value is out of bounds, then the format is not applied and instead the original value is displayed. As an example, take the format [MMMM]. If the original value to be converted is 13, then that value is out of bounds because there are only 12 months in a year. The original value, 13, is displayed without being converted to a month name. If the original value is 12, however, then applying the custom format converts the value to the 12th month, that is `December`.

This section contains the following topics:

- [Custom Format Strings for Integral Fields](#)
- [Custom Format Strings for Conversion into Hours](#)
- [Custom Format Strings for Conversion into Hours and Minutes](#)
- [Custom Format Strings for Conversion into Hours, Minutes, and Seconds](#)
- [Custom Format Strings for Displaying Duration](#)

Custom Format Strings for Integral Fields

You can display month and day values using custom format strings.

The table shows the custom format strings that are available when working with integral fields. These allow the display of month and day names in the user's locale.

Integral fields hold integers that represent the month of the year or the day of the week. For months, 1 represents January, 2 represents February, and so on, with 12 representing December. For days of the week, 1 represents Sunday, 2 represents Monday, and so on, with 7 representing Saturday.

Integral Field Format String	Result
[MMM]	Displays the abbreviated name of the month in the user's locale.
[MMMM]	Displays the full name of the month in the user's locale.
[DDD]	Displays the abbreviated name of the day of the week in the user's locale.
[DDDD]	Displays the full name of the day of the week in the user's locale.

Custom Format Strings for Conversion into Hours

You can convert a variety of time periods into hour formats.

The table shows the custom format strings that you can use to format data into hours. You use these strings on the following kinds of fields:

- Fields that contain integers or real numbers that represent the time that has elapsed since the beginning of the day (12:00 AM).
- Fields where the output is in [FMT:timeHour] format. (This format displays the hour field only in the locale's format, such as 8 PM.)

Data Conversion Format String	Result
[FMT:timeHour]	This assumes that the value represents the number of hours that have elapsed since the beginning of the day, and formats the number of hours into an hh display, where hh is the number of hours. Fractions are dropped from the value. For example, a value of 2 is formatted as 2 AM, and a value of 12.24 as 12 PM.
[FMT:timeHour(m in)]	This assumes that the value represents the number of minutes that have elapsed since the beginning of the day, and formats the number of minutes into an hh display, where hh is the number of hours. Fractions are dropped from the value. For example, a value of 2 is formatted as 12 AM, and a value of 363.10 as 06 AM.
[FMT:timeHour(sec)]	This assumes that the value represents the number of seconds that have elapsed since the beginning of the day, and formats the number of seconds into an hh display, where hh is the number of hours. Fractional hours are dropped from the value. For example, a value of 600 is formatted as 12 AM, a value of 3600 as 1 AM, and a value of a value of 61214.30 as 5 PM.

Custom Format Strings for Conversion into Hours and Minutes

You can convert a variety of time periods into hour and minute formats.

The table shows the custom format strings that you can use to format data into hours and minutes. You use these strings on fields that contain integers or real numbers that represent the time that has elapsed since the beginning of the day (12:00 AM).

They can also be used where the output is in [FMT:timeHourMin] format, described in the table. (This format displays the time in the locale's time format, but omits the seconds.)

Data Conversion Format String	Result
[FMT:timeHourMin]	This assumes that the value represents the number of minutes that have elapsed since the beginning of the day, and converts the value into an hh:mm display, where hh is the number of hours and mm is the number of minutes. Fractions are dropped from the value. For example, a value of 12 is formatted as 12:12 AM, a value of 73 as 1:13 AM, and a value of 750 as 12:30 PM.
[FMT:timeHourMin(sec)]	This assumes that the value represents the number of seconds that have elapsed since the beginning of the day, and converts the value into an hh:mm display, where hh is the number of hours and mm is the number of minutes. Fractions are dropped from the value. For example, a value of 60 is formatted as 12:01 AM, a value of 120 as 12:02 AM, and a value of 43200 as 12:00 PM.
[FMT:timeHourMin(hour)]	This assumes that the value represents the number of hours that have elapsed since the beginning of the day, and converts the number of hours into an hh:mm display, where hh is the number of hours and mm is the remaining number of minutes. For example, a value of 0 is formatted as 12:00 AM, a value of 1.5 as 1:30 AM, and a value of 13.75 as 1:45 PM.

Custom Format Strings for Conversion into Hours, Minutes, and Seconds

You can convert a variety of time periods into hour, minute, and second formats.

The table shows the custom format strings that you can use to format data into hours, minutes, and seconds. You use these strings on fields that contain integers or real numbers that represent time.

They can also be used where the output is in [FMT:time] format. See [General Custom Format Strings](#). (This format displays the time in the locale's time format.)

Data Conversion Format String	Result
[FMT:time]	This assumes that the value represents the number of seconds that have elapsed since the beginning of the day, and converts the value into an hh:mm:ss display, where hh is the number of hours, mm is the number of minutes, and ss is the number of seconds. For example, a value of 60 is formatted as 12:01:00 AM, a value of 126 as 12:02:06 AM, and a value of 43200 as 12:00:00 PM.

Data Conversion Format String	Result
[FMT:time(min)]	This assumes that the value represents the number of minutes that have elapsed since the beginning of the day, and converts the value into an hh:mm:ss display, where hh is the number of hours, mm is the number of minutes, and ss is the number of seconds. For example, a value of 60 is formatted as 1:00:00 AM, a value of 126 as 2:06:00 AM, and a value of 1400 as 11:20:00 PM.
[FMT:time(hour)]	This assumes that the value represents the number of hours that have elapsed since the beginning of the day, and converts the value into an hh:mm:ss display, where hh is the number of hours, mm is the number of minutes, and ss is the number of seconds. For example, a value of 6.5 is formatted as 6:30:00 AM, and a value of 12 as 12:00:00 PM.

Custom Format Strings for Displaying Duration

You can convert a variety of time periods to describe a duration of time.

The table shows the custom format strings that you can use to format duration data into days, hours, minutes, and seconds. You use these strings on fields that contain integers or real numbers that represent time.

This allows the display of duration, such as the length of time for a telephone call. You can format a numeric field as DD:HH:MM:SS.

You can add literal values in the string to make the output more meaningful, as in the following example:

```
[duration][opt:dd"d":][opt:hh"h":]mm"m":ss"s"
When input = 15000, output is: 04h:10m:00s
```

In this way, the literal values *h*, *m*, and *s* represent *hours*, *minutes*, and *seconds* in the output.

Adding [opt:...] anywhere in the string makes the field optional, in that it is not displayed if it has no value. In the example above, [opt:dd] means a value for days is not displayed because it has no value.

Data Conversion Format String	Result
[duration(sec)] [opt:dd]:hh:mm:ss	Formats the total of seconds as duration. For example, a duration value of 16500.00 is displayed as 04:35:00, meaning a duration of four hours, 35 minutes, and zero seconds. <i>opt:dd</i> displays the number of days, but if <i>opt</i> has no value, it is not displayed. Second is the default unit of time.
[duration(min)] [opt:dd]:hh:mm:ss	Formats the total of minutes as duration. For example, a duration value of 275.00 is displayed as 04:35:00, meaning a duration of four hours, 35 minutes, and zero seconds. <i>opt:dd</i> displays the number of days, but if <i>opt</i> has no value, it is not displayed.

Data Conversion Format String	Result
[duration(hour)] [opt:dd]:hh:mm:ss	Formats the total of hours as duration. For example, a duration value of 4.58 is displayed as 04:35:00, meaning a duration of four hours, 34 minutes, and 48 seconds. <i>opt:dd</i> displays the number of days, but if <i>opt</i> has no value, it is not displayed.
[duration(day)] [opt:dd]:hh:mm:ss	Formats the total of days as duration. For example, a duration value of 2.13 is displayed as 02:03:07:12, meaning a duration of two days, three hours, seven minutes, and twelve seconds. <i>opt:dd</i> displays the number of days, but if <i>opt</i> has no value, it is not displayed.

9

Delivering Content

This chapter provides information on how to deliver personalized and actionable content to users in Oracle Business Intelligence Enterprise Edition. It describes how to create agents, how to subscribe to agents, and how to configure devices and delivery profiles.

Topics

This chapter includes the following sections:

- [What Are Agents?](#)
- [What Are Alerts?](#)
- [How Agents Work](#)
- [What Is the Agent Editor?](#)
- [About Controlling Access to Agents](#)
- [About Using Customization in Agents](#)
- [Creating Agents](#)
- [Viewing Summaries of Agent Settings](#)
- [Saving Agents](#)
- [Subscribing to Agents](#)
- [Displaying a List of the Agents That You Subscribe to or That You Own](#)
- [Unsubscribing from Agents](#)
- [Customizing Your Agent Subscriptions](#)
- [Disabling and Enabling Agents' Schedules](#)
- [What Are Devices and Delivery Profiles?](#)
- [Configuring Your Devices and Delivery Profiles](#)
- [Accessing and Managing Your Alerts](#)
- [Subscribing to an RSS Feed for Alerts](#)

What Are Agents?

Agents enable you to automate your business processes.

You can use agents to provide event-driven alerting, scheduled content publishing, and conditional event-driven action execution.

You can choose:

- A schedule that the Agent runs on
- A data condition that determines what the Agent does

- An analysis that can be distributed
- Actions that can be automatically executed depending on whether the data condition is met

Agents can dynamically detect information-based problems and opportunities, determine the appropriate individuals to notify, and deliver information to them through a wide range of devices (email, phones, and so on).

The delivery content of an agent is localized according to the preferred locale of the recipient. (Users specify their preferred locale in the Preferences tab of the My Account dialog.)

What Are Alerts?

An alert is a notification generated by an agent that delivers personalized and actionable content to specified recipients and to subscribers to the agent.

You can see the alerts that have been delivered to you throughout Oracle BI Enterprise Edition, for example:

- In the Alerts section of the Home page.
- On the first page of My Dashboard. (An Alerts section is automatically added to the first page of My Dashboard, if you do not manually place one there.)
- On a dashboard page, if the content designer adds an Alerts section to the page. See [Adding Content to Dashboards](#)
- In the Alerts dialog displayed from the **Alerts!** button in the global header.
- In specified delivery devices, such as a phone. See [What Are Devices and Delivery Profiles?](#)

See [Accessing and Managing Your Alerts](#).

How Agents Work

In the simplest format, an agent automatically performs a specified catalog analysis based on a defined schedule, and examines the results for a specific problem or opportunity.

If the specified problem or opportunity is detected in the results, then an alert is generated and delivered to specified recipients and to subscribers to the agent, using the delivery options that are specified for each person.

See [What Are Alerts?](#) and [What Are Devices and Delivery Profiles?](#)

To handle more complex requirements, agents can invoke actions that trigger other agents, scripts, Java programs, or applications. Results can be passed between agents, and to other applications or services through XML, HTML, or plain text. For example, an agent might run an analysis to identify all current product orders over a specified dollar amount that cannot be filled from a regional warehouse. The results can be passed to another agent that runs an analysis to locate alternative sources for these products. A final agent might be triggered to feed information into a corporate CRM system and to notify the appropriate account representatives of the alternative sourcing.

You might automatically be a recipient of alerts generated by some agents, and agents created by others might be available for you to subscribe to. You can also create your own agents if you have the appropriate permissions and responsibilities. Depending on the level of authority that you have, you can selectively share agents with others or make agents available for all users.

What Is the Agent Editor?

The Agent editor lets you create agents to deliver personalized and actionable content to users. It also lets you view a summary of the current settings of agents.

The Agent editor contains the following tabs:

- **General** — Lets you specify the priority of the content that an agent is to deliver and how to generate the delivery content (that is, what user to run the query as).
- **Schedule** — Lets you specify whether the agent is to be run based on a schedule, how often it runs, and when its running is to start and end.
- **Condition** — Lets you specify whether an agent always delivers its content and executes its actions, or conditionally delivers its content and executes its actions.
- **Delivery Content** — Lets you specify the content to deliver with an agent, such as a dashboard page or a saved analysis.
- **Recipients** — Lets you specify who is to receive the delivery content of the agent and who is allowed to subscribe to the agent.
- **Destinations** — Lets you specify where the content is to be delivered.
- **Actions** — Lets you specify one or more actions to execute when an agent finishes.

You access the Agent editor when you create or edit an agent. See [Creating Agents](#).

About Controlling Access to Agents

Access to agents is available to all Oracle BI EE users.

Granting access to specific agent functions is performed from the Manage Privileges page. If you have the appropriate authority, then you can grant or deny explicit access to a variety of agent privileges, including the ability to perform the following actions:

- Create agents
- Publish agents for subscription
- Deliver agents to specified or dynamically determined users
- Chain agents
- Modify current subscriptions for agents

For more information about privileges, see *Managing Presentation Services Privileges* in *Security Guide for Oracle Business Intelligence Enterprise Edition*.

About Using Customization in Agents

Using customization in agents enables you to create generic agents that you can use for more than one circumstance.

Using customizations in agents helps you to reduce the number of agents and conditions that you must create for your organization. It also lets you provide the specific alert required for a particular circumstance.

Customization in an agent is accomplished by overriding the operators and values of prompted filters associated with analyses that are used in the agent. (A prompted filter is a filter whose operator is set to Is Prompted. See [Creating Column Filters](#) .)

You use analyses in an agent when you specify that the agent is to:

- Conditionally deliver its content and execute its actions using a condition (either named or inline) that is based on an analysis. See [Working with Conditions](#).
- Deliver an analysis as its content.

Prompted filters can be customized at various points, depending on how the analysis with which it is associated is used:

- If the analysis is used as the basis for a named condition, then the chain for customization is as follows:
 1. In the analysis
 2. In the named condition
 3. In the agent customization of the condition
 4. In the subscription customization of the agent condition
- If the analysis is used as the basis for an inline condition created in an agent, then the chain of customization is as follows:
 1. In the analysis
 2. In the agent customization of the condition
 3. In the subscription customization of the agent condition
- If the analysis is specified as the delivery content for an agent, then the chain for customization is as follows:
 1. In the analysis
 2. In the agent customization of the delivery content
 3. In the subscription customization of the delivery content

When using customization in an agent, keep the following points in mind:

- Once a filter is overridden, it cannot be overridden again further in the customization chain. For example, if you override a filter in the agent customization of the delivery content, then the subscriber cannot override it later in the subscription customization of the delivery content.
- If any filters in an analysis are combined (that is, constructed using AND and OR), then this AND and OR structure is not displayed in the customization.

- If the same filters are used more than once in an agent, then only a unique set of the filters is displayed for customization. The customized values that you specify are applied to all instances of the repeated filter.
Exception: If the analysis is the result of combining two or more analyses based on a union operation, then unique filters from each part of the union are displayed for customization. See [Combining Columns Using Set Operations](#).
- Filters passed between agents participating in a chain (see the Invoke Agent action in [Actions that Invoke Operations, Functions or Processes in External Systems](#)) do not support customization. The filters passed from the parent agent are those without subscriber customizations. The filters passed to the child agent replace the respective prompted filters before subscriber customizations are applied.

Creating Agents

You can automate business processes by creating and using agents.

Bear these guidelines in mind:

- You can also display the Agent editor by selecting **Agent** from the **Create . . .** area of the Home page.
- You can also create an agent from an analysis. See [Creating Agents from Analyses](#).

Use the following procedure to create an agent.

1. In the global header, click **New** and select **Agent**.
2. In the General tab of the Agent editor, specify the priority of the content that the agent is to deliver and how to generate the delivery content (that is, what user to run the query as).
3. In the Schedule tab of the Agent editor, specify whether the agent is to be run based on a schedule, how often it runs, and when its running is to start and end.

When you select the date and time, for time zones where daylight savings applies, the time zone reflects the daylight savings time. For example, if, during the summer months, you select **(GMT) Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London**, this means BST (British Summer Time).

4. In the Condition tab of the Agent editor, specify whether the agent always delivers its content and executes its actions, or conditionally delivers its content and executes its actions.
5. In the Delivery Content tab of the Agent editor, specify the content to deliver with the agent, such as a dashboard page or a saved analysis.
6. In the Recipients tab of the Agent editor, specify who is to receive the delivery content of the agent and who is allowed to subscribe to the agent.
7. In the Destinations tab of the Agent editor, specify where the content is to be delivered.
8. In the Actions tab of the Agent editor, specify one or more actions to execute when the agent finishes.
9. Save the agent. See [Saving Agents](#).

After you have saved the agent, you can run the agent by clicking the **Run Agent Now** button. This is helpful, for example, to test the agent.

Viewing Summaries of Agent Settings

You can view a summary of the current settings for an agent.

A summary is displayed in the Agent editor and can be expanded or collapsed. By default, the summary is expanded.

Bear this guideline in mind:

- You can also view a summary of an agent's settings in the Preview pane of the Catalog page.
- To the left of the **Overview** heading in the Agent editor, click the:
 - **Plus** button to expand the summary.
 - **Minus** button to collapse the summary.

Saving Agents

You can reuse agents by saving them.

- If an agent is available for subscription, then you must save it in a subfolder in / Shared Folders, for example, / Shared Folders/ Shared Agents/ Sales/ Agent1. You cannot save an agent directly in / Shared Folders, for example, / Shared Folders/ Agent1.
- If an agent is not available for subscription, then you can save it in a subfolder in / Shared Folders, in / My Folders, or in a subfolder in / My Folders, for example, / My Folders/ Sales/ Agent1. You cannot save an agent directly in / Shared Folders, for example, / Shared Folders/ Agent1.

You can save agents in existing folders or in new folders that you create as follows.

See [Subscribing to Agents](#).

1. In the Agent editor toolbar, click one of the following buttons:
 - To save a new agent or to save an existing agent with the same name in the same folder, click the **Save this Agent** button.
 - To save an existing agent with another name or in another folder, click the **Save this Agent as** button.
2. Complete the Save Agent dialog, if displayed, and click **OK**.

Subscribing to Agents

You can subscribe to agents that the owner has made available to you for subscription.

Subscribing to an agent ensures you receive the most recent information about the agent.

1. In the global header, click **Catalog** and navigate to the agent to which you want to subscribe.

2. Click the **More** link for the agent and select **Subscribe**.

To make an agent available for subscription, in the Recipients tab of the Agent editor, the **Publish Agent for Subscription** option must be selected, and users, and Catalog groups and Application roles that are allowed to subscribe must be identified.

Displaying a List of the Agents That You Subscribe to or That You Own

You can display a list of the agents that you subscribe to or that you own, that is, those that you have saved in your personal folder (My Folders).

You can access the agents that you subscribe to or own to change the behavior of them.

1. In the global header, click **Catalog**.
2. In the Catalog page menu, click **Search**.
3. In the Search area, type the name or part of the name of the Agent in the **Search** field, select the **Location**, and select **Agent** from the Type list.

You can use * (asterisk) as a search wildcard to return all Agent types for a given location.

4. Click **Search**.

Unsubscribing from Agents

You can unsubscribe from agents to which you are currently subscribed.

Unsubscribing from an agent means you will not see the output from that agent.

1. In the global header, click **Catalog**.
2. In the Catalog page menu, click **Search**.
3. In the Search area, type the name or part of the name of the Agent in the **Search** field, select the **Location**, and select **Agent** from the Type list.
4. Click **Search**.
5. Navigate to the agent from which you want to unsubscribe.
6. Click the **More** link for the agent and select **Unsubscribe**.

Customizing Your Agent Subscriptions

Suppose an agent has been set up to allow users to customize the subscription and the agent uses an analysis that includes a prompted filter for either its condition, the delivery content, or both.

You can customize the filter values for the conditional analysis, the delivery content analysis, or both to suit your needs.

To allow users to customize an agent subscription, the agent must be Run As **Recipient** and you must select the **Allow Subscribers to Customize Agents** option in the Recipients tab of the Agent editor.

1. In the global header, click **Home**. The Home page is displayed.
2. In the **Browse/Manage** area, click **My Agent Subscriptions**.
A list of the agents to which you are currently subscribed is displayed. (Agents that you have been designated a recipient of are not included in this list.)
3. Navigate to the agent whose subscription you want to customize.
4. Click the **More** link for the agent and select **Customize Subscription**.
5. In the Customize Subscription to Agent dialog, customize the prompted filters or the parameters as needed. (Depending on how the agent has been set up, you can customize the prompted filters or the parameters for the condition, the delivery content, or both.)
 - a. To customize a prompted filter or parameter, click the **Modify the operator/value for this parameter** button.
 - b. In the Edit Parameter Filter dialog, edit the values as needed.
 - c. Click **OK**.
6. Click **OK** in the Customize Subscription to Agent dialog.
The customized filter values that you set in the previous steps are not automatically displayed in agent results. See [Displaying Customized Filter Values in Agent Results](#).

Displaying Customized Filter Values in Agent Results

If you have customized filter values in an agent subscription and want to display the filter values in the agent results, then you must add a Filters view to the analysis.

Customized filter values allow you to present only the most important information via an agent.

1. Edit the analysis that is being customized.
2. Display the Results tab of the Analysis editor.
3. Add the Filters view to the analysis.

Disabling and Enabling Agents' Schedules

You can temporarily disable (and then enable) an agent's schedule.

Disabling an agent's schedule stops the agent from running on its defined schedule. It does not stop it from being run by other means, for example, by the **Run Agent Now** button in the Agent editor.

Disabling an agent's schedule is useful if you have defined a schedule for an agent but find you want to stop it for a certain period of time.

In addition, an agent's schedule may be temporarily disabled by default. For example, if you copy a folder that contains one or more agents, then the schedule of each agent copy is disabled by default, and the agent does not run on its defined schedule until you enable it.

To disable and then enable an agent's schedule:

1. In the global header, click **Catalog** and navigate to the agent whose schedule you want to disable or enable.
2. Click the **More** link for the agent and select one of the following options:
 - **Disable Schedule** to disable the agent's schedule
 - **Enable Schedule** to cause the agent to run on schedule again

You also can disable and enable an agent's schedule by using the **Enabled** box in the Schedule tab of the Agent editor.

What Are Devices and Delivery Profiles?

You can receive notifications about content via devices and delivery profiles.

Devices and delivery profiles control how you will be reached when an alert is generated by an agent and which devices receive the content:

- **Device** — A device is the medium used to deliver content to you. The content of an agent can be delivered to a range of devices as an email or SMS message.
- **Delivery profile** — A delivery profile specifies which devices to use to deliver content to you, based on the priority of the content. You can define several delivery profiles to meet your needs, and switch among them. However, only one profile can be active at any given time.

For example, you might have an **In the Office** delivery profile that delivers content to an office email, and an **On the Road** profile that delivers content to your cell phone, depending on the priority of the information.

You configure your devices and your delivery profiles from the Delivery Options tab of the My Account dialog. See [Configuring Your Devices and Delivery Profiles](#). (The administrator manages the types of devices that are available to you. See *Managing Device Types for Agents in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.)

Your organization might automatically generate system delivery devices and delivery profiles as follows:

- Using the SA System subject area, your organization can generate system delivery devices based on each user's email address and other device information (such as cell phone numbers) from the SA System subject area, and then generate a system delivery profile for each user using the user's system delivery devices.
- Using the LDAP server (but only if delivery devices and profiles have not been generated from the SA System subject area), your organization can generate system delivery devices based on each user's email address from the LDAP server and then generate a system delivery profile for each user using the user's system delivery device.

If you do not configure any devices or profiles, then the system delivery profile that is generated for you is used as the default. Even if you define other profiles, you can configure the system profile as your default profile. If you define a delivery profile, then you can include system devices in this profile and set the priority levels for which this delivery device is used. See *Setting Up the SA System Subject Area in Scheduling Jobs Guide for Oracle Business Intelligence Enterprise Edition*.

Depending on the destinations that are specified for an agent, content can be delivered to the:

- Home page and dashboard. See [What Are Alerts?](#)
- Active delivery profile or specific devices.

When the destinations are specific devices, content is delivered to the devices that you have configured rather than to the devices in your active delivery profile. For example, if an Agent is defined to be delivered to Email devices, then the default Email device that you configured is used rather than any Email devices that you configured in your active delivery profile.

Delivery content is assigned a specific priority. The default priority is normal. When you select devices for your active profile, you can indicate what priority content should be sent to that device. For example, if you have added a cell phone to your delivery profile, then you might associate it with high priority content only. When you know that you will be away from the office frequently and out of email range, you can select to receive only low priority content through your office email.

Configuring Your Devices and Delivery Profiles

You use the Delivery Options tab of the My Account dialog to configure the devices and delivery profiles to be used to reach you when an alert is generated by an agent.

See [What Are Devices and Delivery Profiles?](#)

1. In the global header, click **Signed In As *username***, (where *username* is the name that you use to log in to Oracle BI Enterprise Edition) and then select **My Account** to display the My Account dialog.
2. Click the **Delivery Options** tab.
3. In the Devices area, add or edit the appropriate devices.

- a. Select the device category button (for example, **Email**) for the device to add.
- b. Click the **Create Device** button to display the Create Device dialog.

When the destinations specified for agents are specific devices, the default devices you specify here override the devices in your active delivery profile. For example, if an agent is defined to be delivered to email devices, then default email device that you specify here is used rather than any email devices that you specify in your active delivery profile. (The destinations for agents are specified on the Destinations tab on the Agent editor.)

- c. In the **Name** field, enter the name of the device, for example, Work Email.
- d. In the **Category** box, select the device category.
- e. In the **Device Type** box, select the type of device.
- f. In the **Address/Number** field, enter the address for the device, for example, an email address for email. When typing a phone number for a device, do not use punctuation such as spaces, dashes, or parentheses.
- g. Click **OK** to return to the Deliver Options tab of the My Account dialog.

The device is displayed in the Devices list for the appropriate category (for example, **Email**).

- h. If you want this device to be the default device, then select the **Default** option to the right of the device name.

4. To edit a device, perform the following steps:
 - a. Select the device in the list.
 - b. Click the **Edit Device** button to display the Edit Device dialog.
 - c. Make your edits and click **OK** to return to the Deliver Options tab of the My Account dialog.
5. Add or edit the appropriate delivery profiles:
 - a. Click the **Create Delivery Profile** button to display the Create Delivery Profile dialog.
 - b. In the **Name** field, enter a delivery profile name.
 - c. To the right of each delivery device to use when this profile is the active profile, select one or more of the priority options — **High**, **Normal**, or **Low**. These priorities are used together with the priority of the delivery content to determine the destination for delivery content. For more information on the priority of the delivery content, see the General tab on the Agent editor.

Do not set the priority for devices that you do not want to use. Devices that do not have a priority selected are not used by the profile.
 - d. Click **OK** to return to the Deliver Options tab on the My Account dialog.

The profile is displayed in the Delivery Profiles list.
 - e. If you want the delivery profile to be your active profile, then select the **Active** option to the right of the profile name.
6. To edit a delivery profile, perform the following steps:
 - a. Select the delivery profile in the list.
 - b. Click the **Edit Profile** button to display the Edit Delivery Profile dialog.
 - c. Make your edits and click **OK** to return to the Deliver Options tab on the My Account dialog.
7. Click **OK**.

Accessing and Managing Your Alerts

You can access a list of your alerts.

The list shows the name of each alert along with its delivery date and time, and number of occurrences. Using this list, you can:

- View the content for an alert.
- Clear an alert and all its occurrences.
- Edit the agent that generated the alert, if you have permission to modify the agent.
- Run the agent that generated the alert, if you have permission to execute the agent.
- Subscribe to the Oracle BI Alerts feed. See [Subscribing to an RSS Feed for Alerts](#).
- Clear all your alerts and all their occurrences.

See [What Are Alerts?](#)

1. In the global header, click **Alerts!**

2. In the Alerts dialog, view and manage your alerts as needed.

You can also access and manage your alerts from the Alerts section on the Home page.

Subscribing to an RSS Feed for Alerts

You can receive alerts by way of an RSS 2.0 compatible reader that supports HTTP basic authentication.

If Oracle BI Presentation Services uses the HTTPS protocol, then the RSS reader that you use must also support the HTTPS protocol.

To subscribe to an RSS Feed for alerts, you must have been granted the Access to RSS Feeds privilege by the administrator.

1. Click the **Alerts!** link to display the Alerts dialog.
2. Click the **Subscribe to RSS feed** button (located to the left of the **Clear All** button).

The browser's page to subscribe to an RSS feed is displayed.

3. Subscribe to the Oracle BI Alerts following the instructions on the browser's page.

10

Working with Conditions

This chapter describes how to work with conditions in Oracle Business Intelligence Enterprise Edition. It explains how you use conditions to determine whether agents deliver their content and execute their actions, whether action links are displayed in dashboard pages, and whether sections and their content are displayed in dashboard pages.

Topics

This chapter includes the following sections:

- [What Are Conditions?](#)
- [For What Do I Use Conditions?](#)
- [What Are the Elements of a Condition?](#)
- [What Are Named Conditions?](#)
- [What Are Inline Conditions?](#)
- [Who Creates Conditions?](#)
- [Creating Named Conditions](#)
- [Using Conditions to Determine Whether Agents Deliver Their Content or Execute Their Actions](#)
- [Using Conditions to Determine Whether Action Links Are Displayed in Dashboard Pages](#)
- [Using Conditions to Determine Whether Sections Are Displayed in Dashboard Pages](#)
- [Specifying the Settings for Conditions](#)
- [Editing Named Conditions](#)
- [Editing, Customizing, Testing, Saving, and Disabling Conditions Used in Agents](#)
- [Editing, Testing, Saving, and Removing Conditions Used in Action Links in Dashboard Pages](#)
- [Editing, Testing, Saving, and Removing Conditions Used in Sections in Dashboard Pages](#)

What Are Conditions?

Conditions are objects that return a single Boolean value based on the evaluation of an analysis or of a Key Performance Indicator (KPI).

What a condition evaluates depends on whether it is based on an analysis or on a KPI, as follows:

- For an analysis, it evaluates the row count of the analysis.

- For a KPI, it evaluates the status of the KPI.

For example, a condition might evaluate whether the results of an analysis return a number of rows greater than 0:

- If the analysis returns at least one row, then the condition evaluates to true.
- If the analysis does not return any rows, then the condition evaluates to false.

For What Do I Use Conditions?

Specific information is filtered best by conditions.

You use conditions to determine whether:

- Agents deliver their content and execute their actions
- Actions links (which when clicked run actions) are displayed in dashboard pages
- Sections and their content are displayed in dashboard pages

For example, a sales manager wants to deliver a Monthly Sales Report to his direct reports only when sales drop below \$2 million. You might create a condition that is based on an analysis that shows sales that are below \$2 million and add it to an agent whose delivery content is the Monthly Sales Report. When the condition evaluates to true (that is, the analysis contains rows where sales are below \$2 million), the agent is triggered to deliver the Monthly Sales Report.

You can also use a different kind of condition to determine whether action links are enabled in analyses. See [About Conditionally Enabling Actions Added to Analyses](#).

What Are the Elements of a Condition?

Conditions are made up of multiple elements.

A condition consists of the following elements:

- An analysis or KPI.
- The criteria to use when evaluating the condition:
 - For an analysis, the criterion is a row count and an operator to apply to the row count (for example, the row count equals 100) and values for any prompted filters that are associated with the analysis.
 - For a KPI, the criterion is a KPI status (for example, the KPI status is OK) and values for KPI dimensions that were set to **is prompted** in the KPI. This will display as `Not Set` when creating the condition.

What Are Named Conditions?

A named condition is a condition that you define and then save by name in the presentation catalog so that you can reuse it in agents and dashboard pages.

You create a named condition when you create a condition from the:

- New menu in the global header by selecting **Condition** under **Analysis and Interactive Reporting**

- Home page by clicking the **More** link under **Analysis and Interactive Reporting** in the Create area and selecting **Condition**

You also create a named condition from the Condition tab on the Agent editor when you save an inline condition to the catalog. See [What Are Inline Conditions?](#)

What Are Inline Conditions?

An inline condition is a condition that you define at the point of use and do not save by name in the catalog. Instead it is saved as part of the dashboard page or agent.

An inline condition is automatically deleted when the dashboard page or agent that contains it is deleted. This simplifies catalog management for conditions that make sense only within particular Oracle BI content.

You can create an inline condition when you:

- Create or edit an agent and specify (in the Condition tab on the Agent editor) that the agent is to deliver its content and run associated actions conditionally. See [Using Conditions to Determine Whether Agents Deliver Their Content or Execute Their Actions](#).
See [Creating Agents](#).
- Add an action link to a dashboard page and specify that the action link is to be displayed conditionally. See [Using Conditions to Determine Whether Action Links Are Displayed in Dashboard Pages](#).
See [About Adding Actions to Dashboard Pages](#).
- Add a section to a dashboard page and specify that the section is to be displayed conditionally. See [Using Conditions to Determine Whether Sections Are Displayed in Dashboard Pages](#).
See [Adding Content to Dashboards](#).

Who Creates Conditions?

Conditions are created by specific users.

Generally:

- Administrators create the named conditions for an organization, which are then used by content designers (providing they have the appropriate permissions to the conditions or the folders in which the conditions are saved) as they create dashboards and agents.

The ability to create or edit named conditions is controlled by the Create Conditions privilege, which is managed by the administrator.

- Content designers create inline conditions.

For information about privileges, see *Managing Presentation Services Privileges in Security Guide for Oracle Business Intelligence Enterprise Edition*.

For information about permissions, see [Managing Objects in the Oracle BI Presentation Catalog](#).

Creating Named Conditions

You can create named conditions that you can reuse in agents and dashboard pages.

See [What Are Named Conditions?](#) for additional information on named conditions.

1. In the global header, click **New** and then select **Condition**.
2. Complete the New Condition dialog. See [Specifying the Settings for Conditions](#).

Using Conditions to Determine Whether Agents Deliver Their Content or Execute Their Actions

You can use conditions to determine whether agents deliver their content or execute their actions.

See [Delivering Content](#).

1. Edit the agent.
2. Click the **Condition** tab in the Agent editor.
3. Select the **Use a condition** box.
4. If you want to:
 - Create a new condition, click **Create** to display the Create Condition dialog and then complete the dialog. See [Specifying the Settings for Conditions](#).
 - Select an existing condition, click **Browse** to display the Select Condition dialog and then complete the dialog.
5. Save the agent.

Using Conditions to Determine Whether Action Links Are Displayed in Dashboard Pages

You can use conditions to determine whether action links are displayed in dashboard pages.

See [About Adding Actions to Dashboard Pages](#).

1. Edit the dashboard.
2. Click the tab of the page that contains the action link to display conditionally.
3. Hover over the action link object in the Page Layout area to display the action link object's toolbar and click the **Properties** button, or, if the action link is in an action link menu:
 - a. Hover over the action link menu object in the Page Layout area to display the action link menu object's toolbar and click the **Properties** button.
 - b. In the Action Link Menu Properties dialog, select the action link to conditionalize and click the **Edit** button.
4. In the **Show Link** component of the Action Link Properties dialog, click the **Conditionally** box.

5. In the **Condition** component, if you want to:
 - a. Create a new condition, click the **New Condition** button to display the New Condition dialog and then complete the dialog.
See [Specifying the Settings for Conditions](#).
 - b. Select an existing condition, click the **Select Condition** button to display the Select Condition dialog and then complete the dialog.
6. Click **OK** in the Action Link Properties dialog.
7. If the action link is in an action link menu, then click **OK** in the Action Link Menu Properties dialog.
8. Save the dashboard.

Using Conditions to Determine Whether Sections Are Displayed in Dashboard Pages

You can use conditions to determine whether sections are displayed in dashboard pages.

See [Adding Content to Dashboards](#).

1. Edit the dashboard.
2. Click the tab of the page that contains the section to display conditionally.
3. Hover over the section in the Page Layout area to display the section's toolbar, click the **Properties** button for the section, and select **Condition**. The Section Condition dialog is displayed.
4. If you want to:
 - Create a new condition, click the **New Condition** button to display the Create Condition dialog and then complete the dialog. See [Specifying the Settings for Conditions](#).
 - Select an existing condition, click the **Select Condition** button to display the Select Condition dialog and then complete the dialog.
5. Click **OK** in the Section Condition dialog.
6. Save the dashboard.

Specifying the Settings for Conditions

Some conditions require that the settings be specified.

You must specify the settings for a condition in either the New Condition, Create Condition, or Edit Condition dialog, when you create or edit a condition. If you specify values for any prompted filters, then these values cannot be overridden at the point of use.

1. In the **Create condition based on** box, select whether the condition is to be based on an **Analysis** or **KPI**.
2. For:
 - (optional) An analysis, edit any prompted filters, as desired.

- A KPI, specify the values for any KPI dimensions. You cannot pin multiple values for KPI dimensions when creating a condition.
3. Specify the evaluation criteria as follows:
 - For an analysis, in the **Condition true if number or rows** area:
 - In the **Operator** box, select the operator to apply to the row count.
 - In the **Row Count** box or boxes, specify the row count to be evaluated.
 - For a KPI, in the **Condition true if KPI** box, select the KPI status.
 4. (optional) Click **Test** to test the condition.
 5. If you want to save the condition as:
 - An inline condition, click **OK**.
 - A named condition, click **Save** to display the Save As dialog, where you can save the condition by name to the catalog. If a condition is based on an analysis or KPI that is private, you cannot save it in the /Shared Folders folder.

Editing Named Conditions

You can edit named conditions.

Editing a named condition allows you to keep the named condition up-to-date. See [Specifying the Settings for Conditions](#).

1. Navigate to the condition in the catalog.
2. Click the **Edit** link.
3. In the Edit Condition dialog, make the desired changes.

Editing, Customizing, Testing, Saving, and Disabling Conditions Used in Agents

You can perform several actions on conditions used in agents.

You can:

- Edit inline conditions
 - Customize named conditions by editing prompted filters
 - Test conditions to see whether the conditions evaluate to true or false
 - Save inline conditions to the catalog as named conditions
 - Remove conditions
1. Edit the agent.
 2. Click the **Condition** tab of the Agent editor.
 3. To:
 - Edit an inline condition, click **Edit Condition** to display the Edit Condition dialog, and make the desired changes. See [Specifying the Settings for Conditions](#).

- To customize the prompted filters of a named condition, click **Customize** to display the Customize Condition dialog, and make the desired customizations.
 - To test a condition, click **Test**. The evaluation results are displayed.
 - To save an inline condition to the catalog as a named condition, click **Save To Catalog** to display the Save As dialog.
 - To disable a condition, click **Do not use a condition (always deliver content and run actions)**.
4. Save the agent.

Editing, Testing, Saving, and Removing Conditions Used in Action Links in Dashboard Pages

You can perform several tasks on conditions.

You can perform the following tasks on conditions that are used in action links in dashboard pages:

- Edit conditions
 - Test conditions to see whether the conditions evaluate to true or false
 - Save inline conditions to the catalog as named conditions and save named conditions to the catalog by other names
 - Remove conditions
1. Edit the dashboard page that contains the action link.
 2. Hover over the action link object in the Page Layout area to display the action link object's toolbar and click the **Properties** button, or, if the action link is in an action link menu:
 - a. Hover over the action link menu object in the Page Layout area to display the action link menu object's toolbar and click the **Properties** button.
 - b. In the Action Link Menu Properties dialog, select the action link that contains the condition and click the **Edit** button.
 3. In the Action Link Properties dialog, click the **More** button to the right of the **Condition** field and then:
 - To edit a condition, select **Edit Condition** to display the Edit Condition dialog and make the desired changes. See [Specifying the Settings for Conditions](#).
 - To test a condition, select **Test Condition**. The evaluation results are displayed.
 - To save an inline condition to the catalog as a named condition, select **Save Condition As** to display the Save As dialog.
 - To remove a condition, select **Remove Condition**.
 4. Click **OK** in the Action Link Properties dialog.
 5. If the action link is in an action link menu, then click **OK** in the Action Link Menu Properties dialog.
 6. Save the dashboard.

Editing, Testing, Saving, and Removing Conditions Used in Sections in Dashboard Pages

You can perform several tasks on conditions in sections.

You can perform the following tasks on conditions that are used in sections in dashboard pages:

- Edit conditions
 - Test conditions to see whether the conditions evaluate to true or false
 - Save inline conditions to the catalog as named conditions and save named conditions to the catalog by other names
 - Remove conditions
1. Edit the dashboard page that contains the section.
 2. Hover over the section in the Page Layout area to display the section's toolbar, click the **Properties** button for the section, and select **Condition**.
 3. In the Section Condition dialog, click the **More** button to the right of the **Condition** field and then:
 - To edit a condition, select **Edit Condition** to display the Edit Condition dialog and make the desired changes. See [Specifying the Settings for Conditions](#).
 - To test a condition, select **Test Condition**. The evaluation results are displayed.
 - To save an inline condition to the catalog as a named condition, select **Save Condition As** to display the Save As dialog.
 - To remove a condition, select **Remove Condition**.
 4. Save the dashboard.

11

Working with Actions

This chapter describes how to work with actions in Oracle Business Intelligence Enterprise Edition. It describes how to use actions to navigate to related content and to invoke operations, functions, or processes in external systems and explains how to add actions to analyses, dashboard pages, agents, KPIs, and initiatives and objectives in scorecards.



Topics

This chapter includes the following sections:

- [What Are Actions?](#)
- [What Are Action Links and Action Link Menus?](#)
- [What Action Types Are Available?](#)
- [Who Can Create Actions?](#)
- [Where Can I Add Actions?](#)
- [What Are Named Actions?](#)
- [What Are Inline Actions?](#)
- [What Are Action Parameters?](#)
- [About Conditionally Enabling Actions](#)
- [About Customizing Information Displayed to Users on Action Execution](#)
- [Creating Named Actions](#)
- [Specifying the Settings for New Actions](#)
- [Adding Actions to Analyses](#)
- [About Adding Actions to Dashboard Pages](#)
- [Adding Actions to Dashboard Pages Using Action Links](#)
- [Adding Actions to Dashboard Pages Using Action Link Menus](#)
- [Adding Actions to Agents](#)
- [Adding Actions to KPIs](#)
- [Adding Actions to Initiatives and Objectives in Scorecards](#)
- [Creating a New Action Based on an Existing Named Action](#)
- [Editing Named Actions](#)
- [Editing Actions and Action Links Added to Analyses](#)
- [Editing Actions, Action Links, and Action Link Menus Added to Dashboard Pages](#)
- [Editing Actions Added to Agents](#)
- [Editing Actions and Action Links Added to KPIs](#)

- [Editing Actions and Actions Links Added to Initiatives and Objectives in Scorecards](#)
- [Saving Inline Actions in Analyses to the Catalog](#)
- [Saving Inline Actions in Dashboards to the Catalog](#)
- [Testing a Named Action by Executing It](#)

What Are Actions?

Actions allow data and calculations to become interactive.

Actions provide functionality to:

- Navigate to related content
- Invoke operations, functions, or processes in external systems

You can include actions in analyses, dashboard pages, agents, scorecard objectives, scorecard initiatives, and KPIs.

Actions can be executed:

- Explicitly by end users who click action links that are embedded within:
 - Analyses on column headings, column values, and hierarchy level values, in certain views, such as graphs, and on totals and grand totals within tables and pivot tables
 - Dashboard pages
 - Content delivered by agents
 - Scorecards in Cause & Effect Maps, Custom Views, Strategy Tree Views, Strategy Maps, KPIs, and KPI watchlists
 - KPI analyses
- Automatically, as the final step of an agent
- Directly from the Home page or from the Catalog page

For example, a sales director wants to meet with the sales manager of any region where sales drop below a certain threshold. You might embed an action object into the sales director's dashboard to enable the sales managers to schedule such a meeting simply by clicking a link. Or, you could use an agent to schedule the meeting automatically as soon as the sales threshold is passed.

What Are Action Links and Action Link Menus?

Action links and action link menus provide interactivity to data presentations.

An action link is a link to an action that you have embedded in an analysis, dashboard page, scorecard objective, scorecard initiative, or KPI that, when clicked, runs an associated action.

The following illustration shows an analysis to which an action link has been added to column values. When you hover the mouse pointer over a column value (for example, revenue for Bluetooth Adaptor in this figure), the column value is displayed as a link. Clicking the column link displays the associated action link, then clicking the action link executes the associated action.

The screenshot shows a table titled 'Product/Revenue' with two columns: 'P1 Product' and '1- Revenue'. The table contains four rows of data. A context menu is open over the '1- Revenue' cell for 'Bluetooth Adaptor', showing an 'Action links' section with a single item: 'Send Email to Manager'.

P1 Product	1- Revenue
7 Megapixel Digital Camera	3,489,231
Bluetooth Adaptor	1,657,576
CompCell RX3	2,838,512

In analyses, KPIs, scorecard objectives, and scorecard initiatives, multiple action links are displayed in a list. The illustration shows an analysis to which a list of action links (Send Email to Manager and Display Graph View) has been added to column values. When you hover the mouse pointer over a column value (for example, revenue for Bluetooth Adaptor in this figure), the column value is displayed as a link. Clicking a column value link displays a list of actions. Clicking an action in the list executes the associated action.

The screenshot shows the same table as above, but with a different context menu open over the '1- Revenue' cell for 'Bluetooth Adaptor'. The 'Action links' section now contains two items: 'Send Email to Manager' and 'Display Graph View'.

P1 Product	1- Revenue
7 Megapixel Digital Camera	3,489,231
Bluetooth Adaptor	1,657,576
CompCell RX3	2,838,512
Game Station	3,360,123

On a dashboard page, you can add action links as standalone links or you can group multiple action links together on action link menus. An action link menu lets users select, from a list of action links, the appropriate action to be executed based on the business insight that they gained from the data.

Additionally, you can conditionally show each action link, depending on the data. This powerful functionality enables you to set up context-sensitive menus that present users with the appropriate next steps based on the data that is displayed. See [About Conditionally Enabling Actions](#).

Action links are not included in exported formats, for example, Excel and PDF.

Action links that you add to analyses are displayed to users in the following views:

- Funnel graphs
- Gauges
- Graphs
- Heat matrixes

- Map views
- Performance Tiles
- Pivot tables
- Tables
- Trellises
- Treemaps

See [Adding Views for Display in Dashboards](#).

Action links that you add to scorecard objectives and initiatives are displayed to users in the following scorecard views:

- Cause & effect maps
- Custom views
- Strategy trees
- Strategy maps
- KPI watchlists

Action links that you add to KPIs are displayed to users in KPI analyses.

What Action Types Are Available?

The types of actions that are available are categorized into two groups: those that *navigate* to related content and those that *invoke* operations, functions, or processes in external systems.

Privileges control which types of actions you can create. You might be able to create only navigate-type actions, only invoke-type actions, or both navigate- and invoke-type actions. Or, you might be able to only execute actions (if they exist as shared objects in the catalog or in a shared object, for example in a dashboard or analysis). See [Who Can Create Actions?](#).

In addition, where you can add an action depends on its type. See [Where Can I Add Actions?](#).

For information about the Contextual Event action type, which developers can use when adding Oracle BI EE objects to Oracle ADF applications, see Passing Business Intelligence Content with the Oracle BI EE Contextual Event Action in *Developer's Guide for Oracle Business Intelligence Enterprise Edition*.

Actions that Navigate to Related Content

You can provide navigation to helpful content.

The following list identifies and describes the types of actions that navigate to related content:

- **Navigate to BI Content** — Navigates to an analysis, a specific dashboard page, or dashboard.
- **Navigate to a Web Page** — Navigates to a specified URL.
- **Navigate to EPM Content** — Navigates to Financial Reporting content.

This action type requires some configuration before it is available. For information on the required configuration, see *Navigate to EPM Content* in *Integrator's Guide for Oracle Business Intelligence Enterprise Edition*.

- **Navigate to E-Business Suite** — Navigates to an Oracle E-Business Suite page or form. You use this type of action to allow users to navigate back to an Oracle E-Business Suite page or form after they have first logged in to Oracle E-Business Suite and then accessed Oracle BI EE.

This action type requires some configuration before it is available. For information on the required configuration, see *Navigate to E-Business Suite* in *Integrator's Guide for Oracle Business Intelligence Enterprise Edition*.

- **Navigate to Siebel CRM** — Navigates to a view (such as an opportunity) in a Siebel CRM application. You use this type of action to allow users to navigate from a dashboard that is embedded in a Siebel CRM application to a record in a view in the CRM application.

This action type requires some configuration before it is available. For information on the required configuration, see *Navigate to Siebel CRM* in *Integrator's Guide for Oracle Business Intelligence Enterprise Edition*.

Actions that Invoke Operations, Functions or Processes in External Systems

You can set actions that are connected to external systems.

The following list identifies and describes the types of actions that invoke operations, functions, or processes in external systems:

- **Invoke a Web Service** — Invokes a Web Service operation or any SOA service that is exposed as a Web Service (for example, a Business Process Execution Language (BPEL) process in the Oracle SOA Suite that is exposed as a Web Service).

This action type requires some configuration before you can use it. For information on the required configuration, see *Invoke a Web Service* in *Integrator's Guide for Oracle Business Intelligence Enterprise Edition*.

- **Invoke a Java Method** — Invokes a Java method in an Enterprise Java Bean (EJB).

This action type requires some configuration before you can use it. For information on the required configuration, see *Invoke a Java Method (EJB)* in *Integrator's Guide for Oracle Business Intelligence Enterprise Edition*.

- **Invoke a Browser Script** — Invokes a JavaScript function from the client web browser.

This action type requires some configuration before you can use it. For information on the required configuration, see *Invoke a Browser Script* in *Integrator's Guide for Oracle Business Intelligence Enterprise Edition*.

- **Invoke Server Script** — Executes a custom script when the current agent completes. The custom script type can be either Javascript or VBScript.

This action supports custom script actions when the server is running on Microsoft Windows. For other platforms (including Windows), consider using the *Invoke Java Method (EJB)* or *Invoke Web Services* action.

- **Invoke an HTTP Request** — Sends an HTTP request through the server to a target URL. This action type is used to invoke external systems that are exposed by URL APIs.
- **Invoke Agent** — Invokes another agent. This action type lets you chain agents. For example, you can have Agent A invoke Agent B, which invokes Agent C and so on.

Who Can Create Actions?

By default, these action privileges are granted to the administrator.

The ability to create actions is controlled by the following action privileges, which are managed by the administrator:

- **Create Navigate Actions** — Grants the right to create actions that navigate to related content.
- **Create Invoke Actions** — Grants the right to create actions that invoke operations, functions, and processes to external systems.
- **Save Actions containing embedded HTML** — Used in conjunction with the Create Invoke Actions privilege, grants the right to embed HTML code in the customization of the results of an Invoke a Web Service action.

See *Managing Presentation Services Privileges in Security Guide for Oracle Business Intelligence Enterprise Edition* and [Managing Objects in the Oracle BI Presentation Catalog](#).

Where Can I Add Actions?

Where you can add an action depends on its type.

You can add some types to analyses, dashboard pages, agents, scorecard objectives, scorecard initiatives, and KPIs, while others you can add only to agents or only to analyses, dashboard pages, scorecard objectives, scorecard initiatives, and KPIs. The table lists the types of actions and identifies where you can add each type.

Action Type	Add to Analyses, Dashboard Pages, Scorecard Objectives, Scorecard initiatives, and KPIs	Add to Agents
Navigate to EPM Content	Yes	No
Navigate to BI Content	Yes	No
Navigate to a Web Page	Yes	No
Navigate to E-Business Suite	Yes	No
Navigate to Siebel CRM	Yes	No
Invoke a Web Service	Yes	Yes
Invoke a Java Method	Yes	Yes
Invoke a Browser Script	Yes	No
Invoke an HTTP Request	Yes	Yes

Action Type	Add to Analyses, Dashboard Pages, Scorecard Objectives, Scorecard initiatives, and KPIs	Add to Agents
Invoke Agent	No	Yes
Invoke Server Script	No	Yes Note: For this action type, the server must be running on Microsoft Windows.
Invoke Java Jobs	No	Yes

For more information on adding actions to objects, see:

- [Adding Actions to Analyses](#)
- [About Adding Actions to Dashboard Pages, Adding Actions to Dashboard Pages Using Action Links, and Adding Actions to Dashboard Pages Using Action Link Menus](#)
- [Adding Actions to Agents](#)
- [Adding Actions to KPIs](#)
- [Adding Actions to Initiatives and Objectives in Scorecards](#)

What Are Named Actions?

A named action is an action that you define and then save by name in the Oracle BI Presentation Catalog so that you can reuse it. You can also reuse a named action as a template to create another named action.

You can save all types of actions to the catalog except the following types:

- Invoke Agent
- Invoke Server Script
- Invoke Java Jobs

For example, suppose that you frequently want to include navigation to your organization's web site in analyses and dashboard pages that you are designing. You can create an action that navigates to the URL and save it to the catalog. Then as you create analyses and dashboard pages, you can add this named action to them.

You create a named action when you create an action from the:

- **New** menu on the global toolbar by clicking **Action** and then selecting one of the action types (for example, **Navigate to a Web Page**).
- Home page by clicking **Action** in the Create area and then selecting one of the action types (for example, **Navigate to BI Content**).

You can also create a named action from a dashboard, an analysis, or a KPI. You do so by creating an inline action and then, to keep it, saving it to the catalog. See [What Are Inline Actions?](#)

What Are Inline Actions?

An inline action is an action that you define at the point of use and do not save by name in the catalog. Instead, it is saved as part of the analysis, dashboard page, agent, scorecard objective, scorecard initiative, or KPI.

An inline action is automatically deleted when the analysis, dashboard page, agent, scorecard objective, scorecard initiative, or KPI that contains it is deleted. This simplifies catalog management for actions that make sense only within particular BI content.

For example, suppose that you are designing a dashboard page and want to invoke an EJB that you plan to use only once. You can create an action that invokes the EJB at that point and then add it to the page. When you save the dashboard, the action is saved with it.

You create an inline action when you:

- Create or edit an agent and add a new action to run when the agents finishes. See [Adding Actions to Agents](#).
- Edit a dashboard page and add a new action to the page using an action link or an action link menu. See [About Adding Actions to Dashboard Pages](#).
- Create or edit an analysis and add a new action to a column heading, column value, or hierarchy level value using an action link. See [Adding Actions to Analyses](#).
- Create or edit a KPI and add a new action to the KPI using an action link. See [Adding Actions to KPIs](#).
- Create or edit an initiative or objective in a scorecard and add a new action to the initiative or objective using an action link. See [Adding Actions to Initiatives and Objectives in Scorecards](#).

What Are Action Parameters?

Action parameters allow data from actions to be presented in operations or processes.

Action parameters are used to pass data from Oracle BI EE to the operations or processes that are represented by actions:

- For actions that invoke Web Service operations, the parameters correspond to the simple types defined as attributes and simple elements (or complex elements deconstructed into their simple type components) within the input message of a Web Service operation and are read from the Web Service Definition Language (WSDL) that defines the operation and any parameters on that operation.
- For actions that invoke a Java method, browser script, or server script, the parameters correspond to the arguments on the method.
- For actions that navigate to a web page or invoke an HTTP Request, the parameters correspond to the parameters passed through from the URL.
- For actions that navigate to BI Content, parameters are automatically passed from the source to the target. When navigating from one analysis to another, if the source row of data contains a field with the same logical name as a field used in a filter on the target analysis, then the value of this field will be passed as a

parameter. The operator on the filter should be set to **is prompted** or **is equal to / is in**.

When creating a named action or when associating an action with an object (such as a column on an analysis), you can specify whether a parameter is:

- **Fixed** — A fixed parameter can be seen but its value cannot be set by a user.
- **Hidden** — A hidden parameter cannot be seen and its value cannot be set by a user. Hidden does not mean that the parameter is secure.
- **Optional** — An optional parameter does not require a value in order for the action to be executed.

An action link or conditional action link that is on a displayed total or grand total will not pass a parameter outside of related BI content.

About Conditionally Enabling Actions

Conditionally enabled actions can be added to specific elements.

You can conditionally enable actions that are added to:

- Analyses. See [About Conditionally Enabling Actions Added to Analyses](#).
- Dashboard pages. See [About Conditionally Enabling Actions Added to Dashboard Pages](#).
- Agents. See [About Conditionally Enabling Actions Added to Agents](#).

Actions that are added to KPIs are associated with KPI ranges so they are enabled conditionally because of their definitions. For the same reason, actions that are added to scorecards are enabled conditionally, because they are associated with states of initiatives and objectives.

About Conditionally Enabling Actions Added to Analyses

An action link added to an analysis will only display under specified conditions.

When you add an action to an analysis, you can specify that its associated action link is to be displayed only when one or more conditions are met. You do this by selecting one or more columns in the analysis to use and specifying the condition to meet. (The steps to specify a condition are very similar to those used for conditional formatting.)

For example, in an analysis that shows sales figures by regions, you can specify that an action link Send E-mail to Regional Manager is to be displayed only if sales figures drop below a certain amount.

About Conditionally Enabling Actions Added to Dashboard Pages

Actions added to dashboard pages may be displayed only under specified conditions.

When you add an action to a dashboard page, you can specify that its associated action link is to be displayed only when a certain condition is satisfied. You do this by specifying a condition (either a named or inline) that is to be satisfied.

For example, in a dashboard page that displays stock levels for products, you can specify that an action link Order Stock is to be displayed only if stock levels are low for a given product.

Using conditional action links on an action link menu lets you display different sets of actions to users, depending on the data in dashboard pages. For example, in a dashboard page that displays stock levels for products, you can add an action link menu that contains the following action links:

- Order Stock and Stop Advertising, if stock levels are zero for a given product
- Order Stock, if stock levels are low for a given product
- No actions, if the stock levels are adequate for a given product

See [What Are Action Links and Action Link Menus?](#) and [Working with Conditions](#).

About Conditionally Enabling Actions Added to Agents

Conditions can be used to execute agent actions.

While you primarily use an agent's condition to determine whether the agent delivers its content or not, you can also use it to determine if the agent executes its actions.

When you add an action to an agent, you can specify that the action is to be executed only when a certain condition is satisfied. You do this by adding a condition (either inline or named) to the agent, and then specifying whether you want the action to be executed:

- Only if the agent condition evaluates to true
- Only if the agent condition evaluates to false

For some actions, you can also specify whether to execute the action for each row that is returned by the condition. Invoke Server Script actions and Invoke Agent actions cannot be executed per row of the result set. In addition, if one of the action parameters is a result set mapping, then it cannot be executed per row.

For example, you could add an action to an agent that automatically kicks off a new marketing campaign and specify that it is to be executed only if a condition that evaluates whether sales for a region drop below \$2,000,000 is true.

See [Working with Conditions](#).

About Customizing Information Displayed to Users on Action Execution

You can customize information to display to users when they run actions.

Specifically, you can:

- Specify whether to display a confirmation prompt to users when they execute the action.
- Customize a dialog that is displayed to users when they need to supply action parameter values before the action is executed.
- Customize an invocation successful message that is displayed to users, or, for an Invoke a Web Service action, you can customize a dialog to display information about the results of the action.
- Customize an invocation failure message that is displayed to users.

You use the Action Options dialog to customize this information when you create or edit an action. See [Specifying the Settings for New Actions](#).

Creating Named Actions

You can create named actions (if you have the appropriate privileges), which content designers can add to analyses, dashboard pages, agents, scorecard objectives, scorecard initiatives, and KPIs.

See [What Are Named Actions?](#)

1. In the global header, click **New**, select **Action** under **Actionable Intelligence**, and then select the type of action to create.
2. Complete the New Action dialog.

Specifying the Settings for New Actions

You must specify settings for each action you create.

You specify the settings for a new action in the Create New Action dialog (displayed as the New Action dialog for agents and dashboards, and Add New Action dialog for scorecards), when you do any of the following tasks:

- [Creating Named Actions](#)
 - [Adding Actions to Analyses](#)
 - [About Adding Actions to Dashboard Pages](#)
 - [Adding Actions to Agents](#)
 - [Adding Actions to KPIs](#)
 - [Adding Actions to Initiatives and Objectives in Scorecards](#)
1. Click **Create New Action** (displayed as **Add New Action** in an agent or **New Action** in a dashboard) and then select the type of action to create. If you selected:
 - **Navigate to BI Content**, first the Select BI Content For Action dialog is displayed, where you select the Oracle BI EE content to which to navigate, and then the Create New Action dialog is displayed.
 - **Navigate to EPM Content**, first the Select the Hyperion resource you want this action to invoke dialog is displayed, where you select the Hyperion resource to which to navigate, and then the Create New Action dialog is displayed.
 - **Invoke a Web Service**, the Select Web Service Operation dialog is displayed, where you select a Web Service operation to be invoked or enter the URL for the WSDL if the web service is not preconfigured, and then the Create New Action dialog is displayed.
- **Web Services**
 - * Use this list to select the Web Service operation to invoke.
 - * Initially, this list displays the Web Services preconfigured by the administrator. You can display other Web Services by using the **WSDL URL** component

- **WSDL URL**
 - * Displays the Web Services Description Language (WSDL) of the Web Service operation selected in the **Web Services** list.
 - * To list Web Service operations available from a WSDL URL that was not preconfigured, use this field to enter the WSDL URL (for example, `http://<server>:8888/default/10?WSDL`) and then click **Open**.
 - **Web Service** — Displays the Web Service of the selected operation
 - **Operation** — Displays the selected operation
 - **Restore** the list of Web Services pre-configured by your Oracle BI Administrator — Displays the list of Web Services that were initially displayed in the Web Services list, that is, the Web Services preconfigured by the administrator.
 - **Refresh** the selected folder — Available only when you have a folder selected. Use this button to refresh the selected folder.
 - **Invoke a Java Method**, the Select Java Method dialog is displayed, where you select the Java method to be invoked, and then the Create New Action dialog is displayed.
 - Any other action type, the Create New Action dialog is displayed.
2. Depending on the type of action that you are creating or editing, do one of the following:

Action Type	What You Do
Navigate to a Web Page or Invoke an HTTP Request	In the URL field, enter the URL of the web page. You can highlight the URL in the browser and copy and paste it into the URL field.
Invoke a Browser Script	In the Function Name field, enter the name of the function to be executed or click Browse and complete the Select Script Function dialog. If the script has parameters defined for it and you selected the function in the Select Script Function dialog, then the parameters are displayed in the Define Parameters list. If you manually entered the function name, then you must manually add the parameters.
Invoke Server Script	In the Language box, select JavaScript or VB Script , and then in the Script Path field, enter the path of the script to be executed. By default, the scripts are stored in the following directory: <code>ORACLE_INSTANCE\bifoundation\OracleBISchedulerComponent\coreapplication_obischn\scripts\common</code> . For example D:\OB111g\instances\instance1\bifoundation\OracleBISchedulerComponent\coreapplication_obisch1\scripts\common. The Administrator can change the default directory where the scripts are stored.
Invoke Agent	Click Browse and complete the Select Existing Agent dialog.

Action Type	What You Do
Navigate to E-Business Suite	<p>In the Define Parameters list, define these mandatory parameters:</p> <ul style="list-style-type: none"> • FunctionCode — The name of the function that relates to the target E-Business Suite form, for example, <i>GLXIQJRN</i> • ConnectionPool — The name of the connection pool for the Oracle E-Business Suite database in the Oracle BI repository, for example, <i>EBS12</i> <p>You can also define optional parameters for passing the context from Oracle Business Intelligence to EBS forms.</p> <p>For information on defining parameters, see the steps for defining parameters in this procedure.</p> <p>For information on integrating with Oracle E-Business Suite security, see Integrating with Oracle E-Business Suite Security in <i>Integrator's Guide for Oracle Business Intelligence Enterprise Edition</i>.</p>
Navigate to Siebel CRM	<p>In the Define Parameters list, define these mandatory parameters:</p> <ul style="list-style-type: none"> • View — The name of the view that contains the record to which to navigate, for example, Opportunity List View. • Applet — The name of the parent applet in the view that contains the record to which to navigate, for example, Opportunity List Applet. • Pass Value — The row number of the record to which to navigate, for example, 3SIA-2O5VU. <p>Generally, if you are adding this type of action to an analysis as an inline action, you use a column in the analysis criteria to set the value of Pass Value. To do so, click the Change type of value button, select Column Value, and then click the Column Value button and select the column.</p> <p>For how to determine the name of the view, applet, and record row number, see your Siebel CRM application documentation.</p> <p>For information on defining parameters, see the steps for defining parameters in this procedure.</p>

3. (for an Invoke an HTTP Request only) In the **Request** box, select one of the following options:
 - **Get** — Invokes the URL as an HTTP GET request.
 - **Post** — Invokes the URL as an HTTP POST request.
4. (for an Invoke Agent action only) In the **Execute for Recipients** box, select the scope of recipients. For example, if you want the recipients to be the same as the recipients of the selected agent, then select **Of Specified Agent**.
5. (optional for a Navigate to Web Page or an Invoke an HTTP Request action) To define parameters for the action, click **Define Parameters** to display the **Define Parameters** list.
6. Define the parameters as appropriate:
 - To add a parameter, click the **Add Parameter** button. A new parameter row is added to the **Define Parameters** list. The **Add Parameter** button is not available for all action types.
 - (for an Invoke Server Script action only) To pass the delivery content or the results of the analysis on which the agent condition is based to the script, click the **Add Document Parameter** button. A new document parameter row is added to the **Define Parameters** list.
 - Specify the column values for each parameter:
 - In the **Name** column, if you are creating a new parameter, then enter the name of the parameter. Use a name that is unique within the action.

This column is not available for all action types.

- In the **Prompt** column, if you want the user to provide the parameter value, then enter the prompt to display to the user.
- In the **Value** column, to provide a parameter value, enter or select the value. If you want the user to specify the value, then leave this field as is.
- In the **Fixed** column, specify whether to allow users to see but not set the parameter. This column is not available for all action types.
- In the **Hidden** column, specify whether to hide the parameter from users. This column is not available for all action types.
- In the **Optional** column, specify whether the parameter requires a value before the action can be executed.

7. (optional) Customize information displayed to the user when the action runs:
 - a. Click **Options** to display the Action Options dialog.
 - b. Specify the customization that you want.
 - c. Click **OK**.

This functionality is available only for actions where it is appropriate to display information to users.

8. Click **OK**.

If you are creating a named action, then a dialog is displayed where you specify the information for saving the action.

Adding Actions to Analyses

You can add one or more actions to a column heading, column value, or hierarchy level value in an analysis.

When you add an action to a column heading, column value, or hierarchy level value, you add the action by using an action link.

When an analysis that contains one or more action links is presented to users in a pivot table, table, map, graph, trellis, or gauge, users can click a link to run the associated action. See [What Are Action Links and Action Link Menus?](#)

1. Edit the analysis to which you want to add one or more actions.
2. Move the mouse pointer over the **Options** button for the column or hierarchy level to which you want to add one or more actions and select **Column Properties** or **Hierarchy Level Properties**.

You can also access the **Column Properties** dialog from the Results tab of the Analysis editor. Select the relevant view and click the **Edit View** button. Locate the appropriate column in the Layout pane, click the **More Options** button, and then select **Column Properties**.

3. In the Column Properties dialog, click the **Interaction** tab of the Column Properties dialog.
4. In the **Primary Interaction** box in the **Column Heading** area (to add one or more actions to a column heading) or the **Value** area (to add one or more actions to a column value or hierarchy level value), select **Action Links** to display the **Action Links** area.

5. Click the **Add Action Link** button.
6. In the New Action Link dialog **Link Text** field, enter the text to display as the link to execute the associated action.
7. To create an action (that is, an inline action), click the **Create New Action** button and specify the settings for the new action. For information, see [Specifying the Settings for New Actions](#).
8. To add an existing action (that is, a named action):
 - a. Click the **Select existing action** button.
 - b. Complete the Select Action dialog.
 - c. If there are parameters associated with the action, then complete the Edit Parameter Mapping dialog that displays.
9. If you are adding the action link to a value, then in the **Show Link** component in the New Action Link dialog, select one of the following options:
 - **Always** — Specifies that the action link is always to be enabled.
 - **Conditionally** — Specifies that the action link is to be enabled only under certain conditions. Selecting this option displays the **Conditions** area. If you are adding the action link to a column heading, then the **Conditionally** option is not available.
10. If you selected **Conditionally**, then add one or more conditions to be used to enable the action link. For each condition to add:
 - a. Click the **New Condition** button and select the column to use.
 - b. Complete the New Condition dialog.
11. In the New Action Link dialog, click **OK** to add the action link to the Action Links area on the Interaction tab.
12. For each additional action link to add, repeat steps 5 -12.
13. To specify that, when only one action link is available at runtime, the action link is to be executed immediately rather than be displayed in a menu for selection, select the **Do not display in a popup if only one action link is available at runtime** box.
14. Select the **Enable on Totals** check box when your analysis contains a total or grand total, and the associated attribute or measure column contains an action link or a conditional action link and you want the action link (or conditional action link) to be applied to both the column and the total or grand total. This does not apply to column heading action links and by default, this behavior is turned off.
15. Click **OK** to close the Column Properties dialog.
16. Click the **Save Analysis** button on the Analysis editor to save the analysis.

About Adding Actions to Dashboard Pages

Enhance dashboard pages by adding actions to them.

You can add actions to dashboard pages in one of two ways:

- By adding to a section on the dashboard page an Action Link object to which you add an action.

When a dashboard page that contains one or more action links is presented to users, users can click a link to run the associated action.

- By adding to a section on the dashboard page an Action Link Menu object to which you add action links.

When a dashboard page that contains an action link menu is presented to users, users can select a link from the action link menu to run the associated actions.

See [What Are Action Links and Action Link Menus?](#)

Adding Actions to Dashboard Pages Using Action Links

Actions can be added to dashboard pages to make the dashboard pages interactive by using action links.

1. Edit the dashboard page to which you want to add an action.
2. From the Dashboard Object pane, drag and drop an Action Link object on the dashboard page.
3. Click the **Properties** button for the Action Link object to display the Action Link Properties dialog.
4. Complete the Action Link Properties dialog. See [Completing the Action Link Properties Dialog](#).
5. Click the **Save** button on the Dashboard builder to save the dashboard page.

Completing the Action Link Properties Dialog

When you add actions to dashboard pages either by using action links or action link menus, you create action links by completing the Action Link Properties dialog.

The Action Link Properties dialog provides formatting and function settings.

1. To create an action (that is, an inline action), click the **New Action** button and specify the settings for the new action.
2. To add an existing action (that is, a named action):
 - a. Click the **Select existing action** button.
 - b. Complete the Open dialog.
 - c. If there are parameters associated with the action, complete the Edit Parameter Mapping dialog that displays.
3. In the **Link Text** box, enter the text to display as the link to execute the associated action.

If you enter information into the **Link Text** box prior to adding an existing action or creating an action, the information that you entered is overwritten with the name of the action link.

4. If you are creating an action link that will not be displayed on an action link menu, then in the **Caption** box, enter a caption to display above the link text.
5. (for an action link that navigates to a URL or to other BI content only) Use the **Open Link in New Window** box in the Action Link Properties dialog to specify whether to open the link in a new browser window or tab.

6. (for Navigate to BI Content actions only) Use the **Add to Briefing Book** box to specify whether the action that is associated with the action link can be executed in a briefing book, but only if the number of briefing book navigation links to be followed is greater than 0.
7. In the **Show Link** component, select one of the following options:
 - **Always** — Specifies that the action link is always to be enabled.
 - **Conditionally** — Specifies that the action link is to be enabled only if the associated condition is satisfied.
8. If you selected **Conditionally**, then specify the condition as follows:
 - a. To create a condition, click the **New Condition** button to display the New Condition dialog and then complete the dialog.
 - b. To select an existing condition, click **Select Condition** to display the Select Condition dialog and then complete the dialog.
9. Click **OK** in the Action Link Properties dialog.

Adding Actions to Dashboard Pages Using Action Link Menus

You can add actions to make dashboard pages interactive.

You can add one or more actions to a dashboard page using an action link menu.

1. Edit the dashboard page to which you want to add one or more actions.
2. From the Dashboard Object pane, drag and drop an Action Link Menu object on the dashboard page.
3. Click the **Properties** button for the Action Link Menu object to display the Action Link Menu Properties dialog.
4. In the **Menu Label** box, enter the name to display for the menu.
5. In the **Caption** box, enter a caption to display above the action link menu text.
6. Add the action links to the menu as follows:
 - To add an action link that already exists on the page, drag and drop the existing Action Link object onto the Action Link Menu object.
 - To add a new action link, click the **Add** button to display the Action Link Properties dialog and then complete the dialog.

Note:

You also can drag an Action Link object from an Action Link Menu object to create a standalone action link.

7. Click **OK** in the Action Link Menu Properties dialog.
8. Click the **Save** button on the Dashboard builder to save the dashboard page.

Adding Actions to Agents

You can add one or more actions to an agent.

You cannot add an existing action that navigates to related content (such as Navigate to BI Content) or an existing Invoke a Browser Script action to an agent.

1. Edit the agent to which you want to add an action.
2. Click the **Actions** tab of the Agent editor.
3. Determine whether to add the action to the **Agent Condition True or No Condition Exists** area or the **Agent Condition is False** area as follows:
 - If there is no condition associated with the agent, or if there is a condition associated with the agent and you want the action to execute only if the condition evaluates to true, then use the **Agent Condition True or No Condition Exists** area.
 - If there is a condition associated with the agent and you want the action to execute only if the condition evaluates to false, then use the **Agent Condition is False** area.
4. To create an action (that is, an inline action), click the **Add New Action** button and specify the settings for the new action.
5. To add an existing action (that is, a named action), click the **Add Existing Action** button and complete the Select Existing Action dialog.

If there are parameters associated with the action, then the Add Existing Action dialog displays.
6. (not available for Invoke Server Script actions, Invoke Agent actions, or actions for which one of the parameters is a result set mapping) Select the **Invoke per Row** option if you have specified a condition for the agent and want to execute the action for each row returned by the condition.
7. Click the **Save this Agent** button in the Agent editor to save the agent.

Adding Actions to KPIs

You can add one or more actions to a KPI. When you add an action to a KPI, you add the action by using an action link.

When a KPI that contains one or more action links is presented to end users (generally in a scorecard or a KPI watchlist), users can click a link to run the associated action.

1. Edit the KPI to which you want to add one or more actions.
2. Click the **States** page of the KPI editor.
3. Click the **Define action links for this status** button to display the Action Links dialog.
4. To add an action that has been added to another range of the KPI, click the **Add Action Link** button and select the action.
5. To add a new action:
 - If one or more actions have been added to another range of the KPI, click the **Add Action Link** button and select **New Action Link**.

- If no actions have been added to other ranges of the KPI, then click the **Add Action Link** button.
6. In the **Link Text** field of the New Action Link dialog, enter the text to display as the link to execute the associated action.
 7. To create an action (that is, an inline action), click the **Create New Action** button and specify the settings for the new action.
 8. To add an existing action (that is, a named action):
 - a. Click the **Select existing action** button.
 - b. Complete the Open dialog.
 - c. If there are parameters associated with the action, complete the Edit Parameter Mapping dialog (if displayed).
 9. Click **OK** in the New Action Link dialog.
 10. For each additional action link to add, repeat steps 5–9.
 11. Click **OK** to close the Action Links dialog.
 12. Click the **Save KPI As** button on the KPI editor to save the KPI.

Adding Actions to Initiatives and Objectives in Scorecards

You can add one or more actions to an initiative or objective in a scorecard.

When you add an action to an initiative or objective, you use an action link.

1. Edit the scorecard that contains the initiative or objective.
2. Navigate to the initiative or objective to which you want to add an action as follows:
 - If you are adding the action to an initiative, then in the Initiatives pane, double-click the initiative.
 - If you are adding the action to an objective, then in the Strategy pane, double-click the objective.
3. In the Action Link area in the Analytics pane, click the **New Row** button.
4. In the **State Equals** box of the Action Link dialog, select the state of the initiative or objective under which the action link is to be enabled.
5. To create an action (that is, an inline action), click the **Create New Action** button and specify the settings for the new action.
6. To add an existing action (that is, a named action):
 - a. Click the **Select Existing Action** button.
 - b. In the Open dialog, click **OK**.
7. In the **Link Text** field, enter the text to display as the link to execute the associated action.
8. Click **OK** in the Action Link dialog to add the action link.
9. Save the objective or initiative.

Creating a New Action Based on an Existing Named Action

You can create an action based on an existing named action.

For example, suppose that your organization has an existing named action Send Message that sends an email message. Its parameters include a recipient, subject, message, and priority. You can create an action that is based on this Send Message action that sends a high priority message. To do so, you provide a high priority value for the priority parameter and save the new action with a new name, such as Send High Priority Message.

1. Edit the existing named action on which you want to base a new action.
2. In the Edit Action dialog, specify any changes that you want.
3. Click **Save As** and specify the save as criteria in the dialog.

Editing Named Actions

You can edit a named action.

Editing a named action allows you to keep it current.

1. Navigate to the action in the catalog.
2. Click the **Edit** link.
3. In the Edit Action dialog, edit the action and click **OK**.
4. Click **Save Action**.

Editing Actions and Action Links Added to Analyses

You can edit one or more actions or action links in a column heading, column value, or hierarchy level value in an analysis.

When you change actions or action links in analyses, the change is seen everywhere the action or action link is used.

1. Edit the analysis to which the action and action link has been added.
2. Move the mouse pointer over the **Options** menu for the column or hierarchy level to which the action has been added and select **Column Properties** or **Hierarchy Level Properties**.

You can also access the **Column Properties** dialog from the Results tab of the Analysis editor. Select the relevant view and click the **Edit View** button. Locate the appropriate column in the Layout pane, click the **More Options** button, and then select **Column Properties**.

3. In the Column Properties dialog, click the **Interaction** tab.
4. In the Action Links area, select the action to edit and click the **Edit Action Link** button to display the Edit Action Link dialog.
5. Make the appropriate changes to the action link.
6. Click the **More** button and select **Edit Action**.
7. In the Edit Action dialog, edit the action and click **OK**.

8. In the Edit Action Link dialog, click **OK**.
9. In the Column Properties dialog, click **OK**.
10. Click **Save Analysis**.

Editing Actions, Action Links, and Action Link Menus Added to Dashboard Pages

You can correct errors or make updates to actions, action links, or action link menus on dashboard pages.

You edit any action, action link, or action link menu to keep dashboard pages current.

1. Edit the dashboard page.
2. If the action and action link are associated with an action link menu:
 - a. Click the **Properties** button for the Action Link Menu object.
 - b. In the Action Link Menu Properties dialog, make the appropriate changes to the menu label and caption.
 - c. In the Action Links area, select the action to edit and click the **Edit** button.
3. If the action and action link are standalone, click the **Properties** button for the Action Link object to which the action is associated.
4. In the Action Link Properties dialog, make the appropriate changes to the action link.
5. Click the **More** button and select **Edit Action**.
6. In the Edit Action dialog, edit the action and click **OK**.
7. Click **OK** in the Action Link Properties dialog, and then in the Action Link Menu Properties dialog (if displayed).
8. Click **Save** to save the dashboard.

Editing Actions Added to Agents

You can edit an action that you have added to an agent.

If the action is an inline action, then you can edit the entire action. If the action is a named action, then you can edit only the parameter values.

1. Open the agent.
2. Click the **Actions** tab of the Agent editor.
3. Select the action and click the **Edit Parameters** button.
4. In the Edit Action dialog, edit the action and click **OK**.

Editing Actions and Action Links Added to KPIs

You can change an action or action link that has been added to a KPI.

Editing actions and action links ensures the information is current.

1. Edit the KPI to which the action and action link has been added.
2. Click the **States** page of the KPI editor.
3. Click the **Define action links for this status** button to display the Action Links dialog.
4. In the Action Links area, select the action to edit and click the **Edit Action Link** button to display the Edit Action Link dialog.
5. Make the appropriate changes to the action link.
6. Click the **More** button and select **Edit Action**.
7. In the Edit Action dialog, edit the action and click **OK**.
8. Click **OK** in the Edit Action Link dialog.
9. Click **OK** in the Action Links dialog.
10. Click **Save KPI As**.

Editing Actions and Actions Links Added to Initiatives and Objectives in Scorecards

Editing actions and action links in initiatives and objectives allows them to be kept current and relevant.

Editing actions and action links is a simple process.

1. Edit the scorecard that contains the initiative or objective.
2. Navigate to the initiative or objective as follows:
 - For an initiative, in the Initiatives pane, double-click the initiative.
 - For an objective, in the Strategy pane, double-click the objective.
3. In the Action Link area of the Analytics pane, click the **Edit Row** button.
4. In the Action Link dialog, make the changes that you want and click **OK**
5. Save the objective or initiative.

Saving Inline Actions in Analyses to the Catalog

You can save inline actions to the catalog so that they can be used in multiple analyses.

You can select an inline action in an analysis to be saved in the catalog. For example, in the Brand Revenue analysis, you can save an inline action in the catalog. When you save the action to the catalog, you can include it in other analyses and dashboard pages in the Sales Performance dashboard.

To save an inline action in an analysis:

1. Edit the analysis to which the action has been added.
2. Move the mouse pointer over the **Options** menu for the column or hierarchy level to which the action has been added and select **Column Properties** or **Hierarchy Level Properties**.

You can also access the Column Properties dialog from the Results tab of the Analysis editor. Select the relevant view and click the **Edit View** button. Locate the appropriate column in the Layout pane, click the **More Options** button, and then select **Column Properties**.

3. Click the **Interaction** tab in the Column Properties dialog.
4. In the Action Links area, select the action to save and click the **Edit Action Link** button.
5. In the Edit Action Link dialog, click the **More** button and select **Save Action As** to display the Save As dialog to specify the save criteria.
6. Specify the save criteria and click **OK**.

To replace the reference to the current action with the saved action, select the **Replace current action with a reference to the saved action** box.

7. Click **OK** in the Edit Action Link dialog.
8. Click **OK** in the Column Properties dialog.

Saving Inline Actions in Dashboards to the Catalog

You can select an inline action in a dashboard to be saved into the catalog.

For example, in the Sales Performance dashboard, you can save an inline action in the catalog. When you save the action to the catalog, you can include it in the Brand Revenue analysis, which is not included in the dashboard.

1. Edit the dashboard page.
2. If the action and action link are associated with an action link menu:
 - a. Click **Properties** for the Action Link Menu object.
 - b. In the Properties dialog, make the appropriate changes to the menu label and caption.
 - c. In the Action Links area, select the action to edit and click **Edit**.
3. If the action and action link are standalone, then click the **Properties** button for the Action Link object to which the action is associated.
4. In the Action Link Properties dialog, click the **More** button and select **Save Action As**. The Save As dialog is displayed.
5. In the Save As dialog, edit the action and click **OK**.
6. Click **OK** in the Action Link Properties dialog, and then in the Action Link Menu Properties dialog (if displayed).
7. Click **Save** to save the dashboard.
8. Click the **More** button and select **Save Action As**.
9. Specify the save criteria and click **OK**.

Tip:

To replace the reference to the current action with the saved action, select the **Replace current action with a reference to the saved action** box.

10. Click **OK** in the Action Link Properties dialog, and then in the Action Link Menu Properties dialog (if displayed).
11. Click **Save** to save the dashboard.

Testing a Named Action by Executing It

After creating a named action, you can test it to ensure that it executes properly.

For example, you can test the Navigate to Brand Revenue action. Test the action to ensure that it prompts users for the expected values. Also, test to see that it navigates to and displays appropriate data on the Brand Revenue dashboard page.

1. Navigate to the named action in the catalog.
2. Click the **Execute** link.
3. Respond to any request for more information or any confirmation prompt that is displayed.

A successful invocation message indicates only that the action itself ran successfully. It does not indicate that the process or operation that the action represents ran successfully.

12

Using KPIs and KPI Watchlists

This chapter explains how to use Key Performance Indicators (KPIs) and KPI watchlists in Oracle Business Intelligence Enterprise Edition. It also explains KPI evaluation, dimensions and pinned dimension values, and target settings.

Topics

This chapter includes the following sections:

- [What Are KPIs?](#)
- [How Are KPIs Evaluated?](#)
- [How Can I Use KPIs?](#)
- [What Are Dimensions and Pinned Dimension Values?](#)
- [About KPI Privileges and Permissions](#)
- [How Do I Create a KPI?](#)
- [Creating KPIs](#)
- [Editing KPIs](#)
- [What Are Target Settings?](#)
- [Generating Analyses from KPIs](#)
- [Creating Agents from KPIs](#)
- [Contacting the Business Owner of KPIs](#)
- [About Overriding Statuses of KPIs](#)
- [About Adding Comments to KPIs](#)
- [What Are KPI Watchlists?](#)
- [Creating KPI Watchlists](#)
- [Editing KPI Watchlists](#)

What Are KPIs?

Key Performance Indicators, or KPIs, are measurements that define and track specific business goals and objectives that often roll up into larger organizational strategies that require monitoring, improvement, and evaluation.

KPIs have measurable values that usually vary with time, have targets to determine a score and performance status, include dimensions to allow for more specific analysis, and can be compared over time for trending purposes and to identify performance patterns.

See the following list of specific uses for KPIs in Oracle BI EE:

- Evaluate metrics against their targets and alert the appropriate users through agents when targets are not met.
- Create an analysis from a KPI and add that analysis to a dashboard. An analysis that is created from a KPI can allow the user to drill into different levels of details based on the KPI's dimensions.

For example, to a KPI called Product Sales, you can add the Region and Fiscal Time dimensions to view Product Sales figures by region and time periods such as financial quarters. This addition enables you to gather multi-dimensional subsets of data and evaluate the performance of objectives and initiatives that the KPI measures against the different target values of the dimensional metrics.

- In Oracle Scorecard and Strategy Management, use KPIs to evaluate and monitor the performance of the objectives that form the strategy and the initiatives (tasks or projects) that are needed to meet your objectives. See [Scorecarding](#).

For example, use KPIs for Average Customer Satisfaction Survey Score and Repeat Orders to measure the performance of an Improved Customer Satisfaction objective.

How Are KPIs Evaluated?

A KPI's status and score are determined by comparing its actual value against the thresholds that you define.

The performance status of a KPI is represented by the status icon that you assign to each range.

For example, for a product sales KPI in which high values are desirable, you can define the ranges that are described in the table. Thresholds are the numeric values that separate the ranges.

Evaluation Range Rule	Threshold	Name	Status Icon
Values exceeding 125 ($125 < x$) indicate ideal performance	126 and above	Ideal	Blue square
Values between 100 and 125 ($100 < x \leq 125$) indicate good performance	125	Good	Green square
Values between 80 and 100 ($80 < x \leq 100$) indicate acceptable performance	100	Acceptable	Yellow square
Values between 50 and 80 ($50 < x \leq 80$) indicate a warning of poor performance	80	Warning	Light red square
Values less than 50 ($x \leq 50$) indicate critical performance	50 and below	Critical	Dark red square

How Can I Use KPIs?

KPIs are created with the KPI Editor, which can be accessed as a standalone editor or within the Scorecard editor.

After you create and save KPIs, you can use them in the following ways:

- Building blocks of scorecards — You can create and assign KPIs to measure the progress and performance of your organization's strategies. Within a scorecard, you can define the *objectives* (goals such as Decreased Operational Costs) and

initiatives (processes or tasks such as Form Cost Minimization Team) to which you assign KPIs to measure progress and performance. See [What Are Objectives?](#) and [What Are Initiatives?](#)

- As an analysis — You can generate an analysis from a KPI. When you do so, Oracle BI EE saves the analysis to the catalog. You can include the analysis on a dashboard or as a related document in a scorecard, KPI watchlist, or KPI. Any dimension values that you pinned to the KPI before you output it as an analysis are included in the analysis. Pinning qualifies or filters the data that the user sees by assigning one or more values to the dimension. Drill-down is available on the analysis. Oracle BI EE refreshes the data for the analysis every time a user opens the analysis.
- Included in KPI watchlists — You can create a watchlist that contains a group of KPIs or to present one KPI several times with dimension values that are pinned to it. After you save the watchlist, it is available as a catalog object that you can add to dashboards or scorecards. When users access the watchlist, they can change the dimension values for the KPIs that are included in the watchlist. Scorecards can contain other types of watchlists, such as Initiatives & KPIs watchlist, Objectives & KPIs watchlist, and Breakdown watchlist. See [Understanding Watchlists](#).
- Facilitate user interaction — If KPIs were added to a KPI watchlist or if they were added to objectives or initiatives inside a scorecard, then you can post comments to a KPI and read and reply to other users' comments. You can also contact the KPI's business owner with questions or comments about the KPI. And, if you are the business owner, you can override a KPI's status.
- Initiate actions — You can add an action link that when clicked in the KPI runs an associated action. For example, if the performance of a KPI for Internal Spending is too high, indicating excessive spending, then you could create an action link that when clicked, sends an email to the appropriate employees.
- Trigger agents — You can use a KPI's values, performance levels, and status to trigger a condition that initiates an agent alert. For example, you can define an agent that notifies you when the value of an Internal Costs KPI exceeds a certain dollar amount.

What Are Dimensions and Pinned Dimension Values?

Dimensions are categorizations of data, and the categorizations reflect how a business analyst wants to analyze data.

When analysts say they want to see numbers "by" something or "over" something, they are identifying the dimensions of the data. Common dimensions are geography, product, customer, and time.

For KPIs, you can select any attribute column from the subject area as a dimension. When you design the KPI, you can either pin one or multiple data values to one or more dimensions (for example, `Region = Central`), or you can specify that you want all or some dimension values pinned when the KPI is added to a watchlist or scorecard and when a watchlist or scorecard is added to a dashboard. After a value is pinned by the designer, the user cannot change the value.

When adding a KPI without a pre-pinned value to a watchlist, the designer can pin one or more values, or specify a session, repository, or global variable to set the dimension's value. If the designer does not pin a value or variable to a dimension, then the KPI user can select one or more values at runtime from the point of view area in

either the KPI watchlist, from the scorecard that contains the KPI, from the variable prompt on a dashboard, or from the column prompt on the dashboard.

- If a KPI watchlist or scorecard object containing a KPI is added to a dashboard with prompts, and the KPI is not dimensioned by a specific prompt's dimension in the KPI definition, that prompt is ignored. Additionally, if the KPI is pinned to a specific dimension value in its definition, a prompt on that dimension is ignored. Refer to [Adding a Dashboard Prompt to a Dashboard or Dashboard Page](#) and to the Dashboard Properties dialog when adding a KPI watchlist or scorecard object containing KPIs to a dashboard that contains prompts.
- If a KPI with dimensions is output to an analysis, then the dimensions are displayed as columns and drills. If the dimension values are pinned, then the analysis is limited to the data that is determined by the pinned values. If the dimension is pinned with multiple values, a row is displayed for each pinned value.

Define several dimensions for a KPI, but do not pin the dimensions within the KPI definition itself. This allows the user to reuse the KPI and pin it within a scorecard strategy tree, watchlist, or dashboard prompt. For example, if you create an overly specific KPI that pins a dimension, such as region to North America, the use for the KPI might be limited. If you leave the dimension unpinned, then the user makes the decision what region to pin. The usage for this KPI becomes more flexible and reusable, and prevents you from having to create and manage overly-specific KPIs.

About KPI Privileges and Permissions

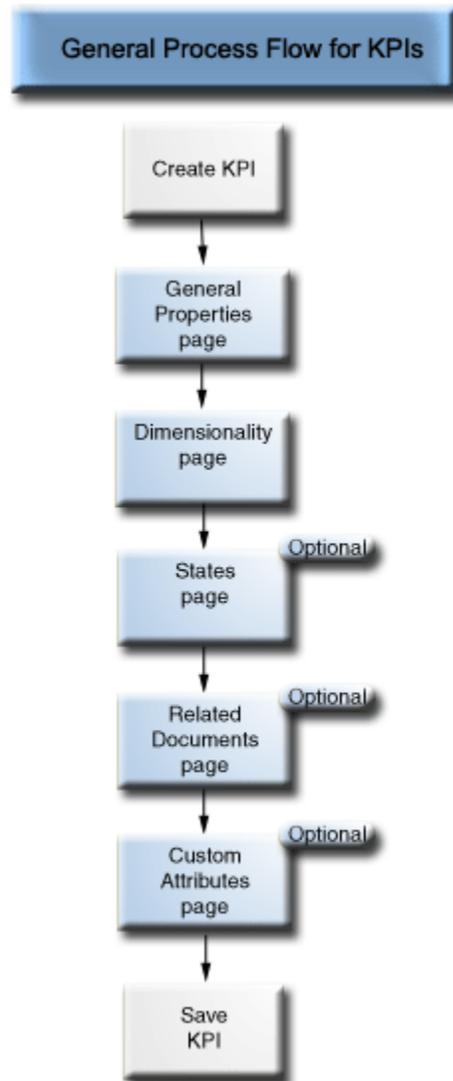
The ability to perform certain tasks when building KPIs and KPI watchlists is controlled by privileges.

See [About Scorecard Privileges and Permissions](#).

How Do I Create a KPI?

There are several pages that the content designer can use to build a KPI.

These pages are represented in the illustration. See [Creating KPIs](#).



You must complete the General Properties page and the Dimensionality page of the KPI editor.

To navigate between pages, you select the **Next** and **Back** buttons, or you click the page name along the navigation train. The navigation train is represented in the illustration.



Creating KPIs

You can create a KPI from the global header, the Home page, or from a scorecard.

Use the following procedure to create a KPI. See [Editing KPIs](#).

1. To create a KPI, do one of the following:
 - In the global header, click **New** then select **KPI**. From the Select Subject Area dialog, select a subject area for the KPI. The KPI editor is displayed.
 - From a scorecard, go to the Scorecard Documents pane and click the **Create Object** button. Or in the Catalog pane, click the **New Object** button. Select **KPI**, and from the Select Subject Area dialog, select a subject area for the KPI. The KPI editor is displayed.
2. On the General Properties page of the KPI editor, specify the business owner, actual value and target value, and whether to make the values writeable, define the data format, and indicate whether to enable trending to determine performance patterns. Oracle recommends that you enable trending because trending enables Scorecard to automatically display historical trend charts. This illustration shows an example of the General Properties page for a revenue KPI.

General Properties

A KPI is based on comparing actual and target performance. Define the source of actual and target values for this KPI.

Description

Business Owner

Actual Value fx Writable

Target Value fx Writable

Data Format (987,654,321.99)

Enable Trending

Compare to prior

Tolerance

If you are going to enable trending, you must also include a Time dimension on the Dimensionality page of the KPI editor. If a Time dimension is selected from the **Compare to Prior** option, the same Time dimension must be added to the Dimensionality page. If a Time hierarchy level is selected from the **Compare to Prior** option, the hierarchy to which that hierarchy level belongs, must be added to the Dimensionality page.

If you are planning to use a KPI in a scorecard, you should assign a business owner. You cannot override a KPI status without having a business owner assigned. See [Working with Status Overrides](#).

3. On the Dimensionality page, select the dimensions (for example, Sales by Region and by Financial Quarter) that you want to use to aggregate the KPI's actual and target values and determine if the dimensions should be pinned. You should include a time dimension for most KPIs. Exceptions include constants or metrics that are defined as current snapshots, such as Inventory on Hand or Current Phone Support Wait Time. The illustration shows an example of the

Dimensionality page. In this example, the "Cust Regions"."D50 Region" dimension is pinned to AMERICAS.

Dimensionality
Define dimension values for the KPI or allow each dimension to be prompted by the user.

Define KPI value for

Dimension	Value
"Time"."T05 Per Name Year"	<is prompted>
"Sales Person"."E1 Sales Rep Name"	<is prompted>
"Office Regions"."D50 Region"	AMERICAS

Add... Remove

- On the States page, indicate the desired goal based on KPI values (for example, High Values are Desirable), define the ranges that evaluate KPI values to determine performance status and score, associate performance levels with actions, identify what to do if no data is returned for the KPI, and associate thresholds as a percent of target value. This illustration shows an example of the States page.

States
KPI state is determined by comparing the actual ("Base Facts"."1- Revenue") and target ("Base Facts"."5- Target Revenue") values. For each KPI state, define a label,

State Properties
Goal: High Values are Desirable

Status label	Color	Icon	Actions	Thresholds
OK	Green	✓	🔄	$Actual > Target + 1$
Warning	Yellow	⚠	🔄	$Target + 1 \geq Actual > Target + 0.9$
Critical	Red	✖	🔄	$Actual \leq Target + 0.9$

Thresholds define as % of target value
 100 ^ v %
 90 ^ v %

If KPI returns No Data: No status

- On the Related Documents page, add any external links or business intelligence objects to the KPI. This illustration shows an example of the Related Documents page of the KPI editor.

Related Documents

Related docs description goes here.

	Name	Location
	Revenue Scorecard	/Shared Folders/Sample Lite/Monthly Revenue Trend
	Revenue Dashboard	/Shared Folders/Sample Lite/Dashboards/QuickStart/Order Details

- On the Custom Attributes page, include as many as five custom columns. Each custom column must evaluate to a numeric value. Custom columns are helpful when you have an associated calculation that you want to show, which isn't the same as the actual, target, variance, and change formulae. For example, you might add a custom column for Year Ago Revenue that displays next to the Revenue KPI for a matching time period. This illustration shows an example of the Custom Attributes page.

Custom Attributes
Manually create custom columns for the KPI.

Label	Formula
Year Ago Revenue	"Time Series""121" Period Ago Rev"

- Save the KPI.
 - If you are creating a standalone KPI, then click **Finish** to save the KPI.
 - If you are creating a new KPI, then the Save As dialog is displayed where you specify the KPI's name and where you want to save the KPI. If you want the KPI to display within a scorecard's Scorecard Documents pane, then save the KPI to the scorecard object's folder within the catalog.
 - If you are creating a KPI from a scorecard, then click **Save** from the Scorecard editor.

Editing KPIs

There are multiple ways to edit KPIs

Use the following procedures to open and edit a saved KPI. KPIs are stored in the catalog, but can be added to KPI watchlists, scorecards, and dashboards. When you edit and save a KPI, the changes propagate to wherever the KPI is displayed.

Editing KPIs from the Catalog

Use the following procedure to edit a KPI from the catalog.

You can use the catalog to access a KPI to edit it.

- In the global header, click **Catalog**.
- In the Catalog page, navigate to the KPI to edit and click the **Edit** link for the object.

3. In the KPI editor, make the desired changes.
4. Save the KPI.

Editing KPIs from a KPI Watchlist

Use the following procedure to edit a KPI from a KPI watchlist.

You can access a single KPI from a KPI watchlist to edit the KPI.:

1. In a KPI watchlist, right-click the KPI that you want to open.
2. Select **Open KPI Definition**.
3. In the KPI editor, make the desired changes.
4. Save the KPI.

What Are Target Settings?

Target settings allow the user with the proper privileges and security settings to modify the KPI's actual and target values.

Once modified, these values are submitted to and stored in the repository. Oracle BI EE then uses these modified values to recalculate aggregate values, refresh the cache, and refresh the KPI watchlists or scorecards to which the KPI was added. Currently target settings are available for Essbase data sources only. See [About Scorecard Privileges and Permissions](#).

Prerequisites for Setting Up Target Settings in KPIs

There are several steps that need to be taken to use target settings in KPIs.

The administrator must perform the following prerequisite tasks before the content designer can create a KPI with target settings:

- **Configure the repository for target settings** — The Oracle BI EE repository administrator must enable the target setting features by mapping the Oracle Essbase data source to the Physical, Business Model and Mapping, and Presentation layers in the Oracle BI repository. The administrator must then enable write back for the columns in the repository on which target settings are enabled by selecting the **Writeable** option for the logical columns, followed by enabling the **Read/Write** permission for the corresponding presentation columns. See *Enabling Write Back On Columns in Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition* for additional information.
- **Create Calculation Scripts** — The Oracle BI EE repository administrator uses Oracle Essbase to create calculation scripts for the data source. After the calculation scripts are created, they display in the **Post-update Business Rule** list located in the Oracle BI EE General Properties page of the KPI editor. At design time, the content designer chooses a calculation script. At runtime, Oracle BI EE uses the specified calculation script to recalculate the data after the user modifies and saves the KPI's actual and target values.

See *Developing Calculation Scripts for Block Storage Databases in Oracle Essbase Database Administrator's Guide* for additional information.

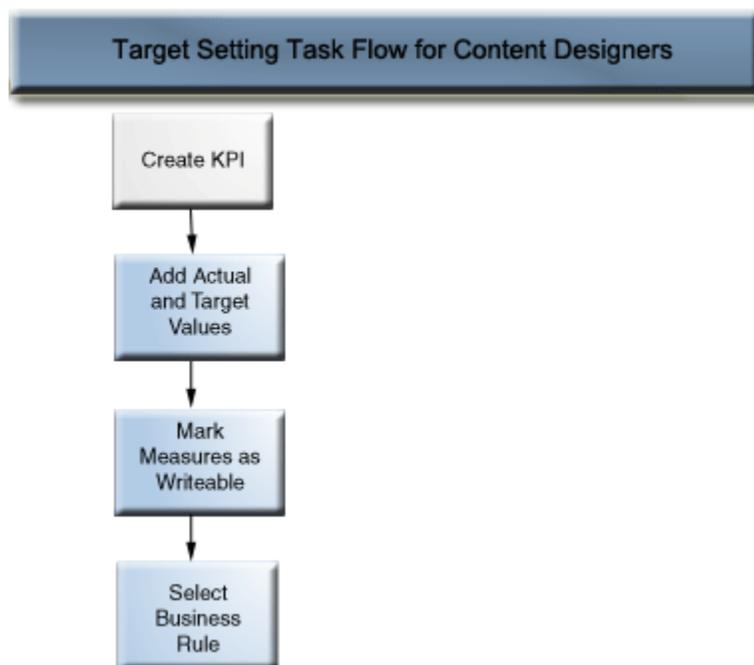
- **Assign user privileges** — To allow users to modify the actual and target values in a KPI the Oracle BI EE system administrator must assign the user specific

privileges. See [About Scorecard Privileges and Permissions](#) for additional information about Presentation Services privileges.

Overview of Setting Up Target Settings in KPIs

There are several steps that the content designer must perform to create a KPI with actual and target values that a user can update at runtime.

The illustration shows each required step in the process. See [Description of Target Setting Task Flow Steps](#) and [Creating KPIs](#).



Description of Target Setting Task Flow Steps

The following list describes each step that you must perform to set up a KPI's target settings:

- Add actual and target values to the KPI — In the General Properties page of the KPI editor, use the **Actual Value** and **Target Values** fields to specify the values to use to determine the KPI's status and score. Currently you can only create one KPI for each Essbase data source.
- Mark measures as writeable to enable users to update actual and target values — In the General Properties page of the KPI editor, use the **Writeable** check box to specify which values you want the user to be able to modify. You can select one or both values as writeable.
- Select the business rule — In the General Properties page of the KPI editor, use the **Post-update Business Rule** list to specify the calculation script. Oracle BI EE uses the calculation script to recalculate the data after the values are modified by the user. The repository administrator uses Oracle Essbase to create the data source and the calculation scripts that display at design time. See [Prerequisites for Setting Up Target Settings in KPIs](#).

User Interaction with Target Settings

The content designer can include KPIs with enabled target settings in watchlists, such as a KPI watchlist, objectives, and initiatives.

See [Understanding Watchlists](#).

At runtime, a user who has been granted the proper privileges can modify and save the actual and target values that are writeable. After the user enters and saves the values, Oracle BI EE submits the values to the repository, recalculates the aggregate values, and refreshes the watchlist. See [About Scorecard Privileges and Permissions](#).

Generating Analyses from KPIs

You can use KPIs to generate analyses based on a KPI watchlist, scorecard, or scorecard diagram.

Use the following procedures to generate an analysis from a KPI. An analysis is a query against an organization's data that provides answers to business questions such as "What are my yearly regional sales of a specific beverage?" See [Creating Analyses](#).

You can generate an analysis from a KPI that is included in a KPI watchlist, scorecard, or scorecard diagram view on a dashboard. After you generate the analysis, it is stored in the catalog's Drills folder (`/My Folders/Drills`). Because the `My Folders/Drills` folder is used for temporary storage, the analysis might not persist after your session ends. To preserve the analysis, copy it to another directory. For example, to preserve an analysis that you plan to use in a shared dashboard, copy it to a folder in `/Shared Folders`.

After the analysis is generated, the analysis can then be placed onto a dashboard, opened from the catalog as an analysis, or attached as a related document in a scorecard, KPI watchlist, or KPI. Every time a user opens the analysis, its data is refreshed.

If the KPI dimension has a multi-value pinning, each value is displayed as a separate row in the analysis.

To generate an analysis from a KPI on a watchlist:

1. Locate and open the KPI watchlist from the catalog, scorecard, or dashboard that contains the KPI watchlist.
2. Go to the **Performance** tab and within the KPI Watchlist table, select the row that contains the KPI that you want to output to an analysis.
3. Click **Objects** and then select **Analyze**. A new browser tab opens and displays the analysis, and Oracle BI EE saves the analysis to the catalog's Drills folder (`/My Folders/Drills`).

To output an analysis from a KPI on a scorecard:

1. Expand the scorecard's strategy tree, initiative tree, Scorecard Documents pane, or Catalog pane and select a KPI.
2. Right-click the KPI and select **Analyze**. A new browser tab opens and displays the analysis, and Oracle BI EE saves the analysis to the catalog.

Creating Agents from KPIs

You can create an agent from a KPI by using the **Create Agent** option.

This option is available from the **More** list on the Catalog page and from the **New Object** list in the Scorecard Editor's Catalog pane. When you create an agent using this method, Oracle BI EE does the following:

- Uses the KPI dimensions, dimension values that you specify, and status to create a condition that is based on the KPI and adds the condition to the Condition tab of the Agent editor.
- Outputs the KPI as an analysis, saves the analysis to the catalog, and attaches the analysis to the Delivery Content tab of the Agent editor.

Use agents for KPIs and scorecards to monitor performance, continuous feedback, and real-time alerts. Use actions to align day-to-day decisions with your corporate strategy and to trigger alerts for out of the ordinary results.

See [Delivering Content](#).

1. Locate the KPI from which you want to create an agent by using one of the following methods:
 - From the Catalog page, browse for and locate the KPI. In the Catalog area, click the KPI's **More** list and select **Create Agent**.
 - From anywhere in scorecard (Strategy pane, Initiatives pane, Scorecard Documents pane, Catalog pane, or any tab within the Scorecard editor), select a KPI, right-click, and select **Create Agent**.

The Create New Agent dialog, shown here, is displayed.

Create New Agent: Revenue KPI

Choose a name and location for the new Agent

Name

Description

Location /My Folders

Trigger Agent if KPI Status is OK

Qualify :

"Time"."Per Name Month" Not Pinned

"Products"."LOB" Not Pinned

"Offices"."Organization" Not Pinned

2. In the **Name** field, enter a name for the agent.
The Agent editor is displayed and the information that you specified in the Create New Agent dialog defaults into the Condition tab and the Delivery Content tab of the Agent editor.
3. (optional) Specify a description in the **Description** field.
4. Select the location in which to save the new agent.
5. Select the status that initiates the agent to deliver its content and execute its actions from the **Trigger Agent if KPI Status is** list.
6. (optional) Select a value for the dimensions. Agents cannot have KPI dimensions with multiple values.
7. Click **OK**.
8. Complete and save the agent.

Contacting the Business Owner of KPIs

You can send a message to a KPI's business owner.

The business owner is the person who is responsible for managing the KPI. Upon the creation or modification of the KPI, the content designer selects the business owner from the Oracle BI EE user list.

Oracle BI EE uses the delivery devices and profiles that the business owner has specified in the Delivery Options tab of the My Account dialog to determine where to deliver the message (for example, email, phone, or pager).

To contact the KPI's business owner from a KPI watchlist:

1. Locate and open the KPI watchlist from the catalog, open a dashboard that contains a KPI watchlist, or open the scorecard that contains the KPI watchlist.
2. Go to the **Performance** tab and within the KPI Watchlist table, select the row that contains the KPI whose owner you want to contact.
3. Click **Objects** and then select **Contact Owner**. The Contact Owner dialog is displayed.
4. In the **Subject** field, enter a meaningful subject.
5. Select a priority with which to send this message from the **Priority** list.
6. In the **Message** field, enter a message to the KPI's owner.
7. Click **Send**.

To contact the KPI's business owner from a scorecard:

1. Expand the scorecard's strategy tree, initiative tree, or scorecard documents folder and select a KPI.
2. Right-click the KPI and then select **Contact Owner**. The Contact Owner dialog is displayed.
3. In the **Subject** field, enter a meaningful subject.
4. Select a priority with which to send this message from the **Priority** list.
5. In the **Message** field, enter a message to the KPI's owner.

6. Click **Send**.

About Overriding Statuses of KPIs

A KPI's status can be overridden only by the business owner.

The business owner is the person responsible for managing the KPI. Upon the creation or modification of the KPI, the content designer selects the business owner from the Oracle BI EE user list.

The business owner can override a status if the KPI's values are old, unavailable, or otherwise do not accurately reflect the true status of what the KPI is measuring. A KPI's status remains overridden until the business owner removes the override status. For example, if there is a scorecard that contains a KPI that measures a store's sales and a fire destroys the store, causing it to be non-operational, the business owner overrides the KPI's status so that the scorecard is not unbalanced. The business owner keeps this override in place until the store is again operational.

See [Working with Status Overrides](#).

About Adding Comments to KPIs

Adding comments to KPIs provides a way for stakeholders to discuss items of interest.

Any stakeholder of the KPI can add comments to a KPI's columns. Stakeholders can also review and respond to comments entered by other users. When you access a KPI's comments, a cumulative, chronological list of comments is displayed.

See [Working with Comments](#).

What Are KPI Watchlists?

KPI watchlists are collections of KPIs that you build by adding the KPIs that are stored in the catalog.

After you build and save a KPI watchlist, it is stored as a catalog object and can be added to dashboards and scorecards. Because KPIs cannot be viewed directly from the catalog by users, KPI watchlists are one of the ways, along with outputting a KPI to an analysis and including a KPI on a scorecard, that KPIs are distributed to users.

KPI watchlists provide the following KPI performance information:

- Label to identify the KPI
- Current status
- Trend status that indicates if performance has increased, decreased, or remained the same, and if any changes are desirable.
- Actual and target values. The content designer can make these values writeable. See [What Are Target Settings?](#)
- Variance value and percent by which the current value deviates from the target
- Change value and percent identify how much the current value differs from that of the previous period

KPI watchlists are useful because you can quickly build formal or informal lists for specific uses and for specific users, or, if users are given the proper privileges, they can build their own KPI watchlists that meet their specific information needs. For example, the KPI watchlist designer might create a KPI watchlist that contains KPIs that support a specific scorecard's strategy and initiatives. Or users might create KPI watchlists to monitor their individual objectives. For example, a sales person can create a KPI watchlist that contains KPIs that monitor quarterly sales totals within a specific region. See [About Scorecard Privileges and Permissions](#).

The KPI watchlist designer can add one KPI several times to a KPI watchlist, and each time that the KPI is added, pin different dimensions to it so that the user can quickly see the whole picture rather than having to specify dimensions and reloading the KPI.

The KPI watchlist also provides the user with the ability to select a KPI from the watchlist and output it to an analysis, or to contact the KPI's business owner.

Creating KPI Watchlists

Creating a KPI watchlist allows you to create a place for users to track and update one or more KPIs.

Use the following procedure to create a KPI watchlist. See [Editing KPI Watchlists](#).

1. To create a KPI watchlist, do one of the following:
 - From the Home page, in the global header, click **New** and then select **KPI Watchlist**. The KPI Watchlist editor is displayed.
 - From a scorecard, go to the Scorecard Documents pane, click the **Create Object** toolbar button, and then select **KPI Watchlist**. The KPI Watchlist editor, is displayed.
2. If you are creating a KPI watchlist from the global header, then select any KPI from the catalog pane and drag it to the watchlist table.

If you are creating a KPI watchlist within the Scorecard Editor, then select a KPI from any pane within the Scorecard Editor and drag it to the watchlist table. The Add KPI dialog is displayed.
3. Enter a label for the KPI and if the KPI contains dimensions, then pin values to the dimensions as needed. Click **OK**.
4. To edit the KPIs included on the watchlist, edit the KPI's watchlist entry, remove the KPI from the watchlist, analyze the KPI, open the KPI definition, or contact the owner of the KPI, select a KPI from the table, click **Objects**, and select an option.
5. To add or remove columns from the watchlist table, click **View** and select **Show More Columns...** The Show More Columns dialog is displayed.
6. Click the KPI Watchlist Editor's **Details** tab to provide a description of the watchlist, identify a business owner, and add links to related business intelligence objects or external links.
7. Click **Save**.

If you are creating a new KPI watchlist, then the Save As dialog is displayed where you specify the KPI watchlist's name and where you want to save the watchlist.

If you want the watchlist to display within a scorecard's Scorecard Documents pane, save the watchlist to the scorecard object's folder within the catalog.

Editing KPI Watchlists

Use the following procedure to edit a KPI watchlist.

Editing KPI watchlists ensures the KPI information is current and relevant for users.

1. In the global header, click **Catalog**.
2. In the Catalog page, navigate to the KPI watchlist you want to edit and click the **Edit** link for the object.
3. In the KPI Watchlist editor, make the desired changes.
4. Save the KPI watchlist.

13

Scorecarding

This chapter provides information on Oracle Scorecard and Strategy Management in Oracle Business Intelligence Enterprise Edition. It describes scorecards and explains how to work with them to describe and communicate your business strategy. It provides details on the scorecard objects that you work with, including vision and mission statements, perspectives, objectives, initiatives, strategy trees, strategy maps, cause & effect maps, custom views, and watchlists.

Topics

This chapter includes the following sections:

- [What Is Oracle Scorecard and Strategy Management?](#)
- [What Is a Balanced Scorecard?](#)
- [What Is the Scorecard Editor?](#)
- [What Are Scorecard Objects?](#)
- [How Do I Create a Scorecard?](#)
- [About Scorecard Privileges and Permissions](#)
- [Using the Edit and View Modes in the Scorecard Editor](#)
- [Creating Scorecards](#)
- [Opening or Editing Scorecards](#)
- [Viewing Overview Information](#)
- [About the Point of View Area](#)
- [Setting Up the Point of View Controls](#)
- [What Are Vision Statements?](#)
- [Defining Vision Statements](#)
- [What Are Mission Statements?](#)
- [Defining Mission Statements](#)
- [What Are Perspectives?](#)
- [Creating Custom Perspectives](#)
- [What Are Key Performance Indicators \(KPIs\)?](#)
- [What Are Objectives?](#)
- [Creating Objectives](#)
- [What Are Initiatives?](#)
- [Creating Initiatives](#)
- [Contacting Business Owners](#)
- [About Comments](#)

- [Working with Comments](#)
- [Understanding Initiative or Objective Performance Assessment](#)
- [Defining Assessment Mappings for Scorecards](#)
- [Assigning Weights to Child Objectives, Initiatives and KPIs](#)
- [About Status Overrides](#)
- [Working with Status Overrides](#)
- [What Are Strategy Trees?](#)
- [Creating Strategy Trees](#)
- [What Are Strategy Maps?](#)
- [Creating Strategy Maps](#)
- [What Are Cause & Effect Maps?](#)
- [Creating Cause & Effect Maps](#)
- [Understanding Watchlists](#)
- [Customizing Watchlists](#)
- [What Are KPI Watchlists?](#)
- [Working with KPI Details](#)
- [What Are Smart Watchlists?](#)
- [Creating Smart Watchlists](#)
- [What Are Custom Views?](#)
- [Creating Custom Views](#)
- [Opening Scorecard Objects](#)
- [Editing Scorecard Objects](#)
- [Deleting Scorecard Objects](#)
- [Adding Scorecard Objects to Dashboards](#)
- [Troubleshooting](#)

What Is Oracle Scorecard and Strategy Management?

Oracle Scorecard and Strategy Management is a performance management tool that lets you describe and communicate your business strategy.

You can drive and assess your corporate strategy and performance from the top of your organization down, or from the bottom up.

Oracle Scorecard and Strategy Management also enables you to either align your objectives and initiatives with traditional balanced scorecard perspectives, or to create your own to reflect your fundamental business competencies. See [What Is a Balanced Scorecard?](#)

Use Oracle Scorecard and Strategy Management to:

- Simultaneously define the objectives (that is, goals such as Decreased Operational Costs) and initiatives (that is, processes or tasks such as Form Cost

Minimization Team) that form your strategy to which you assign KPIs to measure progress and performance. For more information on:

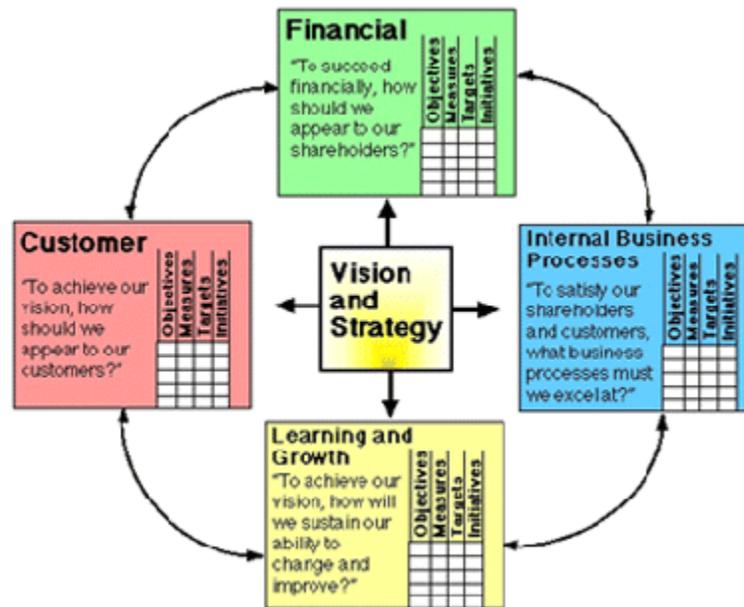
- Objectives, see [What Are Objectives?](#)
- Initiatives, see [What Are Initiatives?](#)
- KPIs, see [Using KPIs and KPI Watchlists](#)
- Align objectives and initiatives with customized or traditional perspectives (fundamental business competencies and areas such as finance or customer relations). This later enables you to depict the extent to which corporate strategy supports these perspectives. See [What Are Perspectives?](#)
- Define target numeric ranges to evaluate the values of KPIs within corporate or department-level objectives and initiatives. See [Defining Assessment Mappings for Scorecards](#)
- Graphically communicate strategy and strategic dynamics using strategy maps, cause & effect maps, custom views, and strategy trees. See:
 - [What Are Strategy Trees?](#)
 - [What Are Strategy Maps?](#)
 - [What Are Cause & Effect Maps?](#)
 - [What Are Custom Views?](#)
- Discuss the implementation and status of objectives and initiatives by adding, reading, and replying to comments. See [About Comments](#).

Because you use KPIs in scorecards to measure progress and performance over time, you should include appropriate time dimensions when defining KPIs to be used within scorecards. For information on time dimensions, see your administrator.

What Is a Balanced Scorecard?

Creating a balanced scorecard provides a clear view into various aspects of an organization.

Traditionally, companies focus heavily on financially driven strategies without sufficiently considering other contributing perspectives. Because financial goals are usually backward looking, tending to be defined in terms of growth over historic numbers, they do not account for future market conditions or leverage objectives. Balanced Scorecard is a strategic management system that maps an organization's strategy into clear objectives, measures, targets, and initiatives, which are organized into four perspectives: Financial, Customer, Internal Business Processes, and Learning and Growth. These perspectives are typically framed by questions, such as "To achieve our vision, how should we appear to our customers?" or "To succeed financially, how should we appear to our shareholders?" As a methodology, Balanced Scorecard provides businesses with the language to define strategies that cater to multiple, relevant perspectives. Much in the way that financial statements (income statement, cash flow statement, and balance sheet) describe the financial health of an organization, Balanced Scorecard provides a framework to communicate the strategy in a consistent and insightful way. The illustration depicts a representation of these four perspectives.



"The four perspectives of the scorecard permit a balance between short-term and long-term objectives, between desired outcomes and the performance drivers of those outcomes, and between hard objective measures and softer, more subjective measures." (Robert S. Kaplan, David P. Norton, "Linking the Balanced Scorecard to Strategy," California Management Review Reprint Series, 1996 by the Regents of the University of California CMR, Vol 39, Number 1, Fall 1996).

Oracle Scorecard and Strategy Management provides four default perspectives that you can use to define strategies that holistically include all relevant perspectives and to define strategy structures that ensure stability and success in all perspectives.

These four default perspectives, which are in support of the Balanced Scorecard methodology devised by Dr. Robert Kaplan and Dr. David Norton, are:

- Financial —Used to identify financial measures that help to answer this question: "How do we look to our shareholders?"
- Customer — Used to identify measures that help to answer this question: "How do customers see us?"
- Internal Process — Used to identify measures that help to answer this question: "At what processes must we excel?"
- Learning and Growth — Used to identify measures that help to answer this question: "How can we continue to improve and create value?"

You can customize the perspectives provided or create your own to best align objectives, key initiatives, and KPIs with your business competencies.

Kaplan and Norton's four perspectives reflect a specific organizational strategy. These perspectives and strategies would not necessarily be suitable for government, public-sector, or nonprofit organizations; therefore, the objectives and key questions should be amended and supplemented to capture the desired strategies.

Treat the balanced scorecard as a living document. The process of assessing objectives, initiatives, and so on is reiterative. The process should provide not only

quantitative, but qualitative insight into the health of your organization and should guide your organization in a timely fashion to achieving your desired results.

See [What Is Oracle Scorecard and Strategy Management?](#)

What Is the Scorecard Editor?

The Scorecard editor lets you create a scorecard of your entire organization or of individual departments.

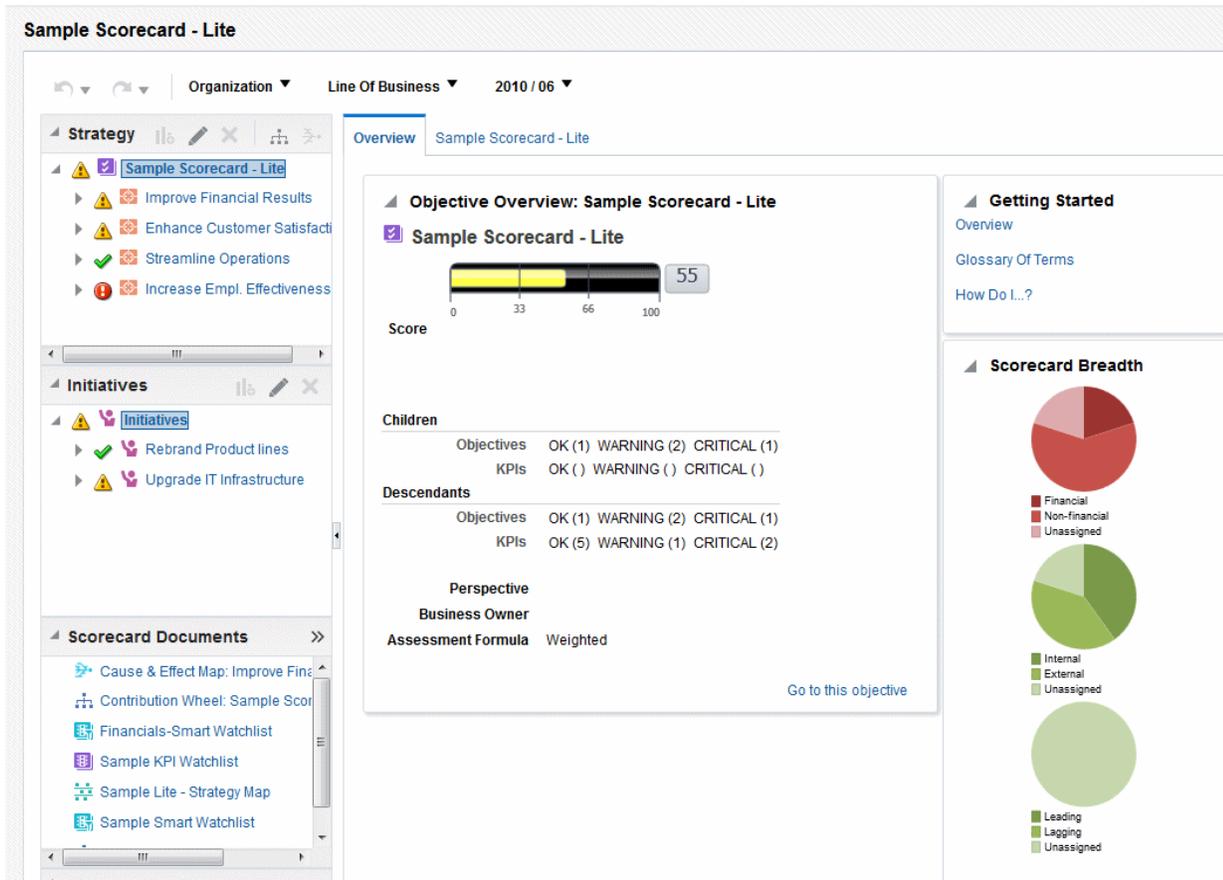
The Scorecard editor consists of numerous panes and tabs:

- On the left side of the editor are the panes that you use to create the objects that comprise your scorecard. For example, it includes the Strategy pane, which you use to create, organize, and leverage the objectives that form the strategic structure (also called the strategy tree) of the corporate entity (department, for example) that you want to evaluate.
- On the right side of the editor is the tab area. When you first create a scorecard, you are presented with the Overview tab. This tab enables you to view summary information for the selected initiative, objective, or KPI.

As you create your scorecard objects, detailed tabs are generated dynamically for each object. For example, when you create an objective, a tab is generated for that objective. You use this tab to define the objective and to view detailed information about the objective, such as which KPIs are to be used to evaluate it and which initiatives drive it.

- At the top of the editor are toolbar buttons and the point of view area. The point of view area displays the dimensions of the KPIs that are used in the scorecard to measure the progress and performance of initiatives and objectives. You use this area to pin (or set) values for the dimensions. When you pin a dimension, the data in the scorecard is filtered to give you a new point of view (that is, a new view of the data). See [About the Point of View Area](#).

The illustration shows an example of the Scorecard editor for Sample Scorecard-Lite.



What Are Scorecard Objects?

Scorecard objects can perform a variety of functions.

Scorecard objects are items that you create or arrange to:

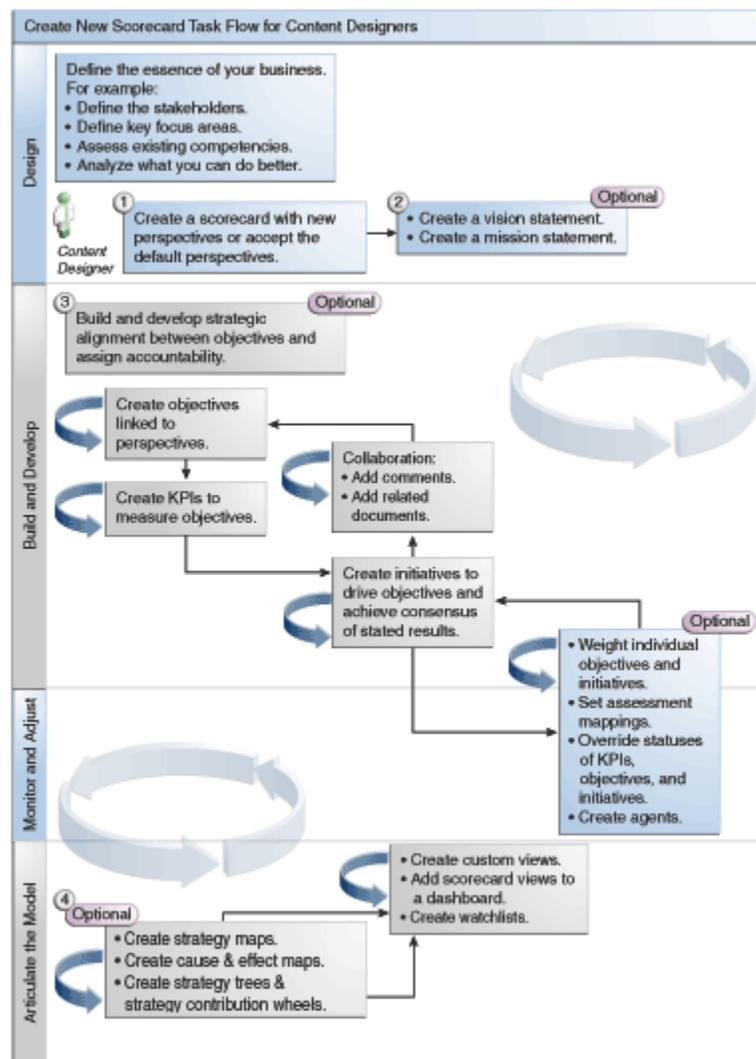
- Represent and evaluate corporate strategy, including:
 - Objectives. See [What Are Objectives?](#)
 - Initiatives. See [What Are Initiatives?](#)
 - Perspectives. See [What Are Perspectives?](#)
 - KPIs. See [What Are Key Performance Indicators \(KPIs\)?](#)
- Present and analyze corporate strategy, including:
 - Vision statements. See [What Are Vision Statements?](#)
 - Mission statements. See [What Are Mission Statements?](#)
 - Strategy trees. See [What Are Strategy Trees?](#)
 - Strategy maps. See [What Are Strategy Maps?](#)
 - Cause & effect maps. See [What Are Cause & Effect Maps?](#)
 - Custom views. See [What Are Custom Views?](#)
 - KPI watchlists. See [What Are KPI Watchlists?](#)

- Smart watchlists. See [What Are Smart Watchlists?](#)
- Agents. See [Creating Agents from KPIs](#)

How Do I Create a Scorecard?

Because Oracle Scorecard and Strategy Management provides you with a wealth of scorecard objects with which to build your scorecard, an overall process flow and description is provided to guide you.

It is recommended that you perform each task within the process flow in order. The illustration shows a graphic representation of the overall process flow to build a scorecard.



1. Create a new scorecard to contain the scorecard objects that you choose to represent, evaluate, present, and analyze your corporate strategy, such as objectives, initiatives, perspectives, and so on.

When you create a scorecard, you can accept the four default perspectives or you can create your own perspectives. Perspectives represent your key business

competencies (for example, Research and Development or Financial) that you can use to align initiatives and objectives.

2. Define the vision and mission statements that translate your corporate direction into over-arching strategic themes and thrusts that you later support by creating objectives.
3. Create and arrange the objectives (goals or desired outcomes) for your entire organization, or for a department to develop a strategic alignment or causality between objectives. This includes assigning the KPIs that measure the progress and performance of objectives. The top-level objective (that is, the root objective) in the Strategy pane represents the entity (your entire organization or a department) that you are scorecarding.
4. Create the KPIs that gather core business data (Product Sales, for example) and specify the KPI targets, target ranges, and actions.
5. Create the KPI watchlists that you want to use to monitor KPIs.
6. Create and arrange the initiatives required to meet objectives. You also can assign KPIs to initiatives.
7. Use comments (also known as annotations) to associate explanatory text with the values of KPIs, objectives, or initiatives for a specific set of dimension values.
8. Refine and reiterate objectives and initiatives:
 - a. Weight individual objectives and initiatives to specify how they impact the overall performance of the entity that you are scorecarding.
 - b. Set assessment mappings.
 - c. If appropriate, override the status of KPIs, initiatives, and objectives.
 - d. Create agents from KPIs. (Agents enable you to automate your business processes.)
9. Depict relationships between objectives and articulate models by using strategy maps, cause & effect maps, and strategy trees.
10. Create custom views to further refine your strategy to help capture the essence of your business.
11. Create views into a scorecard based on criteria that you specify by creating smart watchlists.
12. Add scorecard views to dashboards.

About Scorecard Privileges and Permissions

The ability to perform certain tasks when building KPIs and KPI watchlists, or within Oracle Scorecard and Strategy Management (such as, creating scorecards or contacting owners) is controlled by privileges.

Privileges are managed by the administrator. Refer to Managing Presentation Services Privileges in *Security Guide for Oracle Business Intelligence Enterprise Edition* for general information.

Many tasks require a combination of privileges. There are three tables in Identifying Privileges for KPIs, KPI Watchlists, and Scorecarding in *Security Guide for Oracle Business Intelligence Enterprise Edition* which:

- List the task object (for example, action link or related document).

- List the tasks and corresponding privileges that you can manage.
- Assume that your administrator has given your user ID or group the permissions to read or write to the necessary catalog objects and folders.

 **Note:**

These tables do not address permissions. To alter the permissions for the scorecard or elements within the scorecard (that is, which users have access to the scorecard or elements within the scorecard), you need Full Control permission on the scorecard. See [Managing Objects in the Oracle BI Presentation Catalog](#).

You should:

- Review Privileges Required for KPI Tasks, and Privileges Required for Scorecard and Scorecard Object Tasks in *Security Guide for Oracle Business Intelligence Enterprise Edition* to ensure that you have sufficient privileges to accomplish your task, and if necessary contact your administrator to grant you additional privileges.
- Have the appropriate permissions for the Oracle BI Presentation Services layer object to delete any of the scorecard, KPI watchlist, or KPI objects using the catalog browser. See Setting Permissions for Presentation Layer Objects in *Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

Using the Edit and View Modes in the Scorecard Editor

The edit mode you use in the Scorecard editor depends on what you are trying to accomplish.

The Scorecard editor has two modes:

- **Edit mode** — Enables you to create or edit mission statements, vision statements, initiatives, perspectives, objectives, KPIs, KPI watchlists, smart watchlists, and views, and create agents from KPIs.

You should not delete scorecard objectives, initiatives, or perspectives outside of Scorecard editor as that may result in scorecard issues.

- **View mode** — Enables you to navigate and view mission statements, vision statements, initiatives, perspectives, objectives, KPIs, KPI watchlists, and views but not add or modify them. You also can add comments, override statuses, create agents from KPIs, and interact with smart watchlists.

In addition, the information that you can access and the tasks that you can perform in these modes depends on the following:

- The privileges that are assigned to your account
- The permissions that are associated with the individual scorecard objects and folders

See [About Scorecard Privileges and Permissions](#).

Creating Scorecards

Scorecards help display data analyses to describe and communicate business strategies.

Creating a scorecard helps your audience understand how performance and goals relate to each other.

1. In the global header, click **New** and then select **Scorecard**.
2. In the New Scorecard dialog, specify a name for the scorecard.
3. (optional) Specify a description of the scorecard.
4. Select the location in which to save the scorecard.
5. Specify whether to use the default Balanced Scorecard perspectives. If you deselect the **Use Default Perspective?** check box, you must create your own custom perspectives with which you will associate initiatives and objectives.
6. Click **OK** to create the new scorecard.

Opening or Editing Scorecards

The procedure to open or edit scorecards is the same.

Editing a scorecard ensures the information on it is current.

If you need your administrator to make a change to your metadata (for example, rename a dimension or delete a subject area), remove all references to the object within your KPIs and scorecards prior to contacting your administrator.

See [Using the Edit and View Modes in the Scorecard Editor](#).

1. In the global header, click **Catalog** to display the Catalog page.
2. Navigate to the scorecard that you want to open or edit and click one of the following links:
 - **Open** — The scorecard is displayed in the Scorecard editor in view mode.
 - **Edit** — The scorecard is displayed in the Scorecard editor in edit mode.
3. Make the desired changes.
4. Save the scorecard.

Viewing Overview Information

You can view summary information for initiatives, objectives, or KPIs.

The summary information displayed depends on which object you last selected in the Initiatives pane or the Strategy pane. If you last selected:

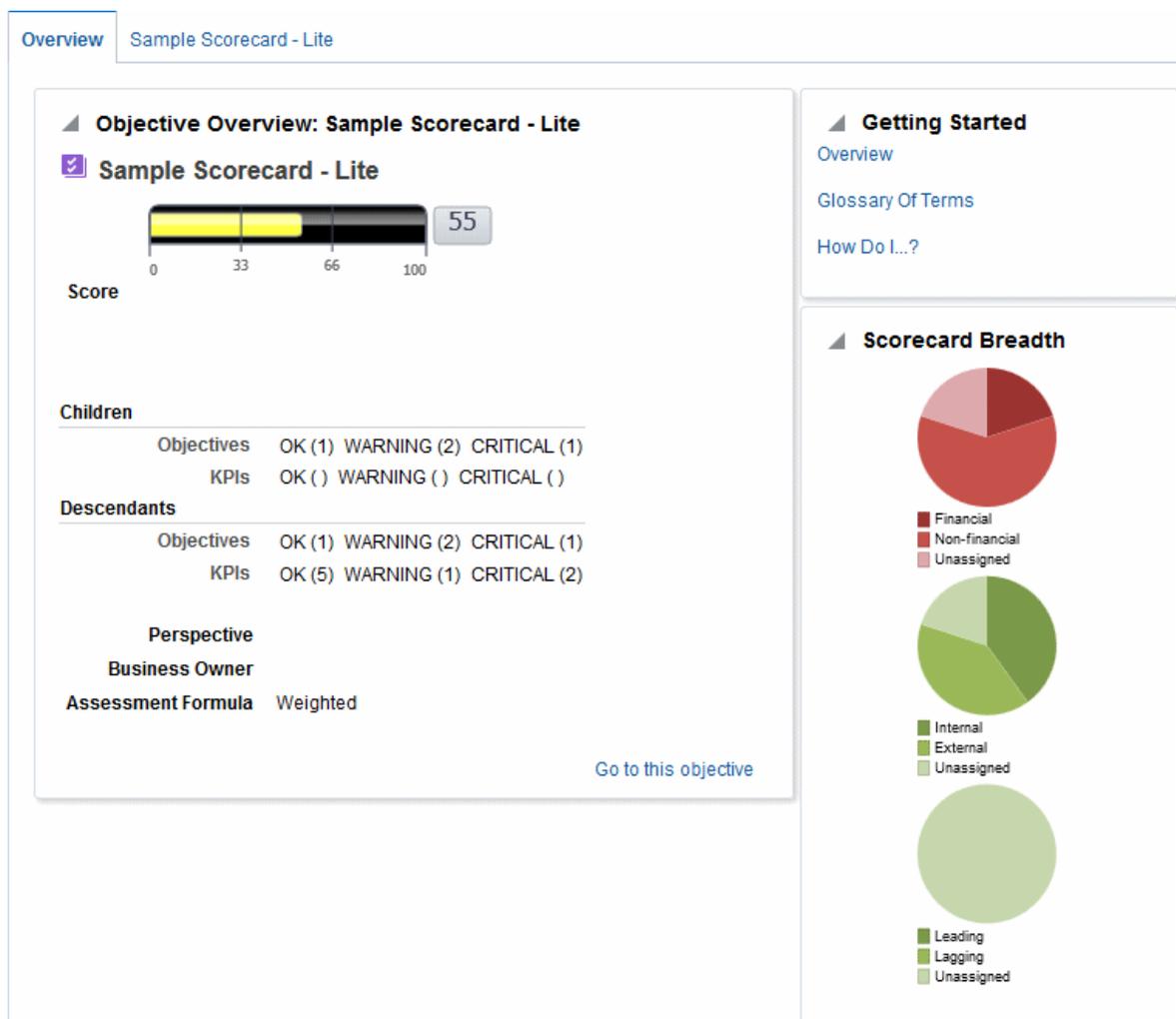
- An initiative or objective, then the basic settings for the initiative or objective are displayed (for example, status, business owner, and so on) along with a status summary showing the number of KPIs and initiatives, or KPIs and objectives, that evaluate progress in each performance assessment range.

If there is at least one child or descendant objective, initiative, or KPI for a particular status, the status name is a hyperlink that displays the Scorecard editor: Breakdown tab, showing the child or descendant objectives, initiatives, and KPIs.

- A KPI, then the basic settings for the KPI are displayed (for example, status, business owner, and so on) as well as performance data and a performance graph.

1. Open or edit the scorecard.

The Overview tab of the Scorecard editor is displayed. The illustration shows an example of the Overview tab for an objective.



The Overview tab shows summary information for the root objective, which represents the entity that you are scorecarding, that is, the entire organization or a department.

2. To show summary information for:

- A KPI, in the Initiatives pane or in the Strategy pane, click the KPI.
- An initiative, in the Initiatives pane, click the initiative.

- An objective, in the Strategy pane, click the objective.

About the Point of View Area

The point of view area of the Scorecard editor displays controls for the dimensions of KPIs that are used in the scorecard to measure the progress and performance of initiatives and objectives.

See [What Are Dimensions and Pinned Dimension Values?](#)

Controls are displayed for each KPI dimension that is referenced in a scorecard with the exception of those that you explicitly prevent from being displayed. If the same dimension is referenced in more than one KPI, then a control can be shared by the KPIs. See [Setting Up the Point of View Controls](#).

The figure here shows a point of view area that displays the Region Hierarchy, Customer Segments, Offices Hierarchy, Products Hierarchy, and 2010/Q3 dimensions.



Each control includes a label and a down-arrow button that displays a list of the dimension values from which you can select, and a **Search** link (see Search Members dialog for additional information). The label is either the database name for the dimension (by default), a user-friendly label (if specified for the control), or one or more values (if the dimension is pinned to a specific value or multiple values).

You use this area to temporarily pin or set values for the dimensions. When you pin a dimension, the data in the scorecard is filtered to give you a new point of view (that is, a new view of the data). This enables you to focus on specific data of interest to you, such as the area of business for which you are responsible.

The point of view area settings are temporary and are not persisted when the scorecard is saved. To persist pinnings, you can use the:

- Dimension Settings tab of the Settings dialog to affect all KPI usages within a scorecard.
- **Dimensionality** area in the Analytics pane of the KPI Details tab of the Scorecard editor to pin the values for a particular KPI usage.
- Add KPI dialog (also displayed as the Edit Watchlist Entry dialog) in the KPI Watchlist editor to pin values for individual KPIs.
- Dimension Pinnings dialog to pin values in a view that has been added to a dashboard.
- Dimensionality page of the KPI editor (also displayed as the KPI tab of the Scorecard editor) to pin values in a KPI's definition. This approach is less flexible than when you let a KPI's definition be reusable in different contexts and pin only within views that reference the KPI.

The Scorecard editor also contains the **Back** and **Forward** buttons that enable you to move forward or backward through your point of view history to select a previous point of view or the point of view with which you started.

To temporarily pin a dimension:

1. Click the down-arrow button to the right of the dimension.
2. To:
 - Select a specific single value, click the value.
 - Select multiples values, click the **Search** link to display the Search Members dialog, make your selections, and then click the **OK** button. You can also select multiple values by pressing and holding the Ctrl key, and then clicking the desired values.
 - If the value is a hierarchical column, click the sideways triangle button to expand the levels. Press and hold the Ctrl key, and then click the desired values.
3. Click the down-arrow or outside the dialog box to close it.

The data is filtered and a new point of view is displayed.

Setting Up the Point of View Controls

You use the Dimension Settings tab of the Settings dialog to set up the controls for dimensions in the point of view area of a scorecard.

Specifically, you can specify:

- One or more default values for the dimension.
 - Whether a control for the dimension is to be displayed in the point of view area
 - The label to be displayed in the point of view area for the dimension.
 - See [About the Point of View Area](#).
1. Edit the scorecard for which you want to set up the point of view controls. See [Opening or Editing Scorecards](#).
 2. Click the **Scorecard Settings** button in the Scorecard editor.
 3. On the Assessment Mappings tab of the Settings dialog, click the **Dimension Settings** tab.
 4. Set up the controls for each dimension as desired. To set up the control for a dimension:
 - a. Select the dimension and then click the **Edit Row** button.
 - b. In the Edit Dimension Settings dialog, specify the settings that you want and click **OK**.
 5. Click **OK**.

What Are Vision Statements?

A vision statement is a short statement that describes what your organization wants to become sometime in the future.

For example, a vision statement might be to become the most successful business in the South America Polypropylene Market. (A vision statement is optional.)

Often, from this statement, you define the key goals and priorities that form your mission statement. See [What Are Mission Statements?](#) and [Defining Vision Statements](#).

Creating vision and mission statements requires a very specific set of privileges. If the vision or mission statement toolbar button is disabled, contact your administrator. See Identifying Privileges for KPIs, KPI Watchlists, and Scorecarding in *Security Guide for Oracle Business Intelligence Enterprise Edition* for additional information.

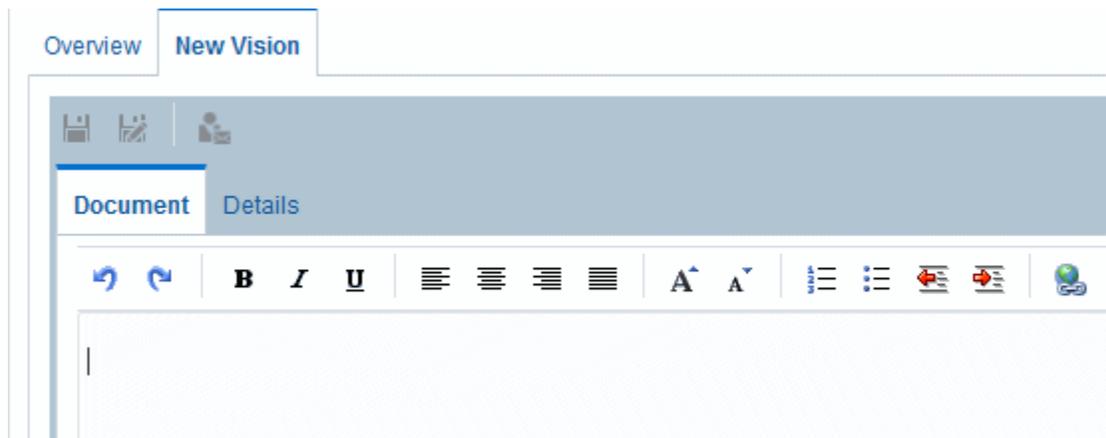
Defining Vision Statements

A vision statement is a short statement that describes what your organization wants to become sometime in the future.

Defining a vision statement helps align data results with the goals of the organization.

1. Edit the scorecard for which you want to define a vision statement. See [Opening or Editing Scorecards](#).
2. In the Scorecard Documents pane, click the **Create Object** button and then select **Create Vision**.

The Document tab of the Vision tab is displayed. The illustration shows the New Vision tab.



3. Enter and format the vision statement. You can apply such formatting options as bold, italic, underlining, indents, justification, and font size changes.
4. Click the **Details** tab.
5. Assign the business owner and specify related documents, as appropriate.
6. Click **Save** to display the Save As dialog. In the Save As dialog, you can rename the vision statement rather than use the default name.

What Are Mission Statements?

A mission statement specifies the key business goals and priorities that are required to achieve your vision.

A mission statement is optional. See [Defining Mission Statements](#).

You define your vision in a vision statement. See [What Are Vision Statements?](#)

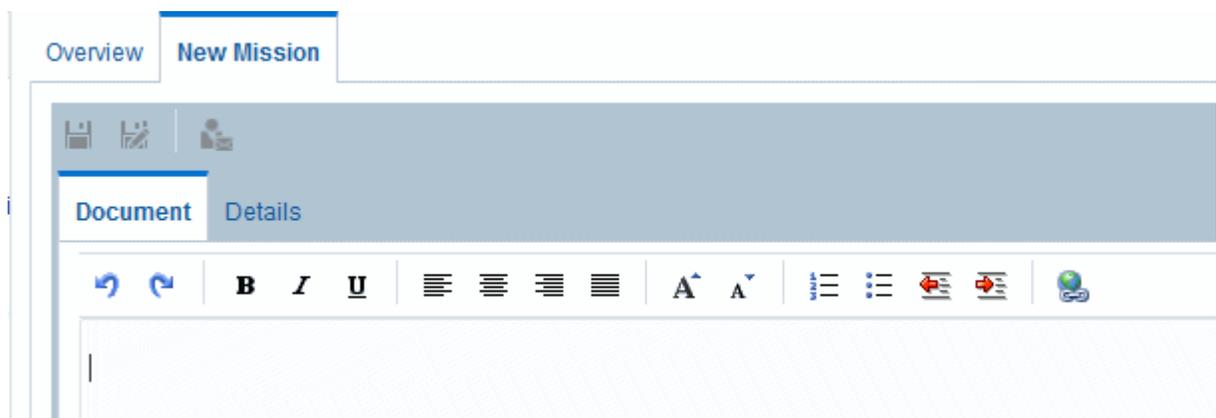
Defining Mission Statements

Defining a mission statement provides an overall goal with which to compare data analyses.

You can create a mission statement to align users with the overall goals of the organization.

1. Edit the scorecard for which you want to define a mission statement.
2. In the Scorecard Documents pane, click the **Create Object** toolbar button and then select **Create Mission**.

The example illustration shows an example of a mission statement.



3. Enter and format the mission statement. You can apply formatting options such as bold, italic, underlining, indents, justification, and font size changes.
4. Click the **Details** tab.
5. Assign the business owner and specify related documents, as appropriate.
6. Click **Save** to display the Save As dialog. In the Save As dialog, you can rename the mission statement rather than use the default name.

What Are Perspectives?

Perspectives are categories in your organization with which to associate initiatives, objectives, and KPIs.

A perspective can represent a key stakeholder (such as a customer, employee, or shareholder/financial) or a key competency area (such as time, cost, or quality).

You associate an initiative and objective with a perspective when you create or edit it. See [Creating Initiatives](#) and [Creating Objectives](#). You associated a KPI with a perspective when you edit the details of the KPI. See [Working with KPI Details](#).

For example, when you create an objective called Improved Client Response Time, you might associate it with the Customer perspective as the objective sustains and supports customer-related operations.

There are four standard perspectives that are defined by the Balanced Scorecard Methodology:

- **Financial** — Groups objectives, initiatives, and KPIs that relate to or support the monetary or economic health and development of your organization.
- **Customer** — Groups objectives, initiatives, and KPIs that pertain to or support your client base.
- **Internal Process** — Groups objectives, initiatives, and KPIs that categorize and support your corporate internal policies and procedures.
- **Learning and Growth** — Groups objectives, initiatives, and KPIs that relate to or support employee training and advancement.

In addition, you can create custom perspectives for your scorecard.

See [Creating Custom Perspectives](#).

Creating Custom Perspectives

When you create a scorecard, you specify whether you want to use the default perspectives that are defined by the Balanced Scorecard Methodology using the **Use Default Perspectives?** check box.

If you:

- Do not use the default perspectives, then you must create your own custom perspectives.
 - Do use the default perspectives, then you can create one or more custom perspectives to use along with the default perspectives.
1. Edit the scorecard for which you want to create a custom perspective.
 2. In the Perspectives pane, click the **New Perspective** button.

The Perspective tab of the Scorecard editor is displayed. The illustration shows an example of a financial perspective displayed on the Perspective tab.

Overview **Financial** Internal Process Learning and Growth Customer

Perspective Name: Business Owner:

Description:

Focus: Financial Internal Facing

Objectives, Initiatives & KPIs

Objects ▾ View ▾

Label	Status	Trend
Improve Financial Results		

3. In the **Perspective Name** field, enter the name of the perspective.
4. (optional) In the **Description** field, enter a description of the perspective.
5. Click the **Set User** button to display the Select Business Owner dialog, where you select the business owner. (By default, the business owner is the creator of the scorecard.)
6. In the **Focus** area, specify whether the focus of the perspective is financial or internal facing. See the Perspective tab of the Scorecard editor for additional information.

7. Add related documents, as appropriate. See the Related Documents area for additional information.
8. Click **Save**.

The perspective displays in the Perspectives pane.

You can now associate initiatives, objectives, and KPIs with this custom perspective. You associate an initiative and objective with a perspective when you create or edit the initiative or objective. You associated a KPI with a perspective when you edit the details of the KPI.

What Are Key Performance Indicators (KPIs)?

A KPI represents the result of a business measure (for example, Product Sales or Operational Costs) evaluated against a target for that measure.

You can use KPIs to assess the progress of the objectives and initiatives that form levels of organizational strategy.

You can create KPIs that you need:

- Within a scorecard. This enables you to create the KPIs as you are creating or editing the scorecard.
- Outside a scorecard. This enables you to create the KPIs in advance of creating or editing a scorecard.

See [Using KPIs and KPI Watchlists](#).

What Are Objectives?

Objectives are the required or desired outcomes that form your corporate strategy.

You can create an objective for:

- An entire organization, for example, Oracle Corporation
- A department, for example, Sales department

When you create an objective, you assign it one or more KPIs that are to be used to measure its progress and performance. For example, you can measure the progress and performance of an objective named Improved Customer Satisfaction by assigning it the following KPIs:

- Average Customer Survey Satisfaction Score
- Number of Customer Complaints KPIs

See [Using KPIs and KPI Watchlists](#).

Within a scorecard, you also create the initiatives that are required to meet the objectives. See [What Are Initiatives?](#)

Objectives that you create are displayed hierarchically in the Strategy pane. The root objective represents the entity that you are scorecarding, that is the entire organization or a department. The KPIs that are assigned to assess the performance of objectives are displayed below the objectives in the Strategy pane.

The Strategy pane also shows the statuses of objectives and KPIs using the appropriate colors and icons that you specified for assessment mappings. See [Defining Assessment Mappings for Scorecards](#).

When creating objectives, if possible, use subobjectives measured by KPIs to monitor results. Corrective action becomes incremental, reiterative, and more achievable. For example: the objective, Improve Financial Results, might include Increase Sales, Reduce Costs, Increase Employee Effectiveness, and Streamline Operations as subobjectives. Use related documents to provide supporting information for the objective, initiative, and so on.

See [Creating Objectives](#).

Creating Objectives

You can create one or more objectives.

Objectives that you create should be strategically relevant and measurable using KPIs. See [What Are Objectives?](#)

1. Edit the scorecard for which you want to create an objective.
2. In the Strategy pane:
 - If the objective that you want to create can be independently achieved, then select the root objective.
 - If the objective that you want to create is required to meet a higher-level objective, then select the higher-level objective.
3. Click the **Create Objective** button or right-click and select **Create Objective**.

The illustration shows an example of an objective displayed on the Objective Details tab.

The screenshot displays the 'Objective Details' tab for 'Improve Financial Results'. It includes a description, an analytics score bar (score 50), and a table of children and descendants. The 'Children' and 'Descendants' sections show a summary of OK, WARNING, and CRITICAL statuses. The 'Perspective' is set to 'Financial', 'Assessment Formula' is 'Weighted', and 'Indicator Type' is 'Undefined'. At the bottom, there is a table for 'Objectives & KPIs' with columns for Label, Weight, Status, Trend, Actual, Target, Variance, % Variance, Change, and % Change.

Label	Weight	Status	Trend	Actual	Target	Variance	% Variance	Change	% Change
Avg Order Size	25 %	OK	↓	2,459.50	3,000.00	(540.50)	-18.02%	(150.52)	-5.77%

4. Highlight the default objective name in the top left corner and enter a new name for the objective.
5. In the **Description** field, enter a description of the objective.

6. Specify the analytic information (including the KPIs to be used to measure the progress and performance of the objective) by completing the Analytics pane.
7. Complete the Collaboration pane as follows:
 - a. (optional) Add comments by clicking the **Add Comment** button to display the Add Comment dialog.
 - b. Specify the business owner that users can contact by clicking the **Set User** button to display the Select Business Owner dialog. (By default, the business owner is the creator of the scorecard.)
 - c. (optional) Add related documents by clicking the **New Row** button to display the New Related Document dialog. See the Related Documents area for additional information.
8. Complete the Related Items pane as follows:
 - a. Add one or more objectives that impact or support (that is, help achieve or hinder progress on) this objective. To do so, drag the objective from the Strategy pane and drop it in the **Causes** table.

In the Causal Linkage dialog, specify how closely the objectives are related and whether changes to the values in this causal objective have a direct or inverse impact on this objective. For example, for an Increased Client References objective, you might drag and drop the following objectives that could cause (or help or hinder) it: Decreased Client Response Time and Increase Customer Issue Resolutions.
 - b. Add one or more initiatives (that is, the tasks that are required to meet the objective). To add an initiative, drag it from the Initiatives pane and drop it in the **Initiatives Driving This Objective** table.

In the Initiative Linkage dialog, specify how closely the initiative and the objective are related and whether changes to the values in this initiative have a direct or inverse impact on this objective.
 - c. Add one or more objectives that this objective impacts or supports. To do so, drag the objective from the Strategy pane and drop it in the **Effects** table.

In the Causal Linkage dialog, specify how closely the objectives are related and whether changes to the values in this causal objective have a direct or inverse impact on this objective.
9. Click **Save**.

Completing the Analytics Pane for Objectives or Initiatives

When you create an objective or initiative, you must specify the analytics for the objective or initiative by completing the Analytics pane.

Use the Analytics Pane to specify the various parameters for an objective or initiative.

1. In the **Perspective** box, select the perspective with which the objective or initiative is to be aligned.

Assign a perspective to each objective or initiative. This facilitates in the definition of causal linkages when building strategy maps.
2. In the **Assessment Formula** box, select the rule to be used to assess the overall performance of the initiative or objective. For example, select **Worst case** to specify that the status of the worst performing child KPI or objective is to be used.

3. (for an objective only) In the **Indicator Type** box, indicate whether the performance of the objective drives other objectives, or is affected by the performance of other objectives or other data or processes (for example, leading or lagging).
4. (for an initiative only) In the **Priority** box, select the priority that indicates the importance and urgency of an initiative.
5. (for an initiative only) Specify the start date, due date, and completion date.
6. In the **Actions** area, add any action links that you want to provide to users to let them take actions that are relevant for the status of the objective or initiative.
7. In the **Objectives & KPIs** or **Initiatives & KPIs** watchlist, add the KPIs to be used to measure the progress and performance of the objective or initiative.

If no KPIs have been defined, or if you want to define another KPI to meet your needs, then you can create the KPI from within the Scorecard editor.

 **Tip:**

You can modify the columns that are displayed in the **Objectives & KPIs** or **Initiatives & KPIs** watchlist. Select **View**, then **Show More Columns** to display the Show More Columns dialog, where you can add or remove columns.

8. To add a KPI:
 - a. Click **Save**. You must save the new objective or initiative before you can add a KPI.
 - b. Click **Objects** in the **Objectives & KPIs** or **Initiatives & KPIs** watchlist and then select **Add KPI**. The Select a KPI dialog is displayed.

You can drag the KPI from the Catalog pane for Scorecard or from the Scorecard Documents pane (if the KPI has been saved to the current scorecard folder) and drop it in the watchlist. If you choose this method, the Add KPI dialog is displayed.
 - c. Choose a KPI and click **OK**. The Add KPI dialog is displayed.
 - d. If the KPI is dimensioned, then for each dimension, specify one or more values, select **Use Variable** and specify the variable, or select **Use Point-of-View** to use the value or values selected in the point of view area.
 - e. In the **Label** field, enter the name to be displayed for the KPI in the Strategy pane.
 - f. Click **OK**.

A KPI that you have added to the Strategy pane or Initiatives pane obtains many of its properties from the base KPI as it was originally defined in the KPI editor. You can override some of the base KPI's properties to customize them for use within scorecard. The KPI properties that you can override are the label, description, and business owner. You can assign a perspective and an indicator type. You can also set dimension pinnings for dimensions that are left unpinned in the KPI definition.

What Are Initiatives?

Initiatives are time-specific tasks or projects that are necessary to achieve objectives.

You can use initiatives that support objectives as milestones as they reflect progress toward strategy targets. For example to implement an objective called Improve Customer Satisfaction, you might create these initiatives:

- Create online feedback forum
- Form response team

Generally, an initiative supports multiple objectives.

When you create an initiative, you assign it KPIs that are to be used to measure its progress. See [Using KPIs and KPI Watchlists](#).

Initiatives that you create are displayed hierarchically in the Initiatives pane. The root initiative represents all the initiatives that you implement to achieve objectives and goals. The KPIs that are assigned to an initiative are displayed below the initiative in the Initiatives pane.

The Initiatives pane also shows the statuses of initiatives and KPIs using the appropriate colors and icons that you specified for assessment mappings. See [Defining Assessment Mappings for Scorecards](#) and [Creating Initiatives](#).

Creating Initiatives

You can create one or more initiatives.

Use initiatives to track major milestones as a closed loop by assigning strategic objectives, taking remedial action by monitoring KPI targets and metric results, and using annotations and related documents for collaboration.

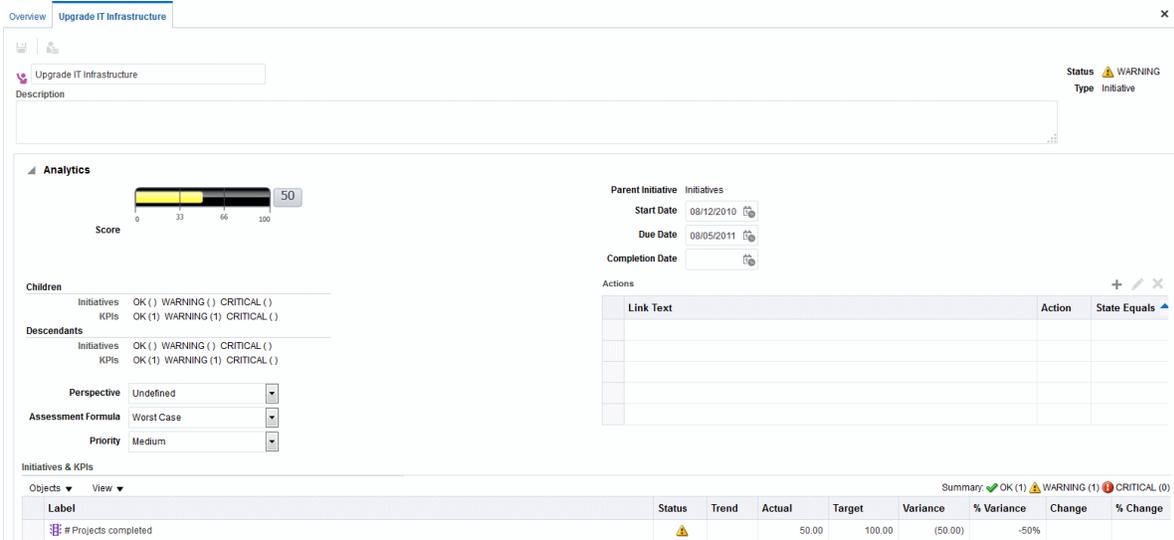
Initiatives that you create should be measurable using KPIs and strategically relevant.

See [What Are Initiatives?](#)

1. Edit the scorecard for which you want to create an initiative.
2. In the Initiatives pane:
 - If the initiative that you want to create can be independently implemented, then select the root initiative.
 - If the initiative that you want to create is required to meet a higher-level initiative, then select the higher-level initiative.

3. Click the **Create Initiative** button or right-click and select **Create Initiative**.

The Initiative Details tab is displayed. The illustration shows an example of an initiative displayed on the Initiative Details tab.



4. Highlight the default initiative name in the top left corner of the tab and enter a new name for the initiative.
5. In the **Description** field, enter a description of the initiative.
6. Specify the analytic information (including the KPIs to be used to measure the progress of the initiative) by completing the Analytics pane.
7. Specify the collaboration information by completing the Collaboration pane as follows:
 - a. (optional) Add comments by clicking the **Add Comment** button to display the Add Comment dialog.
 - b. Specify the business owner that users can contact by clicking the **Set User** button to display the dialog. (By default, the business owner is the creator of the scorecard.)
 - c. (optional) Add related documents by clicking the **New Row** button in the Related Documents toolbar to display the New Related Document dialog. Also see the Related Documents area for additional information.
 - d. (optional) Add the key resources by clicking the **New Row** button in the Key Resources toolbar to display the Key Resource dialog.
8. In the **Related Items pane**, add one or more objectives that require this initiative in order to succeed.

To add an objective, drag the objective from the Strategy pane and drop it in the **Objectives** table. The Objective Linkage dialog is displayed, where you specify how closely the initiative and the objective are related and whether changes to the values in this initiative have a direct or inverse impact on this objective.
9. Click **Save**.

Contacting Business Owners

You can send a message to the business owner of a scorecard object.

The business owner is the person who is responsible for managing and improving the business value and performance of a scorecard object. (The business owner might or

might not be the same as the person who creates the scorecard or creates the KPI.) You specify the business owner of an object when you create it.

You use the **Contact Owner** button or menu option to contact the business owner. This button is available in many places in a scorecard, for example, on the toolbar of most tabs, such as the Objective Details tab of the Scorecard editor.

Oracle BI EE uses an agent and the delivery devices and profiles that the business owner specified in the Delivery Options tab of the My Account dialog to determine where to deliver the message (for example, email, phone, or pager).

1. Click the **Contact Owner** button or menu option.
2. In the Contact Owner dialog **Subject** field, enter a the subject of the message.
3. In the **Priority** field, select the priority of the message.
4. In the **Message** field, enter the message that you want to send to the business owner.
5. Click **Send**.

About Comments

Comments provide a way for users to discuss initiatives, objectives, or KPIs.

Collaboration between users is essential to gain a consensus in order achieve the stated and desired results. Comments (also known as annotations) enable you to discuss changes in performance and progress for an initiative, objective, or KPI for a specific set of dimension values (that is, for a specific point of view). Use annotations and overrides to increase employee collaboration, participation, and accountability, and to prevent future occurrences of identified deficiencies.

You can add, view, and reply to comments in many places in a scorecard. For example, you can add a comment directly to an objective in the Scorecard editor: Objective Details tab. You can also add a comment to an objective in the Diagram tab of a view, a smart watchlist, and a perspective in which its referenced. You cannot delete KPI annotations.

A comment is associated with:

- An initiative, objective, or KPI that measures the progress of an initiative and objective.

When an initiative, objective, or KPI that has a comment associated with it is referenced elsewhere in a scorecard and the point of view being displayed matches that of the comment, a comment indicator is displayed as follows:

- In a watchlist, a blue triangle is displayed in the row containing the initiative, objective, or KPI.
 - In a node in the Diagram tab of a view, the **Comment** button is displayed in the upper-right corner of the node.
- A certain column.

A comment is normally associated with the Status column of an objective, initiative, or KPI, unless (for KPIs only) the comment is added to another column such as Trend or Variance.

- A specific point of view.

Comments are filtered by the values in the point of view area in the Scorecard editor that are currently in effect for the object being viewed. As a result, the comment for Eastern Region Sales can be different than the comment for Western Region Sales. See [About the Point of View Area](#).

- Any dimension pinnings on the KPI.

Comments are filtered by any other dimension pinnings that are in effect (on a KPI, scorecard, scorecard diagram, dashboard prompt, or KPI watchlist).

Before you can work with comments, your administrator must enable this feature. See *Configuring the Repository for Oracle Scorecard and Strategy Management in Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

See [Working with Comments](#).

Working with Comments

Comments permit additional commentary about items in a scorecard.

You can work with comments in many places in a scorecard, including in:

- The Collaboration pane of the Initiative Details tab, Objective Details tab, and the KPI Details tab of the Scorecard editor. See [Working with Comments in the Collaboration pane](#).
- Watchlists. See [Working with Comments in Watchlists](#)
- The Diagram tab of a view. See [Working with Comments in the Diagram Tab of a View](#).

Note:

Before you can add comments to an initiative or objective, the initiative or objective must have at least one KPI assigned to it.

As you work with comments, remember that a comment is associated with a specific point of view. See [About the Point of View Area](#) and [About Comments](#).

Working with Comments in the Collaboration pane

Comments can be added to and edited in the Collaboration pane.

In the Collaboration pane of the Initiative Details tab, Objective Details tab, and KPI Details tab of the Scorecard editor, you can view, add, or reply to comments for that particular initiative, objective, or KPI.

1. Open or edit the scorecard.
2. Open the initiative, objective, or KPI and navigate to the Collaboration pane.
3. Ensure that the values that are displayed in the point of view area reflect the desired context for the comment. (For example, you might want to comment on a KPI status for the Eastern region.)
4. Do one of the following:

- To add a new comment, click the **New Comment** button. The New Comment dialog is displayed. Comments added by clicking the **New Comment** button are associated with the status (that is, the Status column) of the objective, initiative, or KPI.
 - For KPIs only, you can also associate a comment with other columns such as Trend, Target, or Variance. To do so, edit the parent object, right-click on the relevant cell in the Watchlists and select **Add Comment**.
 - To reply to a comment, locate the comment to which you want to reply and click the **Reply** link. The Reply dialog is displayed.
5. Enter the subject of your comment (for a new comment only) and the text of your comment.
 6. Click **OK**.

Working with Comments in Watchlists

In a watchlist, you can view, add, and reply to comments for initiatives, objectives, and KPIs that are displayed in the watchlist.

You can add comments for certain areas of the watchlist, such as the Western region KPI status.

1. Open or edit the scorecard.
2. Open the object in which you want to work with comments and navigate to the appropriate pane or tab.
3. Ensure that the values that are displayed in the point of view area reflect the desired context for the comment. (For example, you might want to comment on a KPI status for the Eastern region.)
4. To add a new comment:
 - a. In the watchlist, right-click the **Status** cell to which you want to add the comment and select **Add Comment**.
 - b. Complete the Add Comment dialog and click **OK**.
5. To work with the comments that were previously added to an object, hover the mouse pointer over the **Blue triangle** in the upper-right corner of the cell in the Status column or, for a KPI, one of its columns. In the Status window:
 - Read the comments that were previously added.
 - Display the New Comment dialog to add a new comment by clicking **New Comment**.
 - Display the Reply dialog to reply to a comment by clicking the **Reply** link.
 - Pin the window so that it stays open by clicking the **Pin** button.

Working with Comments in the Diagram Tab of a View

In the Diagram tab of a view, you can view, add, and reply to comments for objectives and KPIs that are displayed in the view.

For example, you can work with comments in the Diagram tab of the Strategy Tree tab.

You can also work with comments in this same way when a view is rendered as a diagram in a dashboard.

1. Open or edit the scorecard.
2. Open the view in which you want to work with comments and navigate to the Diagram tab.
3. Ensure that the values that are displayed in the point of view area reflect the desired context for the comment. (For example, you might want to comment on a KPI status for the Eastern region.)
4. To add a new comment:
 - a. Click the **Options** button on the right side of the node to which you want to add the comment and select **Add Comment** from the Node Options Menu.
 - b. Complete the Add Comment dialog and click **OK**.
5. To work with the comments that were previously added to an object, hover the mouse pointer over the **Comment** button in the upper-right corner of the node. The Status window is displayed with all the comments that are attached to the initiative, objective, or KPI. From this window, you can:
 - Read the comments that were previously added.
 - Display the New Comment dialog to add a new comment by clicking **New Comment**.
 - Display the Reply dialog to reply to a comment by clicking the **Reply** link.
 - Pin the window so that it stays open by clicking the **Pin** button.

Understanding Initiative or Objective Performance Assessment

Viewing initiative or objective performance assessments provides an overall view of a family of initiatives or objectives.

Oracle Business Intelligence assesses the performance of an initiative or objective by aggregating the assessments of its children. In the process, it uses:

- Scorecard assessment mappings that you define. See [About Assessment Mappings](#).
- Assessment formulas (such as **Weighted** or **Best Case**) assigned to all objectives and initiatives. The assessment formulas include:
 - **Worst case** — Specifies that the status of the worst performing child KPI or objective is to be used.
 - **Best case** — Specifies that the status of the best performing child KPI or objective is to be used.
 - **Most Frequent (Worst Case)** — Specifies that, if half the child KPIs and objectives have high performance and half have low performance, then use the status of the worst performing child KPI or objective.
 - **Most Frequent (Best Case)** — Specifies that, if half the child KPIs and objectives have high performance and half have low performance, then use the status of the best performing child KPI or objective.

- **Weighted** — Specifies to use a weighted average based on the weights you have assigned to the child KPIs and objectives. See [Assigning Weights to Child Objectives, Initiatives and KPIs](#).

If a child KPI has no data, it will not be included in the aggregation. Instead, its weight will be distributed among the other child KPIs and objectives.

You assign assessment formulas when you create an objective or initiative. See [Creating Objectives](#) or [Creating Initiatives](#).

- Weights that you assign to child initiatives, objectives, and KPIs (but only if the parent's assessment rule is set to **Weighted**) to identify the extent to which each child contributes to the overall performance of the parent. See [Assigning Weights to Child Objectives, Initiatives and KPIs](#).

See [Example of Determining the Performance Assessment for an Objective Based on Child Objectives](#) and [Example of Determining the Performance Assessment for an Objective Based on a Child KPI](#).

About Assessment Mappings

Assessment mappings are the score thresholds and assessment ranges that Oracle Business Intelligence uses to assess the performance of objectives and initiatives.

Oracle Business Intelligence uses these score thresholds and assessment ranges to:

- Determine the status and score of an objective or initiative based on the aggregation of the assessments of its children.

If the assessment formula of an objective or initiative is Best Case, Worst Case, Most Frequent (Worst Case), or Most Frequent (Best Case), the score will be one of the defined score thresholds, for example, 0, 33, or 66. If the assessment formula is Weighted, the score is computed based on the weights assigned to the children.

- Map the KPI scores of KPIs that are used to measure the progress of initiatives and objectives to scorecard scores so that they can be used to measure the performance of the objectives or initiatives.

The illustration shows an example of score thresholds falling in specific assessment ranges. The assessment ranges are defined as follows:

- 67 to 100 falls in the **OK** assessment range
- 34 to 66 falls in the **Warning** assessment range
- 0 to 33 falls in the **Critical** assessment range

The screenshot shows a 'Settings' dialog box with three tabs: 'Assessment Mappings' (selected), 'Dimension Settings', and 'Watchlist Styles'. Under 'Assessment Mappings', there are two columns: 'Score Threshold' and 'Assessment Range'. The 'Score Threshold' column has two input fields with values 66 and 33, each with a gear icon, and a plus sign below them. The 'Assessment Range' column has three input fields with values 'OK', 'WARNING', and 'CRITICAL'. To the right of each field are icons: a green checkmark and square for 'OK', a yellow warning triangle and square for 'WARNING', and a red exclamation mark and square for 'CRITICAL'. Below these fields is a 'Score Decimal Places' field with the value 2 and up/down arrow buttons. At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

See [Understanding Initiative or Objective Performance Assessment](#) for additional information on initiative and objective performance assessment.

See [Defining Assessment Mappings for Scorecards](#) for how to define assessment mappings.

Example of Determining the Performance Assessment for an Objective Based on Child Objectives

Child objectives can help calculate a performance assessment.

Suppose the following about an objective named Improve Financial Results:

- It has an assessment rule of Worst Case.
- The assessment mappings defined for the scorecard that contains the objective are the same as those in [About Assessment Mappings](#).
- It has the following two child objectives:
 - Increase Sales, whose status is Critical and score is 0.
 - Reduce Cost, whose status is Warning and score is 50.

In this case, the performance assessment of the Improve Financial Results objective would be the status and score of the child with the worst status and score, that is, Increase Sales, which has a scorecard status of Critical and a score of 0.

Example of Determining the Performance Assessment for an Objective Based on a Child KPI

You can use child KPIs to assess performance.

Suppose the following about an objective named Enhance Stockholder Satisfaction:

- It has an assessment formula of Best Case.
- The assessment mappings defined for the scorecard that contains the objective are the same as those in the illustration.
- It has a child KPI named Revenue KPI, whose scorecard status is OK and score is 66.

Revenue KPI has a KPI status of 4 Stars and score of 80 based on the following KPI thresholds and scores displayed in the illustration:

States

KPI state is determined by comparing the actual ("Base Facts"."1- Revenue") and target ("Base Facts"."5- defining threshold values between each state.

State Properties

Goal High Values are Desirable

Status label	Color	Icon	Actions	Score
5 Stars	Green	★★★★★	🔄	100
4 Stars	Green	★★★★☆	🔄	80
3 Stars	Yellow	★★★☆☆	🔄	60
2 Stars	Yellow	★★☆☆☆	🔄	40
1 Star	Orange	★☆☆☆☆	🔄	20
0 Stars	Red	❌	🔄	0

When Revenue KPI was added to the Enhance Stockholder Satisfaction objective, Oracle Business Intelligence mapped the KPI score to a scorecard score so that it could be used to measure the performance of the objective. Since the KPI score of 80 fell in the scorecard assessment range of 66 to 100, it mapped to a scorecard score of 66 and status of OK.

In this case, the performance assessment of the Enhanced Stockholder Satisfaction objective would be the status and score of the child with the best status and score, that

is, Revenue KPI (in this case the only child), which has a scorecard status of OK and a score of 66.

Defining Assessment Mappings for Scorecards

Use the Assessment Mappings tab of the Settings dialog to define the assessment mappings for a scorecard.

See [Understanding Initiative or Objective Performance Assessment](#).

1. Edit the scorecard for which you want to define assessment mappings.
2. Click the **Scorecard Settings** button in the Scorecard editor.
The Assessment Mappings tab of the Settings dialog is displayed.
3. In the **Score Threshold** fields, enter the numeric values that set the boundaries for the assessment ranges.

Accept scores automatically assigned by the KPI editor, which are based on the number of thresholds.

For example, you might enter 33 and 66 to set the boundaries for three assessment ranges — Critical, Warning, and OK. Any KPI score from 0 to 33 would fall in the Critical assessment range, any KPI score from 34 to 66 would fall in the Warning assessment range, and any KPI score from 66 to 100 would fall in the OK assessment range.

4. In the **Assessment Range** boxes, specify the name of each assessment range (for example, Critical) and, for each range, specify the icon and the color to be used to represent the range.
5. Click **OK**.

Assigning Weights to Child Objectives, Initiatives and KPIs

You assign weights to the child objectives, initiatives, and KPIs of an objective or initiative to indicate how much it affects the performance of its parent objective.

To assign weights to child objectives, initiatives, and KPIs, the Assessment Rule for the parent objective or initiative must be set to **Weighted**.

See [Understanding Initiative or Objective Performance Assessment](#).

1. Edit the scorecard that contains the parent objective or initiative of the objectives, initiatives, and KPIs to which you want to assign weights.
2. Double-click the objective in the in the Strategy pane or the initiative in the Initiatives pane.
3. In the **Objectives & KPIs** or **Initiatives and KPIs** watchlist of the Analytics pane, enter a weight for each child objective, initiative, or KPI.

For example, assign the following objectives to the four child objectives of the root objective of the scorecard:

- Improve Financial Results: 50%
- Enhance Customer Satisfaction: 25%
- Streamline Operations: 15%
- Increase Empl Effectiveness: 10%

4. Click **Save**.

About Status Overrides

You can override the statuses of initiatives, objectives, or KPIs that measure the performance of initiatives and objectives.

To override a status, you must be the business owner of the initiative, objective, or KPI. You can also cancel an override.

Before you can work with status overrides, your administrator must enable this feature. See *Configuring the Repository for Oracle Scorecard and Strategy Management in Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

You can work with status overrides in many places in a scorecard. For example, you can apply a status override to an objective in the Objective Details tab of the Scorecard editor. You can also apply a status override to an objective in the Diagram tab of a view, a smart watchlist, and a perspective in which its referenced.

A status override is associated with:

- An initiative, objective, or KPI that measures the progress of an initiative and objective.

When an initiative, objective, or KPI that has a status override associated with it is referenced elsewhere in a scorecard, and the point of view being displayed matches that of the status override, a status override indicator — a red asterisk (*) — is displayed as follows:

- In a watchlist, it is displayed to the right of the status symbol in the row containing the initiative, objective, or KPI.
- In a node in the Diagram tab of a view, it is displayed to the right of the status symbol in the lower-left corner of the node.

- The status column of an objective, initiative, or KPI.
- A specific point of view.

Status overrides are filtered by the values in the point of view area in the Scorecard editor that are currently in effect for the object being viewed. As a result, the status override for Eastern Region Sales can be different than the status override for Western Region Sales. See [About the Point of View Area](#).

- Any dimension pinnings on the KPI.

Status overrides are filtered by any other dimension pinnings which are in effect (on a KPI, scorecard, scorecard diagram, dashboard prompt, or KPI watchlist).

See [Working with Status Overrides](#).

Working with Status Overrides

You can override a status in specific areas.

You can work with status overrides in many places in a scorecard, including in:

- Watchlists. See [Working with Comments in Watchlists](#).

- The Diagram tab of a view. See [Working with Status Overrides in the Diagram Tab of a View](#).

As you work with status overrides, remember that a status override is associated with a specific point of view. See [About the Point of View Area](#).



Tip:

Prior to overriding a status, ensure that the business owner has been set for the KPI, initiative, or objective. See [Creating KPIs](#).

See [About Status Overrides](#).

Working with Status Overrides in Watchlists

Maintaining status overrides ensures they are applied properly.

In a watchlist, you can view status overrides and override cancellations that were previously applied, and apply new overrides and override cancellations to the initiatives or objectives, and KPIs in the watchlist.

1. Open or edit the scorecard.
2. Open the object in which you want to work with status overrides and navigate to the appropriate pane or tab.
3. Ensure that the values that are displayed in the point of view area reflect the desired context for the status override. (For example, you might want to override the status of a KPI for the Eastern region.)
4. To override a status or to cancel an override:
 - a. In the watchlist, right-click the **Status** cell in which you want to override the status or cancel an override and select **Override Status**.
 - b. Complete the Status Override dialog and click **OK**.
5. To view status overrides or override cancellations that were previously applied to an object, hover the mouse pointer over the red asterisk to the right of the status symbol. In the Status window, you can:
 - View status overrides or override cancellations that were previously applied.
 - Display the Status Override dialog to apply a new override or to cancel an override by clicking **New Override**.
 - Pin the window so that it stays open by clicking the **Pin** button.

Working with Status Overrides in the Diagram Tab of a View

Status overrides can be layered to ensure a status is displayed regardless of the original status.

In the Diagram tab of a view, you can view status overrides and override cancellations that were previously applied, and apply new overrides and override cancellations to objectives and KPIs that are displayed in the view. For example, you can work with status overrides in the Diagram tab of the Strategy Tree tab.

1. Open or edit the scorecard.

2. Open the view in which you want to work with status overrides and navigate to the Diagram tab.
3. Ensure that the values that are displayed in the point of view area reflect the desired context for the status override. (For example, you might want to override the status of a KPI for the Eastern region.)
4. To apply a new status override:
 - a. Click the **Options** button on the right side of the node to which you want to apply the status override and select **Override Status** from the Node Options Menu.
 - b. Complete the Status Override dialog and click **OK**.
5. To view status overrides that were previously applied to an object, hover the mouse pointer over the red asterisk to the right of the status symbol. In the Status window, you can:
 - View status overrides that were previously applied.
 - Display the Status Override dialog to apply a new override by clicking **New Override**.
 - Pin the window so that it stays open by clicking the **Pin** button.

What Are Strategy Trees?

A strategy tree shows an objective and its supporting child objectives and KPIs hierarchically.

A strategy tree also provides supporting information for the objective, such as business owner and related documents.

A strategy tree lets you explore and navigate:

- The strategy for an entire scorecard (that is, the root objective) for example, ABC Corporation
- The strategy for an individual objective, for example, Decrease Support Turnaround.

There are two types of diagrams for a strategy tree:

- Strategy tree diagram. See [Understanding a Strategy Tree Diagram](#).
- Strategy contribution wheel diagram. See [Understanding a Strategy Contribution Wheel Diagram](#).

See [Creating Strategy Trees](#).

Understanding a Strategy Tree Diagram

You use a strategy tree diagram to view an objective and its supporting child objectives and KPIs hierarchically in a tree diagram.

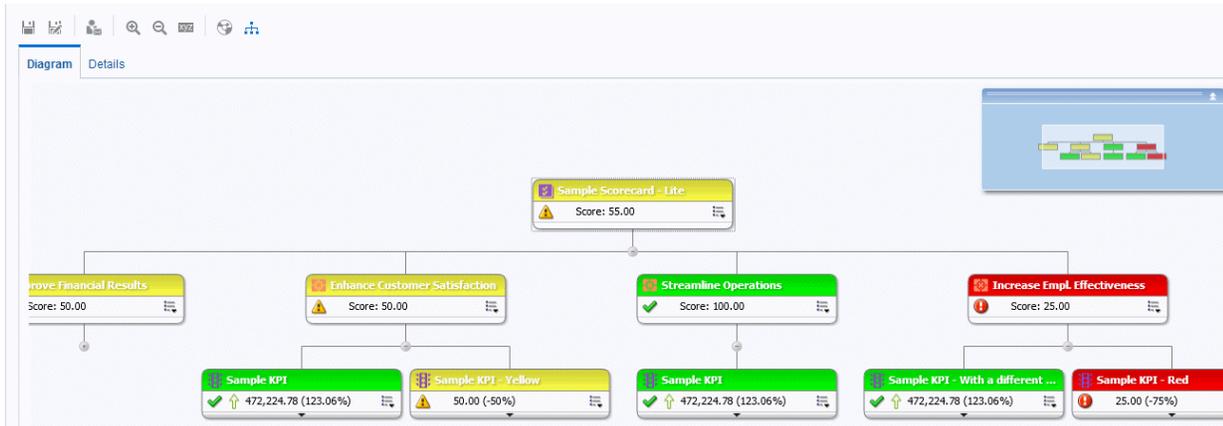
A strategy tree diagram contains the following components:

- **The tree diagram** — Consists of nodes that represent an objective and its supporting objectives and KPIs. Each node shows the status of the objective or KPI by displaying the icon and color that represents the assessment range. A KPI

node also displays the actual value of the KPI and the percent variance from the target.

- **The bird's eye view** — Provides an overhead view of the tree diagram.

The illustration shows an example of a strategy tree diagram.



Understanding a Strategy Contribution Wheel Diagram

You use a strategy contribution wheel diagram to hierarchically view an objective and its supporting child objectives and KPIs in a circular diagram called a strategy contribution wheel diagram.

The strategy contribution wheel diagram makes it easy to see the contribution (or impact) a specific objective or KPI has on a parent objective. It contains the following components:

- **Strategy contribution wheel** — Consists of a center circle (or focus node) that represents the starting objective of the diagram. It is surrounded by concentric circles that are divided into sectors. Each sector is a node that represents a child objective or KPI.
 - The size of a sector is determined by the weight assigned to the represented objective or KPI in its parent's weighted assessment rule. See [Assigning Weights to Child Objectives, Initiatives and KPIs](#). If the parent has no weighted assessment rule, then the child sectors of a parent are all the same size.
- **Information pane** — Displays the following information about the current node:
 - The status icon and either the score (for an objective) or the actual values and variance percentage (for a KPI)
 - The status of its children
 - The weight assigned to it in its parent's weighted assessment rule
- **Focus trail** — Consists of a group of small circles that represent the node in the center of the strategy contribution wheel and any of its ancestors that are included in the diagram. Each circle displays the status color of its corresponding node.

The illustration shows an example of a strategy contribution wheel diagram for the Improve Financial Results objective. The Reduce Cost subordinate objective is highlighted.



Creating Strategy Trees

A strategy tree shows an objective and its supporting child objectives and KPIs hierarchically.

You can create a strategy tree for the entire scorecard or for a specific objective as follows:

- In Edit mode, you can create and save a strategy tree for an entire scorecard and for specific objectives.
- In View mode, you can create a temporary, read-only strategy tree only for specific objectives. You cannot save the strategy tree.

See [Using the Edit and View Modes in the Scorecard Editor](#).

1. If you want to:

- Create and save a strategy tree for an entire scorecard or for a specific objective, edit the scorecard in which you want to create the strategy tree.
- Create but not save a temporary, read-only strategy tree only for a specific objective, open the scorecard.

2. To create a strategy tree for:

- The entire scorecard (the root objective), in the Scorecard Documents pane, click the **New Object** button and select **Create Strategy Tree**.
- For a specific objective, in the Strategy pane, right-click the objective and then select **View Strategy Tree**.

The Diagram tab of the Strategy Tree tab is displayed, showing the objective and its supporting child objectives and KPIs hierarchically in a diagram.

3. In a strategy tree diagram, to:

- Display options that enable you to work with a node, click the **Options** button (on the right side of the node) to display the Node Options Menu.
- Display additional performance data for a KPI, such as target value or variance, click the down arrow at the bottom center of the node. To collapse this data, click the up arrow.

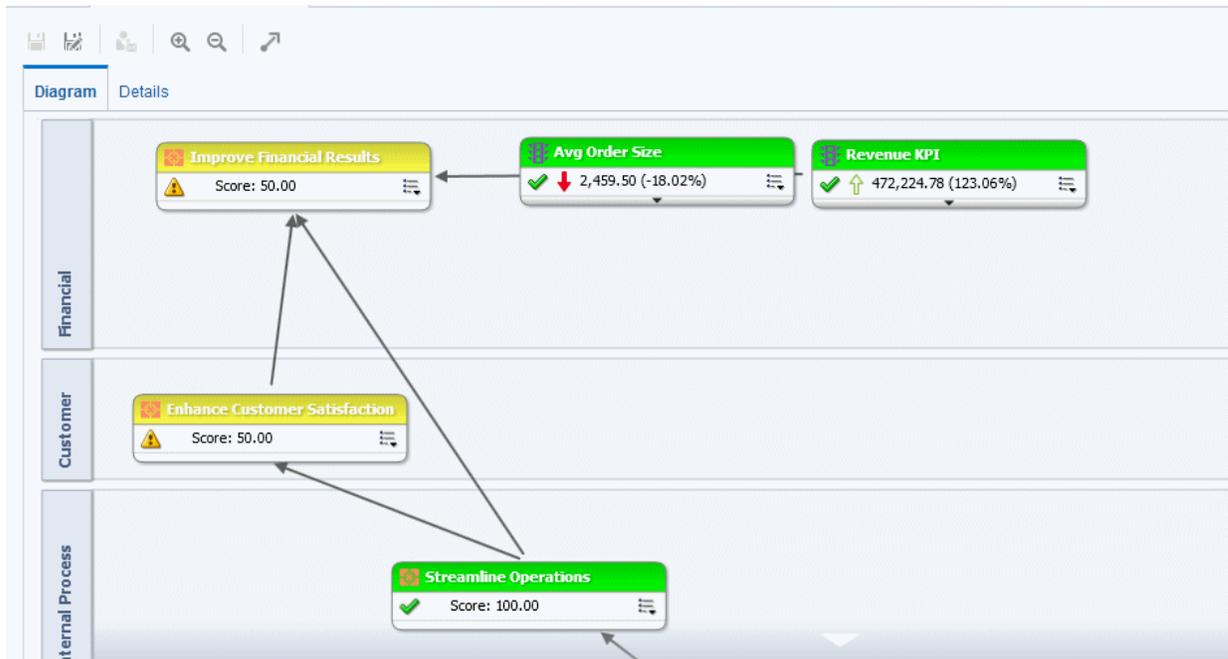
- Expand or collapse a node, click the plus (+) or minus (-) icon beneath the node.
 - Zoom in and out of the diagram, use the toolbar buttons on the Strategy Tree tab of the Scorecard editor.
 - Work with comments:
 - Hover the mouse pointer over the **Comment** button in the upper-right corner of a node to display the Status window, where you can read the comments that were previously added, add another comment, or reply to a comment.
 - Click the **Options** button on the right side of the node to which you want to add a comment and select **Add Comment** from the Node Options Menu. The New Comment dialog is displayed, where you can add a comment or read any comments that were previously added.
 - Work with status overrides on nodes for which you are the business owner:
 - Hover the mouse over the red asterisk (if available) in a node to display the Status window, where you can view the overrides that were previously applied or apply another override.
 - Click the **Options** button on the right side of the node to which you want to apply the status override and select **Override Status** from the Node Options menu. The Status Override dialog is displayed, where you apply another override or view any overrides that were previously applied.
4. To set properties that control the appearance of the diagrams, click the **Properties** button on the Strategy Tree tab of the Scorecard editor.
 5. In the Strategy Tree View Properties dialog, specify the property settings to achieve the desired appearance, and then click **OK**.
 6. Click the **Details** tab of the Strategy Tree tab.
 7. Specify a description, assign the business owner, and specify related documents, as appropriate. (By default, the business owner is the creator of the scorecard.)
 8. Click **Save** to display the Save As dialog. In the Save As dialog, you can rename the strategy tree rather than use the default name.

What Are Strategy Maps?

A strategy map shows how the objectives that have been defined for a scorecard and the KPIs that measure their progress are aligned by perspectives.

A strategy map also indicates cause and effect relationships between objectives and other objectives or KPIs with connecting lines. You create cause and effect relationships when you create (or edit) an objective (see [Creating Objectives](#)) or work with KPI details (see [Working with KPI Details](#)). You also can create cause and effect relationships in a strategy map.

The illustration shows an example of a strategy map.



You can create multiple strategy maps to represent the strategy of different areas of your organization.

You can create strategy maps in Edit mode only. See [Using the Edit and View Modes in the Scorecard Editor](#).

Ensure that associated objectives and KPIs relate to each other and identify cause and effect relationships. Review these relationships periodically to identify areas that might need improvement to increase collaboration and communication, thus impacting existing objectives and KPIs.

See [Creating Strategy Maps](#).

Creating Strategy Maps

A strategy map shows how the objectives that have been defined for a scorecard and the KPIs that measure their progress are aligned by perspectives.

Strategy maps help users see how actual results compare with objectives.

1. Edit the scorecard in which you want to create the strategy map.
2. In the Scorecard Documents pane, click the **New Object** button and select **Create Strategy Map**.
3. In the Diagram tab, build the map as follows:
 - Add objectives and KPIs that measure their progress by dragging them from the Strategy pane and dropping them in the diagram as follows:
 - If the objective or KPI is aligned with a specific perspective, then drop it anywhere in the diagram. It is displayed automatically in the section for the perspective to which the objective or KPI is associated.

You align an objective or KPI with a perspective when you create (or edit) the objective or KPI.

- If the objective or KPI is not associated with a perspective, then you drop it in the section for the perspective to which the objective or KPI is to be associated. This does not permanently assign the perspective to this objective or KPI.
- (optional) Add the direct cause and effect objects for the selected node (that is, the representation of an objective or KPI) to the diagram by right-clicking and selecting **Add Related Strategy Nodes**.
- Add cause and effect relationships, as needed.
 - To add a cause and effect relationship, click the **Draw A Casual Linkage Between Two Objectives** button on the **Strategy Map tab** toolbar, select one of the nodes, and then select the second node. A line connecting the nodes is displayed.
 - To delete a node from the map, right-click the node and select **Remove From Diagram**.

4. To:

- Display options that enable you to work with a node, click the **Options** button (on the right side of the node) to display the Node Options Menu.
- Edit a causal linkage, right-click the linkage line and select **Edit Causal Linkage**. The Causal Linkage dialog is displayed.
- Delete a causal linkage, right-click the linkage line and select **Delete Causal Linkage**.
- Display additional performance data for the KPI, such as target value or variance, click the down arrow at the bottom center of the representation. To collapse this data, click the up arrow.
- Zoom in and out of the diagram, use the toolbar buttons on the Scorecard editor: Strategy Map tab.
- Work with comments:
 - Hover the mouse pointer over the **Comment** button in the upper-right corner of a node to display the Status window, where you can read the comments that were previously added, add another comment, or reply to a comment.
 - Click the **Options** button on the right side of the node to which you want to add a comment and select **Add Comment** from the Node Options Menu. The New Comment dialog is displayed, where you can add a comment or read any comments that were previously added.
- Work with status overrides on nodes for which you are the business owner:
 - Hover the mouse over the red asterisk (if available) in a node to display the Status window, where you can view the overrides that were previously applied or apply another override.
 - Click the **Options** button on the right side of the node to which you want to apply the status override and select **Override Status** from the Node Options Menu. The Status Override dialog is displayed, where you apply another override or view any overrides that were previously applied.

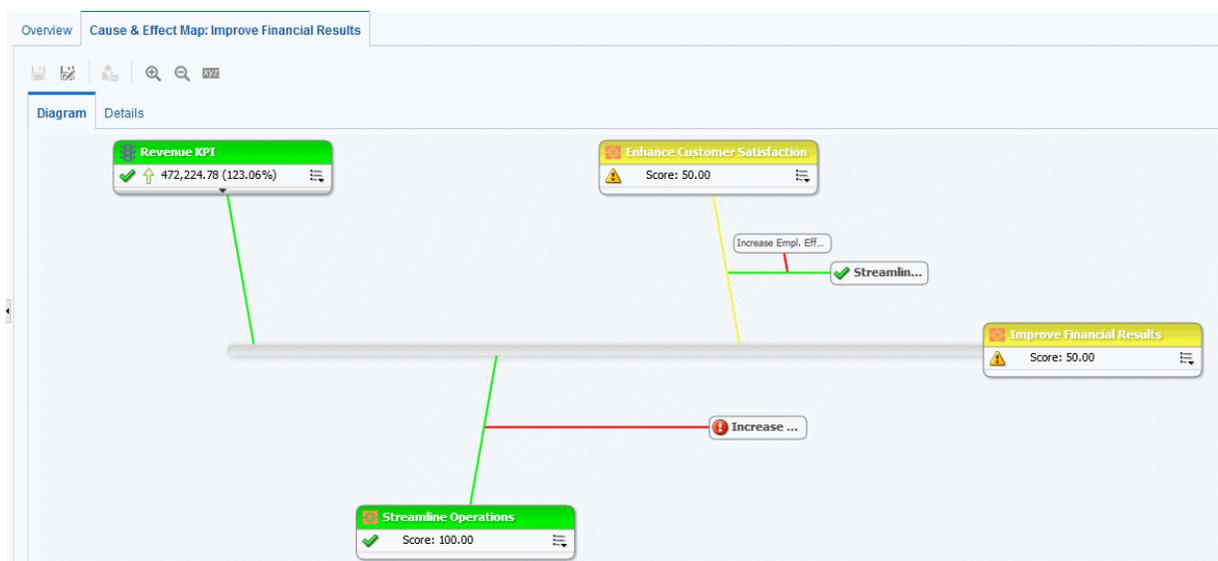
5. Click the **Details** tab of the Strategy Map tab.

6. Specify a description, assign the business owner, and specify related documents, as appropriate. (By default, the business owner is the creator of the scorecard.)
7. Click **Save** to display the Save As dialog. In the Save As dialog, you can rename the strategy map rather than use the default name.

What Are Cause & Effect Maps?

A cause & effect map lets you illustrate the cause and effect relationships of an objective or KPI that is listed in the Strategy pane. Cause & effect maps are diagrams that are used in scorecard and are not related to map views. See [Adding Views for Display in Dashboards](#).

The illustration shows an example of a cause & effect map for the Improve Financial Results objective.



You create cause and effect relationships for:

- An objective when you create or edit the objective and identify:
 - Other objectives or KPIs that impact or support the objective (causes)
 - Other objectives or KPIs that this objective impacts or supports (effects)

See [Creating Objectives](#).

- A KPI when you work with KPI details.
 - Other objectives or KPIs that impact or support the KPI (causes)
 - Other objectives or KPIs that this KPI impacts or supports (effects)

See [Working with KPI Details](#).

A cause and effect map also indicates the proportionality (that is, whether changes in performance or value in the cause and effect relationship are directly proportional (direct) or inversely proportional (inverse) and strength (strong, moderate, or weak) of cause & effect relationships using symbols.

A cause & effect map helps you to better understand the implications of future strategic changes.

Create cause and effect linkages to automatically show operational metrics and dependencies.

You can create a cause & effect map in either Edit or View mode:

- In Edit mode, you can create and save a cause & effect map.
- In View mode, you can create a temporary, read-only cause & effect map. You cannot save it.

See [Using the Edit and View Modes in the Scorecard Editor](#).

See [Creating Cause & Effect Maps](#).

Creating Cause & Effect Maps

You can create a cause & effect map for any objective or KPI that is listed in the Strategy pane.

See [What Are Cause & Effect Maps?](#)

1. If you want to:
 - Create and save a cause & effect map, edit the scorecard in which you want to create the cause & effect map.
 - Create but not save a temporary, read-only cause & effect map, open the scorecard in which you want to create the cause & effect map.
2. In the Strategy pane, right-click the objective or KPI and then select **View Cause & Effect Map**.

The Diagram tab of the Cause & Effect Map tab is displayed.

3. To:
 - Display options that enable you to work with a node, right-click the node or click the **Options** button (on the right side of the node) to display the Node Options Menu.
 - Display additional performance data for a KPI, such as target value or variance, click the down arrow at the bottom center of the node. To collapse this data, click the up arrow.
 - Edit a causal linkage, right-click the linkage line and select **Edit Causal Linkage**. The Causal Linkage dialog is displayed.
 - Delete a causal linkage, right-click the linkage line and select **Delete Causal Linkage**.
 - Zoom in and out of the diagram or to set preferences, use the toolbar buttons on the Cause & Effect Map tab of the Scorecard editor.
 - Work with comments:
 - Hover the mouse pointer over the **Comment** button in the upper-right corner of a node to display the Status window, where you can read the comments that were previously added, add another comment, or reply to a comment.

- Click the **Options** button on the right side of the node to which you want to add a comment and select **Add Comment** from the Node Options Menu. The New Comment dialog is displayed, where you can add a comment or read any comments that were previously added.
- Work with status overrides on nodes for which you are the business owner:
 - Hover the mouse over the red asterisk (if available) in a node to display the Status window, where you can view the overrides that were previously applied or apply another override.
 - Click the **Options** button on the right side of the node to which you want to apply the status override and select **Override Status** from the Node Options Menu. The Status Override dialog is displayed, where you apply another override or view any overrides that were previously applied.
- 4. To specify how cause and effect relationships are to be displayed on the cause & effect map, click the **Cause & Effect Map Preferences** button on the Cause & Effect Map tab of the Scorecard editor.
- 5. In the **General** tab of the Cause & Effect Map Preferences dialog, specify how you want cause and effect relationships displayed and then click **OK**.
- 6. Click the **Details** tab.
- 7. Specify a description, assign the business owner, and specify related documents, as appropriate. (By default, the business owner is the creator of the scorecard.)
- 8. Click **Save** to display the Save As dialog. In the Save As dialog, you can rename the cause & effect map rather than use the default name.

Understanding Watchlists

Watchlists are tables that list scorecard objects (that is, initiatives, objectives, and KPIs) that are related to a particular aspect of a scorecard or that are grouped together for a particular purpose.

Some watchlists are components of scorecard objects. These include the following watchlists:

- **Initiatives & KPIs watchlist** — Lists the child initiatives and the KPIs that are used to evaluate the performance of an initiative.

This watchlist is displayed in the Analytics pane of the Initiative Details tab.
- **Objectives & KPIs watchlist** — Lists the child objectives and the KPIs that are used to evaluate the performance of an objective or that are displayed in a view (that is, cause & effect map, custom view, strategy tree, or strategy map).

This watchlist is displayed in the following tabs:

 - Analytics pane of the Objective Details tab in the Scorecard editor
 - Details tab of the Cause & Effect Map tab
 - Details tab of the Custom View tab
 - Details tab of the Strategy Map tab
 - Details tab of the Strategy Tree tab
- **Objectives, Initiatives & KPIs watchlist** — Lists the initiatives, objectives, and KPIs that are associated with a perspective.

This watchlist is displayed in the Perspective tab of the Scorecard editor.

Other watchlists you create to serve a particular purpose. These include the following watchlists:

- **KPI watchlist** — Lists the KPIs whose performance you want to monitor.
This watchlist is displayed in the Performance tab of the KPI Watchlist editor. See [What Are KPI Watchlists?](#).
- **Smart watchlist** — Lists the initiatives, objectives, and KPIs within a scorecard that meet criteria that you specify.
This watchlist is displayed in the Smart Watchlist tab of the Scorecard editor. See [What Are Smart Watchlists?](#).
- **Breakdown watchlist** — Lists the child or descendant initiatives or objectives and KPIs that are used to evaluate the performance of an initiative or objective.
This watchlist is displayed in the Breakdown tab of the Scorecard editor.

A watchlist includes columns that describe the scorecard objects (such as Status, % Variance, and so on) and components (such as **View** or **Summary**) that allow you to view and manage these objects.

For example, you can create an Objectives & KPIs watchlist consisting of two objectives — % Early Shipped and Fulfillment Days — that are used to evaluate the performance of an objective named Enhance Customer Satisfaction.

Customizing Watchlists

You can use the Watchlist Styles tab of the Scorecard Settings dialog to customize watchlists used on Scorecards, Objectives, Initiatives, Perspectives, Smart Watchlists, Custom Views, Strategy Tree Views, Strategy Maps, and Cause Effect Maps.

For each watchlist in a scorecard, you can customize watchlist styles, change the column order, display or hide columns, and change column labels at the following levels:

- Scorecard: Applies to all watchlists for the scorecard that do not have their own individual styles or column customizations.
- Individual Watchlist: Applies to an individual watchlist. The individual watchlist style overrides the scorecard level style

If no watchlist styles are set, the default style is used.

You can include the following format options to customize the watchlists:

- Font Name - You must enter the font name manually. You must a font name supported by a web browser used in your environment.
- Bold - Yes or No or Default
- Italic - Yes, or No or Default
- Border Style
- Border Color
- Font Color
- Background Color

You can set the above formats for individual cell (row and column) types independently and can apply different styles for alternate rows of the watchlist.

You can copy and paste styles from one cell to another, and with one click can apply a cell's style to the entire row. You can also set the styles for the header row and the selected (clicked on) row.

To customize watchlists:

1. Edit the scorecard for which you want to customize the watchlists.
2. Click the **Scorecard Settings** button in the Scorecard editor.
3. Click the **Watchlist Styles** tab.
The Watchlist Styles tab is displayed.
4. Optional: From the Preset Styles list, select a style for your organization.
5. Optional: Check **Show Object Type Icon** to display the icon for KPI, Objective, or Initiative node types in the watchlist rows.
6. Optional: Check **Enable Alternate Row Styling** if you want to customize alternate row styles.
7. Use the View list, to show or hide columns or change column names.
You can similarly use the View list above each watchlist to customize individual watchlists.
8. Use the Edit icons to format the following cell (row or column) types:
 - Summary - information displayed above the watchlist table
 - Various columns in the Column Header Row
 - Various columns in the Body Rows
 - Various columns in the Alternate Body Rows
 - The Selected (clicked on) Row
9. For each cell (row or column) type, choose the following:
 - Font Name - Manually enter the font name that is supported by your browser
 - Bold - Yes or No or Default
 - Italic - Yes or No or Default
 - Border Style
 - Font Color
 - Background Color
 - Border Color
10. Click **Apply Styles** and then click **OK**.

What Are KPI Watchlists?

A KPI watchlist is a collection of KPIs whose performance you want to monitor.

You can create KPI watchlists:

- Within a scorecard. You create a KPI watchlist within a scorecard to help you view and investigate the progress of the objectives and initiatives. KPI watchlists that you create within a scorecard are saved as part of the scorecard. See [What Are Smart Watchlists?](#)
- Outside a scorecard. This enables you to create a KPI watchlist in advance of creating or editing a scorecard. KPI watchlists that you create outside a scorecard are saved as standalone objects in the Oracle BI Presentation Catalog.

See [Using KPIs and KPI Watchlists](#).

Working with KPI Details

When you create initiatives and objectives, you can assign KPIs to them to measure their progress and performance.

You can work with these KPIs within a Scorecard using the KPI Details tab of the Scorecard editor.

Specifically, you can:

- View basic KPI settings as well as a graph that presents actual values and target values.
 - Override the label, description, and business owner that are defined for the KPI.
 - Pin dimensions. See [What Are Dimensions and Pinned Dimension Values?](#)
 - View documents that provide supporting information to the KPI.
 - Run actions that are associated with the KPI.
 - Associate the KPI with a perspective.
 - Specify an indicator type (for example, Leading) to indicate whether the performance of the KPI drives other KPIs, or is affected by the performance of other KPIs, or other data or processes.
 - View, add, or reply to comments.
 - Identify initiatives and KPIs (for a KPI listed in the Initiatives pane) or objectives and KPIs (for a KPI listed in the Strategy pane) that cause or effect the KPI.
1. Edit the scorecard that contains the KPI.
 2. If the KPI is assigned to an:
 - Initiative, double-click the KPI in the Initiatives pane
 - Objective, double-click the KPI in the Strategy pane
 3. In the KPI Details tab, perform any of the following tasks:
 - Override one of the following items:
 - Label, using the **Label** field
 - Description, using the **Description** field
 - Business Owner, using the **Business Owner** field in the Collaboration pane
 - Pin dimensions using the **Dimensionality** area in the Analytics pane.
 - Run actions that are associated with the KPI, using the action links in the **Actions** area of the Analytics pane.

- Associate the KPI with a perspective, using the **Perspective** field in the Analytics pane.
 - Specify the indicator type, using the **Indicator Type** field in the Analytics pane.
 - View, add, or reply to comments, using the Collaboration pane.
 - View documents that provide supporting information to the KPI, using the **Related Documents** area in the Collaboration pane.
 - Identify objectives that cause or effect the KPI, using the Related Items pane.
4. If you made any changes, then click **Save**.

What Are Smart Watchlists?

A smart watchlist is a view into a particular scorecard based on criteria that you specify.

For example, a smart watchlist might show the top ten KPIs in a scorecard based on best performance or all the objectives, initiatives, and KPIs in a scorecard that are owned by a specific business owner.

The illustration shows an example of a smart watchlist for the Improve Financial Results objective and all its descendants.

Overview | Sample Smart Watchlist

Filter

Start With: Sample Scorecard - Lite
Include: Self, All Descendants

Types: Objectives, Initiatives, KPIs
Perspectives: All

Select: Bottom 10
Based On: Status OK, WARNING, CRITICAL

Objects View

Summary: ✔ OK (3) ⚠ WARNING (4) ❌ CRITICAL (3) Total (10)

Label	Status	Trend	Actual	Target	Variance	% Variance	Change	% Change
Streamline Operations	✔							
Sample KPI	✔	↑	472,224.78	211,702.86	260,521.92	123.06%	28,521.00	6.43%
Sample KPI - With a different Label	✔	↑	472,224.78	211,702.86	260,521.92	123.06%	28,521.00	6.43%
Sample Scorecard - Lite	⚠							
Improve Financial Results	⚠							

A smart watchlist consists of the following components:

- **Filter pane** — This pane is displayed as a control panel, as a text summary, or is hidden, depending on the setting of the **Filter Criteria Display** component in the Smart Watchlist Properties dialog. If displayed as a:
 - Control panel, it contains tabs that let you specify the criteria to be used to filter the smart watchlist. You can filter by object relationships, by object types, by perspective associations, by performance, and by business owner assignments.
 - Text summary, it displays a read-only text summary of the current filter criteria.
- **Smart watchlist** — Lists the objectives, initiatives, and KPIs in a scorecard that meet the criteria specified in the Filter pane.
- **Smart watchlist toolbar** — Contains buttons that allow you to save the smart watchlist and to specify smart watchlist properties, such as how the Filter pane is to be displayed (that is, as a control panel, a read-only text summary, or hidden).

Create smart watchlists as a conduit to properly align performance drivers (objectives and initiatives) with their proper business owners and to assist in arriving at a consensus between stakeholders that will build commitment to move goal and target setting along to achieve the stated and desired results.

You can create smart watchlists in Edit mode only.

In View mode, you can view a smart watchlist and, if the smart watchlist was saved with the Filter pane displayed as a control panel, you can specify filter criteria to dynamically change what is shown in the smart watchlist.

See [Using the Edit and View Modes in the Scorecard Editor](#).

You can also add smart watchlists to dashboards. If the smart watchlist was saved with the Filter pane displayed as a control panel, end users will be able to specify filter criteria to dynamically change what is shown in the smart watchlist.

See [Creating Smart Watchlists](#).

Creating Smart Watchlists

A smart watchlist is a view into a particular scorecard based on criteria that you specify.

Smart watchlists alert users of important changes in data.

1. Edit the scorecard in which you want to create the smart watchlist.
2. In the Scorecard Documents pane, click the **New Object** button and select **Create Smart Watchlist**.

The illustration shows an example of a smart watchlist.

The screenshot displays the Oracle Scorecard Editor interface. At the top, there are icons for home, edit, and view. Below these is a 'Filter' pane with tabs for 'Relationship', 'Type', 'Perspective', 'Performance', and 'Ownership'. The 'Relationship' tab is active, showing 'Start With' as 'Sample Scorecard - Lite' and 'Include' options: 'Self' (checked), 'All Descendants', 'Children', and 'None'. Below the filter pane is a table with columns: Label, Status, Trend, Actual, Target, and Variance. The table contains 13 rows of data, including 'Sample Scorecard - Lite', 'Improve Financial Results', 'Avg Order Size', 'Revenue KPI', 'Unit Price', 'Enhance Customer Satisfaction', 'Sample KPI', and 'Sample KPI - Yellow'. A 'Summary' icon is visible in the top right of the table area.

Label	Status	Trend	Actual	Target	Variance
Sample Scorecard - Lite	⚠️				
Improve Financial Results	⚠️				
Avg Order Size	✅	↓	2,459.50	3,000.00	(540.50)
Revenue KPI	✅	↑	472,224.78	211,702.86	260,521.92
Unit Price	⚠️	↑	9.68	10.26	-0.58
Enhance Customer Satisfaction	⚠️				
Sample KPI	✅	↑	472,224.78	211,702.86	260,521.92
Sample KPI - Yellow	⚠️		50.00	100.00	(50.00)

13 rows found

3. In the Filter pane, specify the filter criteria:

- a. In the Relationship tab, specify the object relationships by which the scorecard objects are to be filtered. You can add objectives, initiatives, or KPIs by dragging the objects from the Strategy and Initiatives panes and dropping them in the Relationship tab.
 - b. In the Type tab, specify the object types by which the scorecard objects are to be filtered.
 - c. In the Perspective tab, specify the perspective associations by which the scorecard objects are to be filtered.
 - d. In the Performance tab, specify the performance criteria (status, score, or ranking) by which the scorecard objects are to be filtered.
 - e. In the Ownership tab, specify the business owner assignments by which the scorecard objects are to be filtered.
4. Set smart watchlist properties. To do so, click the **Properties** button to display the Smart Watchlist Properties dialog.
 5. Manage the smart watchlist, as appropriate.
 6. Click **Save** to display the Save As dialog. In the Save As dialog, you can rename the smart watchlist rather than use the default name.

What Are Custom Views?

A custom view lets you show a customized view of your business and strategy data.

For example, you might present information about objectives and KPIs on a background image of your choice, such as your company logo. See [Creating Custom Views](#).

You can create custom views in Edit mode only. See [Using the Edit and View Modes in the Scorecard Editor](#).

Creating Custom Views

Scorecards can have custom views to alter how data analyses are presented.

You can create a view for a scorecard that is customized for your audience.

1. Edit the scorecard in which you want to create the custom view.
2. In the Scorecard Documents pane, click the **New Object** button and select **Create Custom View**.
3. In the Diagram tab, drag objectives and KPIs from the Strategy pane and drop them on the diagram.
4. Specify how you want each objective or KPI to be displayed on the diagram. For each objective or KPI, select it on the diagram and specify whether you want it displayed as:
 - Its full version. To do so, click the **Full** button.
 - Its simple version. To do so, click the **Simple** button.
 - One of its properties. To do so, click the **Property** button and select the property.

5. (optional) Specify a background image, a background color, or both by clicking the **Properties** button to display the Custom View Properties dialog.
6. To:
 - Display options that enable you to work with a node, click the **Options** button (on the right side of the node) to display the Node Options Menu.
 - Display additional performance data for the KPI, such as target value or variance, click the down arrow at the bottom center of the node. To collapse this data, click the up arrow.
 - Zoom in and zoom out of the diagram, use the toolbar buttons on the Custom View tab.
 - Work with comments:
 - Hover the mouse pointer over the **Comment** button in the upper-right corner of a node to display the Status window, where you can read the comments that were previously added, add another comment, or reply to a comment.
 - Click the **Options** button on the right side of the node to which you want to add a comment and select **Add Comment** from the Node Options Menu. The New Comment dialog is displayed, where you can add a comment or read any comments that were previously added.
 - Work with status overrides on nodes for which you are the business owner:
 - Hover the mouse over the red asterisk (if available) in a node to display the Status window, where you can view the overrides that were previously applied or apply another override.
 - Click the **Options** button on the right side of the node to which you want to apply the status override and select **Override Status** from the Node Options Menu. The Status Override dialog is displayed, where you apply another override or view any overrides that were previously applied.
7. Click the **Details** tab.
8. Specify a description, assign the business owner, and specify related documents, as appropriate. (By default, the business owner is the creator of the scorecard.)
9. Click **Save** to display the Save As dialog. In the Save As dialog, you can rename the cause & effect map rather than use the default name.

Opening Scorecard Objects

Several options are available when opening scorecard objects.

To open a scorecard object:

1. Open or edit the scorecard that contains the object.
2. To open:
 - An objective, double-click it in the Strategy pane to display the Objective Details tab.
 - An initiative, double-click it in the Initiatives pane to display the Initiative Details tab.

- A view (for example, a Strategy Map), a mission or vision statement, a KPI watchlist, or a smart watchlist, double-click it in the Scorecard Documents pane. Depending on the object you double-clicked, one of the following tabs is displayed:
 - Cause & Effect Map tab
 - Custom View tab
 - Strategy Map tab
 - Strategy Tree tab
 - KPI Watchlist tab
 - Smart Watchlist tab
 - Mission tab
 - Vision tab
- A perspective, double-click it in the Perspectives pane to display the Perspective tab.
- A KPI, double-click it in the:
 - Strategy pane or the Initiatives pane. The KPI Details tab is displayed.
 - Catalog pane for Scorecard. The KPI tab is displayed.
- Any object, select the object and click the **Open** button on the tab toolbar or right-click the initiative or objective and select the **Open** option.

Editing Scorecard Objects

You can edit scorecard objects in the Scorecard editor.

You also can edit scorecard objects from the Catalog page. See [Managing Objects in the Oracle BI Presentation Catalog](#).

1. Edit the scorecard that contains the scorecard object that you want to edit.
2. Double-click the object. For example, to edit an objective, double-click it in the Strategy pane, or, to edit a strategy map, double-click it in the Scorecard Documents pane.

For a strategy tree, you can edit only the details of a strategy tree, not the diagram.

3. Make your changes.
4. Click **Save**.

Deleting Scorecard Objects

You can delete scorecard objects from the Scorecard editor.

You also can delete scorecard objects from the Catalog page. See [Managing Objects in the Oracle BI Presentation Catalog](#).

 **Caution:**

Before deleting an initiative, ensure that it has been completed or is no longer required to achieve an objective. Before deleting an objective, examine any child objectives or other objectives with which it is linked to ensure that its removal does not negatively impact these objectives.

1. Edit the scorecard that contains the scorecard object that you want to delete.
2. Right-click the object and select **Delete**. For example, to delete a Strategy Map, right-click it in the Scorecard Documents pane and select **Delete**.
3. In the confirmation dialog, confirm that you want to delete the object.

Adding Scorecard Objects to Dashboards

Specific types of scorecard objects can be added to dashboards.

You can add the following scorecard objects to dashboards:

- Cause & effect maps. See [What Are Cause & Effect Maps?](#)
- Custom views. See [What Are Custom Views?](#)
- Strategy maps. See [What Are Strategy Maps?](#)
- Strategy trees. See [What Are Strategy Trees?](#)
- KPI watchlists. See [What Are KPI Watchlists?](#)
- Smart watchlists. See [What Are Smart Watchlists?](#)

 **Note:**

Embed scorecard visualizations (for example, smart watchlists or cause and effect maps) into dashboards for fostering interactive analysis.

See [Adding Content to Dashboards](#) for additional information.

Troubleshooting

You can find troubleshooting information in a variety of sources.

In solving problems that you might encounter while using Oracle Scorecard and Strategy Management, you might find the following information helpful:

- For information on logging, see *Diagnosing and Resolving Issues in Oracle Business Intelligence in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.
- If the features to add comments and to override statuses are not enabled, see *Configuring the Repository for Oracle Scorecard and Strategy Management in Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

- For problems with the ability to create or access scorecard objects, see the information on privileges and permissions in [Managing Objects in the Oracle BI Presentation Catalog](#) and Managing Presentation Services Privileges in *Security Guide for Oracle Business Intelligence Enterprise Edition*.

14

Managing Objects in the Oracle BI Presentation Catalog

This chapter provides information about using the Oracle BI Presentation Catalog in Oracle Business Intelligence Enterprise Edition to store and manage business intelligence objects. It describes how to search for objects, work with favorites, assign permissions to objects, assign or take ownership of objects, and archive objects.

Topics

This chapter includes the following sections:

- [What is the Oracle BI Presentation Catalog?](#)
- [Who Uses the Catalog?](#)
- [Saving Business Intelligence Objects](#)
- [How Can I Search for Objects?](#)
- [Searching for Objects in the Catalog](#)
- [Object-Specific Tasks](#)
- [What Are Favorites?](#)
- [Adding Objects to Favorites](#)
- [Accessing Favorite Objects](#)
- [Organizing Favorites](#)
- [Removing Objects From Favorites](#)
- [Exporting Analyses, KPIs, and Analysis Prompts Data](#)
- [Accessing Properties](#)
- [Levels of Oracle BI EE Security](#)
- [What Are Permissions?](#)
- [How Are an Object's Permission Assigned?](#)
- [Access Control Lists and Permissions](#)
- [Permission Definitions](#)
- [Permissions Available by Object Type](#)
- [Recommendations for Setting Permissions](#)
- [Assigning Permissions](#)
- [Who Owns an Object?](#)
- [Assigning Ownership of Objects](#)
- [Taking Ownership of Objects](#)
- [What is Archiving?](#)

- [Archiving Objects](#)

What is the Oracle BI Presentation Catalog?

The Oracle BI Presentation Catalog (the catalog) stores business intelligence objects and provides an interface where users create, access, and manage objects, and perform specific object-based tasks (for example, export, print, and edit). The catalog is organized into folders that are either shared or personal.

If Oracle BI EE is integrated with other Oracle applications, then the objects that are created within those applications are also stored within the catalog. For example, if Oracle BI Publisher is integrated with Oracle BI EE, data models, reports, and style templates and sub-templates are also stored in and accessible from the catalog.

Many of the operations that you can perform in the Oracle BI Presentation Catalog can also be performed in the Catalog Manager, which resides outside of Oracle BI Presentation Services. See *Working with Objects in Catalog Manager* in *System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

Who Uses the Catalog?

Various users can access the catalog.

Within Oracle BI EE, there are three primary users: content consumers, content designers, and catalog administrators. Each user performs different tasks within the catalog, and, therefore, each user sees a different version of the catalog interface. Functionality that is available for one user might not be available for another. Furthermore, the catalog functionality and objects that are available to a user depend upon the privileges that are specified by the Presentation Services Administrator and the object's individual permissions, which are usually set by the content designer.

Content consumers can use the Catalog page to view the business intelligence objects that are necessary to perform their day-to-day tasks. For example, a sales manager must access an analysis that monitors the weekly sales of a specific brand of beverage in the Central and Eastern regions. The permissions that are set by the content designer and catalog administrator determine what tasks the content consumers can perform both on an individual piece of content and within the catalog. For example, content consumers at Company A can search for, view, and interact with only those objects that have been assigned to them, but content consumers at Company B can search for and interact with content as well as create content and store it to their personal folders.

Content designers are the individuals who create the content for the content consumers. Content designers need broader access to the catalog to efficiently create, edit, test, and troubleshoot objects. Their access to the catalog's functionality is more comprehensive than that of the content consumers. However, like the content consumer, the content designer's permissions are set by the administrator. For example, a content designer must store content in and retrieve content from the public folders for the Sales functional area, but not the Operations functional area. Or a content designer must be assigned to several groups so that the content designer can sign in to Presentation Services as different users to test the new or revised content.

Administrators need the most comprehensive access to the catalog; however, their access is still determined by the privileges that are assigned to their role by the Presentation Services administrator. In general, the catalog tasks that the administrator performs include setting permissions on catalog objects and folders,

archiving the catalog, creating and managing directory structures, and managing system and user data.

 **Note:**

Over time, inconsistencies can develop in the catalog as links are broken, users are deleted, or NFS file system issues are encountered. You can periodically validate the catalog, to be informed of and to take corrective action on inconsistencies. For information on validation, see *Validating the Catalog Using Catalog Manager in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

Saving Business Intelligence Objects

You can save objects that you create in folders in the catalog.

For complete information on naming conventions, see *Guidelines for Object Names in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

1. Create or edit a business intelligence object and click **Save** or **Save As** from the editor's toolbar.
2. In the Save As dialog, select the catalog location to which you want to save the object:
 - You can create sub-folders for storage within your `My Folders` folder or within the system folder for which you have the permissions to modify.
 - Oracle BI EE enables you to save any type of business intelligence object to any location within the catalog. However, for some object types, Oracle BI EE's Save As dialog suggests the best catalog location. For example, if you are creating a named filter, then it should be saved to a subject area folder (`/My Folders/Subject Area Contents/Paint`) so that it is available when you create an analysis using the same subject area and to which you want to add the saved filter.
 - You can save the following objects to any location within the catalog: actions, agents, analyses, BI Publisher objects, briefing books, conditions, KPIs, and prompts.
 - Oracle recommends that you save the following objects to the subject area folder: calculated items, custom groups, and filters. If a subject area folder does not exist in your `/My Folders` folder or within the `/Shared Folders` folder, then Oracle BI EE creates a subject area folder and the Save As dialog defaults a save path to `/My Folders/Subject Area Contents/<subject area>`. Saving these objects to the subject area folders ensures that they are available when you build an analysis for the same subject area.
 - Dashboards can be saved to any catalog location. However, if you want the dashboard to display in the global header's Dashboards menu, then you must save the dashboard to a first level dashboard folder. For example, save the dashboard to the following location to include the dashboard in the Dashboard menu: `/Shared Folders/Sales Projections/Dashboards`. Save the dashboard to the following location to exclude the dashboard from the Dashboard menu: `/Shared Folders/Sales Projections/`

Dashboards/Design Time. For more information about saving dashboards, see [Saving Dashboards by Other Names and in Other Locations](#).

3. Click **OK**.

Use the following procedure to create a sub-folder within your My Folders or, if you have the required permissions, to create a sub-folder.

1. On the Catalog page, go to the desired location in the Folders pane.
2. In the catalog toolbar, click **New** and select **Folder**.
3. In the New Folder dialog, enter the folder name and click **OK**.

How Can I Search for Objects?

Depending upon whether your system has been configured to use BI Search configure crawl, you will use either the basic catalog search or the full-text catalog search to find objects in the Oracle BI Presentation Catalog.

The catalog contains things that you or somebody else has defined and saved for future use (such as analyses and dashboards). You can search the catalog to find something that you want to work with or change. For example, you can find the Brand Revenue analysis that you created last week. By doing so, you can change a bar graph to a line graph in that analysis.

You can use the Catalog page to view the business intelligence objects that are necessary to perform your day-to-day tasks. For example, a sales analyst must access an analysis that monitors the weekly sales of a specific brand of beverage in the Central and Eastern regions. The permissions set by the catalog administrator determine what tasks the analyst can perform on a piece of content and within the catalog.

- **Basic catalog search** — This is the standard search option. This search type allows you to search for an object by its exact name, description, location, and object type only. See [Basic Catalog Search](#).
- **Full-Text catalog search** — To allow the full-text catalog search, your administrator must configure and enable the BI Search indexing (crawling). This search type allows you to search for an object by exact name, description, location, object type, object attribute, data column name, data column values, and so on. See [Full-Text Catalog Search](#).

Basic Catalog Search

The basic catalog search enables users with the proper privilege to search for objects from the global header or the Catalog page.

In the Catalog page, you can use the basic catalog search to locate an object by searching for its exact name, description, location, and type, only. You find only those objects for which you have the appropriate permissions. When the desired object is located, you can click it to display it for viewing or editing, as your permissions allow.

Full-Text Catalog Search

You can use the full-text search to find objects by entering various search values, such as name, description, author, and the names and values of columns of data that the object references.

Full-text catalog search enables users with the proper privilege to conduct an expanded search for an object. This expanded search functionality is only available if your administrator configured and enabled the BI Search configuration crawl. When configured, the full-text catalog search, like the basic catalog search, is available from the global header or the Catalog page.

When users perform the full-text catalog search, it locates those objects that have been crawled and indexed and for which the individual users have the appropriate permissions. Objects such as dashboards and reports with the **Do Not Index** attribute selected are not indexed.

The list of full-text search results includes any objects that match the criteria, for which the user has at least the **Open** permission. If an object is stored in a folder, then the user must have the `Traverse` folder and **Open** object permissions. Objects with the **No Access** permission are not available.

Be aware of the following information about the full-text search:

- While you search using keywords, the search results include both data and metadata. For each catalog object, both the metadata (such as the name, path, author, modification date, last accessed date, type, and description) and the data (such as column name, header names, column values, prompt formulas, column formulas, and prompt values) are indexed and available as search results.
- The default search operator is **OR**. You can specify multiple search terms and the highest search hit includes the largest number of search terms.

You can search for nearly all types of objects in the Oracle BI Presentation Catalog, with a few exceptions such as Marketing Segmentation objects and hierarchical columns.

Searching for Objects in the Catalog

You can use configured levels of searching functionality to find objects in the catalog.

Depending upon how your system is configured, you will use the basic search or the full-text search capabilities. See [How Can I Search for Objects?](#)

When performing a full-text search, a newly created object that is included in the index cannot be located until a crawl has occurred.

You can use the global header to perform a search.

1. In the global header **Search** field, click the down arrow and select the object type for which you want to search.
2. Place your cursor in the field next to the **Search** field and enter part or all of the object's name or description.
3. Click **Search** to begin the search. The Catalog page is displayed with the results that match your search criteria. For more information about how to search, see Search pane.

Use the Catalog page's functionality to provide search criteria. This searching method is useful when you know the object's name, location, or type. Use the following task for the basic search and the fully integrated full-text search.

1. In the global header, click **Catalog**.
2. In the Catalog page, click the **Search** button.

3. In the Search pane, specify the search criteria. Consider the following options:
 - **Search:** All objects and folders whose names contain the letters that you enter are displayed.
 - **Location:** This option is only available for the basic search. Select the folders to search. Administrators and users with administrative permissions can search the catalog root folder. However, before you can search the root folder, you must be in Admin View.
 - **Type:** This option is only available for the basic search. Select the kind of object for which you are searching (for example, KPI, Scorecard, or Filter).
4. To search for Hidden Items, select the **Show Hidden Items** box on the Catalog page's header.
5. Click **Search**.

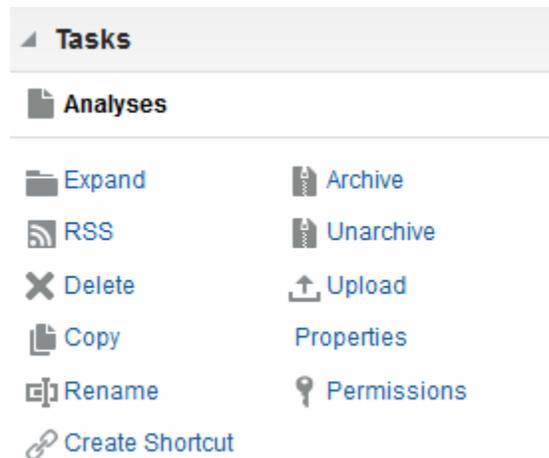
Folders or objects that satisfy the search criteria are displayed in the Catalog area.

Object-Specific Tasks

There are specific tasks you can perform with objects.

The tasks that you can perform for an object that you select from the Catalog pane are determined by both the selected object's type (for example, a dashboard or KPI) and the permissions that were set for the object. The list of available tasks is displayed in the Tasks pane, which is located within the Catalog page or from the object's **More** link.

The illustration shows the available tasks for the analysis that was selected from the catalog. This graphic illustrates that the object's available tasks are: Expand, RSS, Delete, Copy, Rename, Create Shortcut, Archive, Unarchive, Upload, Properties, and Permissions.



In most cases, you can open or copy an object. However, if you selected an analysis, then you can create an agent for the analysis or export the analysis. If you selected a dashboard, then you can publish the dashboard or archive it, depending upon the permissions that were assigned to the object.

 **Note:**

If you upgrade to a newer version of Oracle Business Intelligence and work with objects in the catalog, then you might notice that certain objects are not being accessed as quickly as in the previous release. This change can occur if objects were not upgraded properly. See *Updating Catalog Objects in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition* for information on upgrading objects.

What Are Favorites?

The favorites functionality allows you to bookmark as favorites the catalog objects that you view regularly or want to view again at another time.

After you flag objects as favorites, you can use the Manage Favorites dialog to organize your favorites by creating categories and rearrange your favorites into the order that you find most intuitive. You can access a list of the objects that you marked as favorites and any categories that you created by clicking **Favorites** in the global header.

You can use Oracle Business Intelligence Mobile to access your list of favorites as well as add objects to and remove objects from your favorites list. However, you cannot organize and manage your favorites from Oracle BI Mobile. Your Oracle BI EE desktop and Oracle BI Mobile favorites lists will synchronize your changes when you log into either Oracle BI EE instance.

Adding Objects to Favorites

There are multiple ways to add an object to your favorites list.

You can bookmark as favorites the catalog objects that you view regularly or want to view again. For example, you might regularly view the Loyal Customers analysis in the catalog. You flag the analysis as a favorite. After you add an object to your favorites list, the object's icon is updated to include a gold star.

To add an object to your favorites list by using the Home page or Catalog page:

1. Go to the Home page or Catalog page and browse for the object that you want to add to your favorites list.
2. Click the **More** link, and then click **Add to Favorites**. The object is added to your favorites list.

To add an object to your favorites list while viewing or editing the object:

1. Open the object in its designated viewer or editor.
2. In the global header, hover over **Favorites** and click **Add to Favorites**. The object is added to your favorites list.

Accessing Favorite Objects

After you tag objects as favorites, you can use the **Favorites** menu in the global header to view your list of favorites and browse for and select a favorite object.

See [Adding Objects to Favorites](#).

You can also use Oracle Business Intelligence Mobile to access your favorites list. See [What Are Favorites?](#)

1. In the global header, hover over the **Favorites** menu. The list of the objects that you marked as favorites displays.
2. Scroll through the list of objects and categories, and click an object to select it.

Organizing Favorites

Use these tasks to organize the items on your favorites list.

You can organize favorites from the Oracle BI EE desktop, only. Any changes that you make to your favorites list will synchronize to your Oracle Business Intelligence Mobile favorites list when you log in from the mobile device.

To create a favorites category:

1. In the global header, hover over the **Favorites** menu. The list of the objects that you marked as favorites displays.
2. Click **Manage Favorites**. The Manage Favorites dialog displays.
3. In the Category Tree or the Selection Category area, browse to and select the location where you want to add a new category.
4. On the toolbar, click **New Category**. The New Category dialog displays.
5. Enter a unique name for the category. Click **OK**.
6. The new category displays.

To rearrange your favorite objects:

1. In the global header, hover over the **Favorites** menu. The list of the objects that you marked as favorites displays.
2. Click **Manage Favorites**. The Manage Favorites dialog displays.
3. In the Category Tree or the Selection Category area, browse to the location of the categories or objects that you want to rearrange. You can perform the following actions to rearrange your favorites.
 - Select an object or category and click the move buttons to move the object up or down in your favorites list.
 - Drag and drop objects into categories. Drag and drop categories into other categories to nest them.
 - Copy objects or categories from one location and paste them into another location.
 - Rename categories.

- Sort the selected categories or objects within a category by ascending or descending alphabetic order.

See the Manage Favorites dialog.

4. Click **OK**. Your rearranged objects and categories are saved and display in your favorites list.

Removing Objects From Favorites

You can remove items from your favorites list.

You can remove from your favorites list those objects that you no longer need to access regularly. For example, you can remove from your favorites list the previous year's Loyal Customers analysis that you no longer need to access regularly.

You can also use Oracle Business Intelligence Mobile to remove objects from your favorites list.

After you remove an object from your favorites list, the object's icon changes from an icon with a gold star to the object's standard icon.

To remove an object from your favorites list by using the Home page or Catalog page:

1. Go to the Home page or Catalog page and browse for the object that you want to remove from your favorites list.
2. Click the **More** link, and then click **Remove from Favorites**. The object is removed from your favorites list.

To remove an object from your favorites list while viewing or editing the object:

1. Open the object in its designated viewer or editor.
2. In the global header, hover over the **Favorites** menu. The list of the objects that you marked as favorites displays.
3. Click **Remove from Favorites**. The object is removed from your favorites list.

To remove an object from your favorites list by using the Manage Favorites dialog:

1. In the global header, hover over the **Favorites** menu. The list of the objects that you marked as favorites displays.
2. Click **Manage Favorites**. The Manage Favorites dialog displays.
3. Browse for and select the object that you want to remove.
4. Click **Delete**.
5. Click **OK**. The object is removed from the list.

Exporting Analyses, KPIs, and Analysis Prompts Data

To leverage your data and use it in other applications, you can export analyses, KPIs, and analysis prompt values and data.

You can export to various formats such as as PDF, Web Archive, spreadsheet, Powerpoint presentation, and data file. For example, you can export a Stock Control analysis, so that a supplier can view the results in Microsoft Excel.

You can export Oracle Business Intelligence Publisher reports if they are embedded in a dashboard or dashboard page.

1. In the global header, click **Catalog**.
2. On the Catalog page, search for the object to export.
3. In the Folders pane, select the object to export.
4. Select the object and perform a task:
 - Below the document, select **More** and then **Export**
 - Select the **Export** button in the Tasks pane
5. Select the format. The **Data** list contains the **CSV Format**, **Tab delimited Format**, and **XML Format** options.

Accessing Properties

Administrative users can access the properties of any object or folder to perform tasks such as view system information or change access levels.

Users can access and modify the properties of the objects that they create or own. For example, you might want to change the Brand Revenue analysis to be read-only so that other users cannot change it.

1. In the global header, click **Catalog**.
2. In the Catalog page, search for the object to which you want to assign properties.
3. In the Folders pane, select an object or folder.
 - Below the document, select **More** and then **Properties**.
 - Click the **Properties** button in the Tasks pane.
4. Review or change the settings displayed in the Properties dialog.

Levels of Oracle BI EE Security

Oracle BI EE supports security mechanisms that allow users to access only the data for which they are authorized.

For specific information about setting up and maintaining security, see Introduction to Security in Oracle Business Intelligence in *System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*. The following types of security are typical:

- **Subject Area security.** This security mechanism controls access to objects, such as subject areas, folders, and columns. For example, content designers in a particular department can view only the subject areas that belong to their department when using the Analysis editor.
- **Catalog object security.** This security mechanism provides security for objects that are stored in the Oracle BI Presentation Catalog, such as dashboards, dashboard pages, folders, and analyses. Users can view only the objects for which they are authorized. For example, a mid-level manager might not be granted access to a dashboard that contains summary information for an entire department. See [What Are Permissions?](#)
- **Data level security.** This security mechanism controls the type and amount of data that is available in analyses. When multiple users run the same analysis, the

results that are returned to each user depend on their access rights and roles in the company. For example, a sales vice president sees results for all regions, while a sales representative for a particular region sees only data for that region.

The security mechanisms in Oracle Business Intelligence can use security hierarchies that are defined in operational applications, such as Siebel CRM applications, which minimizes the need for administrators to manage multiple security systems. The security mechanisms also allow a high degree of control over access to elements in Oracle Business Intelligence applications.

What Are Permissions?

An object's owner or a user who has been given the proper privileges and permissions can assign permissions to catalog objects.

Permissions are authorizations that you grant to a user or role to perform a specific action or group of actions on a catalog object. For example, if you work in the sales department and created a dashboard that contains quarterly sales projections, then you can give read access to this dashboard to all sales people, but give read, write, and delete access to sales directors and vice presidents.

Permissions are a part of the Oracle BI EE security model, and how permissions are initially assigned is based on how users, roles, and groups were set up on your system, and which privileges the Oracle BI EE administrator granted those users, roles, and groups.

How Are an Object's Permission Assigned?

Object permissions can be assigned by a variety of users.

The permissions for a folder, Oracle BI Publisher object, or other objects are assigned by either the object owner, the content designer, or the catalog's administrator. Before someone other than the content designer can assign permissions to an object, that person must have been given ownership of the object, granted the Change Permissions privilege by the Presentation Services administrator, and have been given the Change Permissions object permission, which is listed in the Custom Permissions dialog. For more information about setting the Change Permissions privileges, see *Managing Presentation Services Privileges in Security Guide for Oracle Business Intelligence Enterprise Edition*.

When the content designer creates an object and saves it to a folder, the object inherits the permissions that are set on the folder. After the object is saved, the content designer can display either the catalog's Tasks pane or the object's **More...** link, locate the object, access the Permissions dialog, and modify the object's permissions. If the object's Read-Only property, which is set on the Properties dialog, is selected, then no one other than the owner can modify the object's permissions. This read-only setting essentially trumps any permissions that are set in the Permission dialog.

When working with an object, you use the Permissions dialog to assign who gets which object permissions in the following ways:

- **To Application roles** — This is the recommended way of assigning permissions. Application roles provide much easier maintenance of users and their assignments. An Application role defines a set of permissions granted to a user or group that has that role in the system's identity store. An Application role is assigned in accordance with specific conditions. As such, Application roles are

granted dynamically based on the conditions present at the time authentication occurs.

For information on Application roles, see Managing Application Roles and Application Policies Using Fusion Middleware Control in *Security Guide for Oracle Business Intelligence Enterprise Edition*.

- **To individual users** — You can assign permissions and privileges to specific users, but such assignments can be more difficult to maintain and so this approach is not recommended.

Access Control Lists and Permissions

Access control lists define the ability of an account to access a shared object in the Oracle BI Presentation Catalog.

An account is an Application role or an individual user. Permissions describe the type of access to an object that an account is permitted. Examples are Open and Full Control.

Each catalog object has an access control list that defines which accounts have which permissions to access the object. The access control list is stored in the object's corresponding attribute (.atr) file. An access control list has the general form that is shown in this table.

Account	Permission
ApplicationRole1	Open
ApplicationRole4	Full Control
ApplicationRole3	Open
User 4	Open
User 9	Full Control
User 11	Full Control

Permission Definitions

To control access to objects (such as a folder in the catalog or a section in a dashboard), you assign permissions to Application roles and users.

The permissions that you can assign vary depending on the type of object with which you are working.

The permissions that are available from the Permissions dialog are usually parent permissions, meaning that each parent permission contains several child permissions (for example, if the Open permission is applied to a folder, the users of that folder can read, traverse, and run Oracle BI Publisher reports located in that folder). Applying parent permissions, rather than building custom permissions for every object, is an easy way to consistently assign and maintain permissions. The available parent permissions differ based on the object type with which you are working: folders, BI Publisher objects, or business intelligence objects. BI Publisher objects include reports, data models, sub templates, and style templates. Business intelligence objects include analyses, dashboards, KPIs, scorecards, filters, and prompts.

If in the Permissions dialog you select the Custom permission, then the Custom Permissions dialog is displayed where you can select the permissions to apply to the object. For example, if you are working with a folder object, then you can select the traverse, read, and delete permissions.

The table here includes the name of each permissions and its definition. See [Permissions Available by Object Type](#).

Permission	Description
Read	Use this option to give authority to access, but not modify the object.
Write	Use this option to give authority to edit the object.
Delete	Use this option to give authority to delete the object.
Traverse	<p>Use this option to give authority to access objects within the selected folder when the user does not have permission to the selected folder. Access to these objects is required when the objects in the folder, such as analyses, are embedded in a dashboard or WebCenter Portal application page that the user has permission to access.</p> <p>For example, if you grant users the Traverse permission to the /Shared Folders/Test folder, then they can access objects, through the Catalog or embedded in dashboards or WebCenter Portal application pages, stored in the /Shared Folders/Test folder and stored in sub-folders, such as the /Shared Folders/Test/Guest folder. However, users cannot access (meaning view, expand, or browse) the folder and sub-folders from the Catalog.</p>
Run Publisher Report	Use this option to give authority to read, traverse the folder that contains the object, and regenerate the report so that it includes the most recent data.
Schedule Publisher Report	Use this option to give authority to read, traverse the folder that contains the object, and schedule the report.
View Publisher Report	Use this option to give authority to read, traverse the folder that contains the object, and view, but not regenerate, the report.
Execute	Use this option to give authority to run an object, such as an action, agent, or a briefing book.
Change Permissions	Use this option to give authority to change the object's permissions.
Set Ownership	Use this option to give authority to reassign ownership of the object.
Full Control	Use this option to give authority to perform all tasks (modify and delete, for example) on the object.
No Access	Use this option to deny access to the object. Explicitly denying access takes precedence over any other permission.
Modify	Use this option to give authority to read, write, and delete the object.
Open	Use this option to give authority to access, but not modify, the object. If you are working with an Oracle BI Publisher object, this option enables you to traverse the folder that contains the object.
Custom	Use this option to display the Custom Permissions dialog, where you grant read, write, execute, and delete permissions.
Granted	Use this option to give authority to access a section in a dashboard. This permission can be set in the dashboard, only. This permission overrides any catalog permissions set on the section's objects that would prevent the corresponding roles and users from accessing them (for example, No Access). See Changing the Properties of a Dashboard and its Pages .

Permission	Description
Denied	Use this option to deny access to a section in a dashboard. This permission can be set in the dashboard, only. This permission overrides any catalog permissions set on the section's objects that would allow the corresponding roles and users to access them (for example, View). See Changing the Properties of a Dashboard and its Pages .

Permissions Available by Object Type

The permissions that are available from the Permissions dialog are usually parent permissions, meaning that each parent permission contains several child permissions.

For example, if the Open permission is applied to a folder, then the users of that folder can read, traverse, and run the BI Publisher reports that are located in that folder. The available parent permissions differ based on the object with which you are working.

The table here includes a listing of the parent permissions and the corresponding child permissions by object type. For a description of each permission, see [Permission Definitions](#).

Parent Permission	Folders	Oracle BI Publisher Objects	Objects
Full Control	Includes all permissions	Includes all permissions	Includes all permissions
Modify	Read, write, and delete	Read, write, and delete	Read, write, and delete
Open	Read, traverse, run BI Publisher report	Run Oracle BI Publisher report	Read
Schedule Oracle BI Publisher Reports	Schedule BI Publisher reports that are contained in the folder, read, and traverse	Schedule Oracle BI Publisher reports	Not available
View Oracle BI Publisher Output	View BI Publisher reports that are contained in the folder, read, and traverse	View Oracle BI Publisher reports	Not available
Traverse	Traverse folder	Not available	Not available
No Access	Object is not accessible	Object not accessible	Object not accessible

Recommendations for Setting Permissions

When administrators set access permissions for users, certain guidelines need to be followed.

Follow these recommendations when setting permissions:

- Use care when assigning permissions to ensure that you do not lock the object by preventing you, an administrator, or any other user from modifying the object.
- Assign permissions through Application roles, even if you must assign permissions only for a single user. Application roles are central to Oracle BI EE.

For information on Application roles, see *Managing Application Roles and Application Policies Using Fusion Middleware Control in Security Guide for Oracle Business Intelligence Enterprise Edition*.

- For Application roles (or users, if necessary) that are going to be modifying the dashboards and dashboard content accessible to the role, set the permissions for the role to Full Control. While allowing change and delete control, Full Control also enables the specified role to set permissions and to delete the object, folder, or dashboard.

If you plan to have numerous or varying users that create and modify dashboard content for a given group, then create a separate, corresponding **builder** role that has all the back-end permissions of the primary role, but with a different name. For example, you can create a Sales role and a SalesBuilder role. By giving the SalesBuilder role appropriate permissions to the Oracle BI Presentation Catalog, you can control and change who can make changes to dashboards and content. Assuming session variable security is in place, you can make a user a dashboard builder or content creator by changing the user's role from **Sales** to **SalesBuilder** in the database table that holds security information.

- For each Subject Area, ensure that the AuthenticatedUser role has No Access permission to the Subject Area folder.
- For roles that should be able to save analyses for public use against a given Subject Area, grant them Full Control to the Subject Area folder and everything it contains, and likewise for the Common folder.
- To ensure that only members of the designated roles have access to Oracle BI Presentation Catalog folders, folder content, and dashboards, do not set explicit permissions for the AuthenticatedUser role.

 **Tip:**

To provide a place for all users within an Application role to share analyses with each other, create a folder under the Subject Area folder called, for example, Share or Publish, and give the entire role Change/Delete permission to just that folder.

Assigning Permissions

Permissions determine who can access folders, BI Publisher objects, or other catalog objects.

You can assign permissions to determine who can access folders or other catalog objects. The permissions that you can assign vary depending on the type of object with which you are working. To change permissions, you must have been granted the Change Permission privilege. For example, you might want to grant the Change Permission privilege to another sales consultant. This enables him to assign permissions to the Sales Forecast analysis.

To access an object in the catalog, users must have appropriate ACL (Access Control List) entries for that object. All objects in the catalog except for alerts use ACL entries. See *Working with Objects in Catalog Manager in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

Use the following procedure to assign permissions to an object. See [Permission Definitions](#), [Permissions Available by Object Type](#) and [Recommendations for Setting Permissions](#).

1. In the global header, click **Catalog**.
2. In the Catalog page, search for the object to which you want to assign permissions.
3. Go to the Catalog area and locate an object or folder.
4. Select **More** and then **Permissions**, or go to the Tasks pane and click **Permissions**.
5. In the Permissions dialog, click the **Add users/roles** button to access the Add Application Roles and Users dialog to add any required accounts.
6. In the Permissions dialog, click the **Permissions** list to select permissions. Most of the items that are displayed in the list are parent permissions and contain several child permissions. To build a specific list of permissions, click **Custom**.
7. In the Custom Permissions dialog, specify how the permissions are to be applied using these options: **Apply permissions to sub-folders**, **Apply permissions to items within a folder**, or **Apply permissions to all descendants**.
8. In the **Replace Options** list, specify how the entries in the Access Control List (ACL) are to be replaced for the object and also for its children (but only if one or more of these options are selected): **Apply permissions to sub-folders**, **Apply permissions to items within a folder**, or **Apply permissions to all descendants**.

If you select either **Replace Listed Accounts** or **Remove Listed Accounts**, then make sure that you also remove from the list in the Permissions area the entries that you do not want changed.
9. Click **OK**.

Who Owns an Object?

Object owners may or may not have full permissions to manipulate the object.

Ownership of an object can either be granted by the user who created the object or taken by a user who has been granted the proper privileges. The owner of an object or folder cannot automatically access the object or folder. To access an object, the user must have the proper permissions assigned in the object or folder's Permissions dialog.

By default, the user who creates and saves a catalog object to either My Folders or a Shared folder owns the object. An object in My Folders cannot be assigned to another owner unless the object is moved to a Shared folder and the Administrator assigns the privilege allowing the owner to reassign ownership. After this privilege has been granted, the ownership of the object can then be assigned to another user or role that displays in the Permissions dialog. For example, suppose Employee A is a content designer and has created a dashboard for the Marketing department. Employee A completes the dashboard, saves it to the Marketing Department's Shared folder, and assigns ownership of the dashboard to Employee B, who is a marketing manager and responsible for updating the dashboard. See [Assigning Ownership of Objects](#).

In some situations a user or member of a role must take ownership of objects located in a Shared folder. In this case, the user who wants to take ownership must be

assigned the proper privilege to complete this task. After these privileges are granted, the user sees the **Take Ownership of this Item** and the **Take Ownership of this item and all subitems** options in the Properties dialog. For example, suppose that Employee A has been granted the proper privilege to take ownership of objects and folders. When Employee B, who owns several catalog objects, leaves the company, Employee A can now access the Properties dialog for these objects, take ownership of the objects, and reassign ownership of the objects to Employee C. See [Taking Ownership of Objects](#).

Assigning Ownership of Objects

You can assign ownership of an object or folder that is saved to a Shared folder.

Ownership of an object can be granted by the user who created the object. Also, ownership of an object can be taken by a user who has been granted the proper privileges. For example, you can create a Brand Revenue analysis and grant ownership to a Regional Sales Analyst. You must have the proper privilege to access the Permissions dialog where you can then assign ownership of an object or folder.

See [Who Owns an Object?](#) and [Taking Ownership of Objects](#).

1. In the global header, click **Catalog**.
2. On the Catalog page, search for the object to which you want to assign ownership.
3. Go to the Catalog area and locate an object or folder.
4. Select **More** and then **Permissions**, or go to the Tasks pane and click **Permissions**.
5. In the Permissions table, go to the **Owner** column and click to specify the owner.
6. Click **OK**.

Taking Ownership of Objects

Use the following procedure to take ownership of an object or folder that is saved to a Shared folder.

A user or a member of a role can take ownership of objects in a shared folder, if the user or member is assigned to the BIAdministrator role. For example, as a user who is a member of the Sales group, you might assign properties to the Sales Forecast analysis to mark yourself as owner of the object. You must have the proper privilege for the take ownership options to display in the Properties dialog.

See [Who Owns an Object?](#) and [Assigning Ownership of Objects](#).

1. In the global header, click **Catalog**.
2. In the Catalog Page, search for the object to which you want to assign ownership.
3. Go to the Catalog area and locate an object or folder.
4. Select **More** and then **Properties**, or go to the Tasks pane and click **Properties**.
5. In the Ownership area of the Properties dialog, do one the following:
 - If you are working with an object, click the **Set Ownership of this item** link.
 - If you are working with a folder or an object that contains sub-objects (for example, a dashboard or scorecard), click the **Set Ownership of this item**

link to take ownership of the object only, or click the **Set Ownership of this item and all subitems** to take ownership of the object and sub-objects.

6. Click **OK**.

What is Archiving?

You can save groups of data for long-term use or storage using archiving.

Archiving enables you to bundle the entire catalog, specific folders, or multi-component objects (for example, scorecards) as a `.catalog` file and upload the `.catalog` file to unarchive the data to another location in the catalog. This process enables you to transfer specific data across environments. For example, you can use this feature to transfer data from a development environment to a production environment.

If you have the necessary privileges, then you can use the Oracle BI EE Catalog Manager to archive and unarchive catalog objects and perform other Catalog maintenance tasks. For more information about Catalog Manager, see *Working with Objects in Catalog Manager in System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

Archiving Objects

You can archive an object for later use if you have the proper user privileges.

Before you can archive, you must have been granted the proper privilege.

To create an archive file:

1. In the global header, click **Catalog**. The Catalog page is displayed.
2. Search for the objects to archive.
3. Go to the Folders pane to select the object.
4. Select **More**, then **Archive** below the object. The Archive dialog is displayed.
5. Specify to maintain or omit the permissions and timestamps for the folder or object. See the Archive dialog.
6. Click **OK**.

To unarchive an archive file:

1. Locate the archive file to upload. The archive file contains the `.catalog` extension (for example, `_portal.catalog`).
2. Go to the Folders pane and select the location where you want to upload the archive file.
3. Go to the Tasks pane and click **Unarchive**. The Unarchive dialog is displayed.
4. Enter the name of the archive file or browse for the archive file. Select the archive file.
5. Click **OK**.

15

Using BI Composer to Work with Analyses

This chapter provides information on using BI Composer in Oracle Business Intelligence Enterprise Edition. It describes how to use BI Composer to quickly and easily create, edit, and view analyses.

Topics

This chapter includes the following sections:

- [What Is BI Composer?](#)
- [Where Is BI Composer Available?](#)
- [Comparing the Analysis Editor and BI Composer](#)
- [What Are the Steps for Creating or Editing an Analysis in BI Composer?](#)
- [Creating Analyses Using BI Composer](#)
- [Editing Analyses Using BI Composer](#)
- [Viewing Analyses in BI Composer](#)
- [Editing Analyses Created by Using the Analysis Editor](#)

What Is BI Composer?

BI Composer is a simple-to-use wizard that allows you to create, edit, or view analyses without the complexities of the Analysis editor.

Note:

BI Composer is not a report editor for BI Publisher.

There are two modes in which BI Composer is available in an application (such as Oracle BI EE) — regular mode and accessibility mode. Accessibility mode has the same functionality as regular mode but is optimized for use with screen reader applications such as JAWS. It makes it easier for users with accessibility issues, such as visual impairments, to create, edit, and view analyses.

Note:

Visual cues, such as icons or check boxes, displayed on a wizard page in accessibility mode are the same as displayed in regular mode. Even though the list of text-based wizard page links is not displayed on a wizard page in accessibility mode, screen reader applications such as JAWS are able to read them.

The main components of the BI Composer wizard are as follows:

- At the top of the wizard is the BI Composer train, which contains buttons for each step in the wizard. See [What Are the Steps for Creating or Editing an Analysis in BI Composer?](#)
- On the left are the Catalog and Subject Areas tabs. (These tabs are available only when BI Composer is part of an ADF application or Oracle WebCenter Portal Framework application or WebCenter Portal and not when part of Oracle BI EE.)
- To the right of the tabs is the panel area, where the components for each step are displayed.
- To the far right are the **Back**, **Next**, **Finish**, and **Cancel** buttons.

See [Where Is BI Composer Available?](#)

Where Is BI Composer Available?

You can access BI Composer in several areas

BI Composer is available in:

- Oracle BI Enterprise Edition (if your organization has installed and configured it). See [Availability of BI Composer in Oracle BI Enterprise Edition](#).
- Any ADF application that has been modified to integrate with Oracle BI Enterprise Edition. See *Adding BI Composer to an ADF Application in the Developer's Guide for Oracle Business Intelligence Enterprise Edition*.
- Oracle WebCenter Portal Framework application or WebCenter Portal that has been modified to integrate with Oracle BI Enterprise Edition. See *Adding BI Composer to a WebCenter Portal Application or WebCenter Portal: Spaces in the Developer's Guide for Oracle Business Intelligence Enterprise Edition*.

See [What Is BI Composer?](#)

Availability of BI Composer in Oracle BI Enterprise Edition

When users work with analyses in Oracle BI EE, BI Composer may be displayed in place of the Analysis editor, depending on the preferences users make as follows:

- BI Composer is displayed in regular mode in place of the Analysis editor, when users have specified that they want to use the BI Composer wizard as the analysis editor and have turned off accessibility mode in Oracle BI EE.
- BI Composer is displayed in accessibility mode in place of the Analysis editor, when users have turned on accessibility mode in Oracle BI EE.

Users:

- Specify that they want to use the BI Composer wizard as the analysis editor by selecting the **Wizard (limited functionality)** option for the **Analysis editor** component in the Preferences tab of the My Account dialog.
- Turn accessibility mode on or off by selecting or deselecting the **Accessibility Mode** box in the Sign In page or by selecting **On** or **Off** for the **Accessibility Mode** component in the Preferences tab of the My Account dialog.

Comparing the Analysis Editor and BI Composer

The Analysis editor provides additional editorial tools compared to BI Composer's more simple analysis features.

The Analysis editor and BI Composer share a similar purpose, in that both are analytical components that power intelligent business process decision making. Collaboration fueled through exploration, analysis, sharing, and visualizations, allows business users at all levels to glean insight into data. BI Composer and the Analysis editor differ however, in that BI Composer is more suitable for simple analyses that do not contain advanced analytic functions such as calculated items, selection steps, and multiple conditions. Sophisticated and highly structured analyses should be edited by using the Analysis editor.

What Types of Views Can I Work with in BI Composer?

BI Composer allows you to quickly and simply create or edit analyses.

The table describes the views with which you can work and the options available in BI Composer to enhance the analyses.

View or Option	Description
Table	<p>You can have a table, summary table, pivot table, or summary pivot table. A table can have prompts and sections.</p> <p>See BI Composer wizard -- Create Analysis: Edit Table panel for additional information.</p>
Graph	<p>You can have various types of graphs:</p> <ul style="list-style-type: none"> • Bar - Vertical, horizontal, vertical stacked, horizontal stacked, 100% vertical stacked, or 100% horizontal stacked • Line • Scatter • Pie • Line-Bar <p>A graph can have various sections:</p> <ul style="list-style-type: none"> • Prompts • Sections • Group By • Vary Color By • Slices (for a pie graph) • Points (for a scatter graph) <p>See the BI Composer wizard -- Create Analysis: Edit Graph panel for additional information.</p>
Conditional formatting	<p>See the BI Composer wizard -- Create Analysis: Highlight panel for additional information.</p>
Column formula	<p>See the BI Composer wizard -- Create Analysis: Select Columns panel for additional information.</p>
Filter	<p>See the BI Composer wizard -- Create Analysis: Sort and Filter panel for additional information.</p>

View or Option	Description
Interaction	Allows you to specify what happens when you click a value. You can drill, navigate to a transaction, or do nothing by specifying None. See the BI Composer wizard -- Create Analysis: Select Columns panel for additional information.
Sort	See the BI Composer wizard -- Create Analysis: Sort and Filter panel for additional information.

What Are the Steps for Creating or Editing an Analysis in BI Composer?

Setting up or altering an analysis in BI Composer requires several steps.

The steps for creating or editing an analysis in BI Composer are as follows:

- **Select Columns** — In this step you select the columns that are to be included in the analysis. You can also:
 - Specify column interactions
 - Specify a column formula
 - Rename a column
 - Hide a column

See BI Composer wizard -- Create Analysis: Select Columns panel for additional information.
- **Select Views** — In this step you select the views that are to be included in the analysis, such as a title, table, pivot table, bar graph, and so on. (Not all views available in Oracle BI Enterprise Edition are supported in BI Composer.) You can also preview the results and display the associated XML code. See BI Composer wizard -- Create Analysis: Select Views panel for additional information.
- **Edit Table** — In this step you edit the layout of the tabular view (if you have included a tabular view). For example, you can create prompts, use a column to section the analysis, and exclude certain columns from the tabular view. You can also preview the results. See BI Composer wizard -- Create Analysis: Edit Table panel for additional information.
- **Edit Graph** — In this step you edit the properties and layout of the graph (if you have included a graph view). For example, you can create prompts, use a column to section the analysis, and exclude certain columns from the graph. You can also preview the results. See BI Composer wizard -- Create Analysis: Edit Graph panel for additional information.
- **Sort and Filter** — In this step you apply sorting and filters to the views. You can also preview the results. See BI Composer wizard -- Create Analysis: Sort and Filter panel for additional information.
- **Highlight** — In this step you apply conditional formatting to the tabular view (if you have included a tabular view). You can also preview the results. See BI Composer wizard -- Create Analysis: Highlight panel for additional information.
- **Save** — In this step you save the analysis with the same name or with a different name. You can also:

- Create new folders in which to save the analyses
- Rename folders and analyses
- Delete folders and analyses
- Expand and collapse folders

See the BI Composer wizard -- Create Analysis: Save panel for additional information.

Creating Analyses Using BI Composer

In Oracle BI EE, you create an analysis using BI Composer when you select the **Analysis** option on the **New** menu in the global header or **Create** area of the Home page.

See [What Is BI Composer?](#).

1. In Oracle BI EE:
 - a. In the global header, click **New**, then **Analysis**.
 - b. Select a subject area. The BI Composer wizard is displayed in a new window.
2. In other applications (such as an ADF application):
 - a. Click the **Subject Areas** tab.
 - b. Select a subject area.
 - c. Click **Create**.
3. In the Select Columns panel, select the columns to include in the analysis. For each column that you want to add:
 - a. Select the column in the Subject Areas list.
 - b. Click **Add** to move it to the Selected Columns list.

If you want to add or remove subject areas from which to select columns, click the **Add** button in the Subject Area: *Subject_Area_Name* area to display the Add/Remove Subject Areas dialog. For a column in the Selected Columns list, if you want to:

- Change the column name or specify a formula for the column, select the column and click **Column Properties** to display the Column Properties dialog for BI Composer.
 - Specify what happens when you click either the column heading or a value in the column or hierarchy level, select one of options in the **Interaction** list for the column.
 - Hide the column in the view, select the **Hidden** box for the column.
 - Remove the column from the list, select the column and click **Remove**.
 - Remove all columns from the list, click **Remove All**.
4. Click the **Select Views** button in the BI Composer train at the top of the wizard.
 5. In the BI Composer wizard -- Create Analysis: Select Views panel, specify the views to include.
 - (optional) If you included a tabular view in the analysis, click the **Edit Table** button in the BI Composer train.

- (optional) In the BI Composer wizard -- Create Analysis: Edit Table panel, edit the layout of the tabular view.
 - (optional) If you included a graph view in the analysis, click the **Edit Graph** button in the BI Composer train.
 - (optional) In the BI Composer wizard -- Create Analysis: Edit Graph panel, edit the properties and layout of the graph.
 - (optional) Click the **Sort and Filter** button in the BI Composer train.
 - (optional) In the BI Composer wizard -- Create Analysis: Sort and Filter panel, apply sorting and filters to the views.
 - (optional) If you included a tabular view in the analysis, click the **Highlight** button in the BI Composer train. The **Highlight** panel should only be used to format measure columns.
 - (optional) In the BI Composer wizard -- Create Analysis: Highlight panel, apply conditional formatting to the tabular view.
6. Click the **Save** button in the BI Composer train.
 7. In the BI Composer wizard -- Create Analysis: Save panel, save the analysis with the same name or with a different name by specifying the save criteria and then clicking **Submit**.

Oracle WebLogic Scripting Tool

Editing Analyses Using BI Composer

BI Composer is a simple-to-use wizard that allows you to create, edit, or view analyses.

In Oracle BI EE, you edit an analysis using BI Composer when you:

- Edit an analysis from the Catalog page or from the **Recent** section or the **Most Popular** section of the Home page
- Edit an analysis from within a dashboard

In other applications (such as an ADF application), you select an analysis to edit directly from the BI Composer wizard. See [What Is BI Composer?](#)

1. Edit the analysis in one of the following ways:
 - From the Catalog or Home page in Oracle BI EE, navigate to the analysis and click **Edit**. The BI Composer wizard is displayed.
 - From the BI Composer wizard, click the **Catalog** tab, select the analysis, and click **Edit**.
2. Make the changes to the analysis by navigating the steps of the wizard using the buttons in the BI Composer train at the top of the wizard.
3. Click the **Save** button in the BI Composer train. The BI Composer wizard -- Create Analysis: Save panel is displayed.
4. Use the Save panel to save the edited analysis with the same name or with a different name by specifying the save criteria and then clicking **Submit**.

Viewing Analyses in BI Composer

You can format analyses so they are optimized for BI Composer.

If you are working in BI Composer in an application other than Oracle BI EE (such as an ADF application), then you can display an analysis for viewing in BI Composer. (In Oracle BI EE, you view an analysis in the same manner as an analysis created using the Analysis editor.)

See [What Is BI Composer?](#)

1. Click the **Catalog** tab.
2. Select the analysis.
3. Click **View**. The analysis is displayed for viewing to the right of the Catalog tab.

Editing Analyses Created by Using the Analysis Editor

The analysis editor provides a simple interface for exploring and interacting with data..

As stated in [What Types of Views Can I Work with in BI Composer?](#), BI Composer allows you to edit specific view types. When you edit an analysis that was created in the Analysis editor, the following is a list of many of the objects and attributes that you can use:

- Conditional format — The first conditional format defined for each column in the analysis is honored.
- Excluded columns
- Filters
- Prompts
- Sections
- Slices for pie graphs
- Sorts
- Title
- Vary measure by color and points for scatter graphs

If you edit one of these analyses in BI Composer, you may receive an error message stating that there are incompatible elements in the analysis.

This message can occur for a variety of reasons. For example:

- Green bar formatting has been applied to the analysis.
- An incompatible graph view such as, gauge or performance tile, is part of the analysis.
- An incompatible view such as, selection step or filter, is part of the analysis.
- Duplicate view type exists. For example, if the analysis contains a table, pivot table, pie graph, and bar graph, only one table and one graph are converted in BI Composer. The table or pivot table is converted as a summary table and the graph defaults to the first compatible graph type in the analysis.

To edit an analysis using BI Composer when you have received an incompatibility error message:

1. Click **Show details** to view the messages.
2. Examine the messages.
3. When you are sure that you want to proceed, click **Yes**. The BI Composer wizard -- Create Analysis: Edit Graph panel displays.

To abandon the edit, click **No**.

A

Basic Information to Tell Your Users

This appendix describes the major features and functions that most end users typically work with in Oracle Business Intelligence Enterprise Edition, such as exporting results, drilling in results, sorting values, running actions, and working with map views, graphs, BI Publisher reports, scorecard objects, and KPIs.

Topics

This appendix includes the following sections:

- [About Exporting Results](#)
- [About Exporting Dashboards and Dashboard Pages](#)
- [About Sorting Values in Heat Matrix Views, Table Views, Pivot Table Views, and Trellis Views](#)
- [About Resizing Rows and Columns in Views](#)
- [About Drilling in Results](#)
- [About Running Actions Using Action Links and Action Link Menus in Analyses and Dashboards](#)
- [About Running Actions Associated with Action Links in Analyses and Dashboards](#)
- [Using Section Sliders in Graphs, Gauges, and Funnels](#)
- [About Working with Map Views on Dashboard Pages](#)
- [Zooming and Scrolling in Graphs](#)
- [About Working with Views that Are Linked in Master-Detail Relationships](#)
- [Modifying Data in a Table View in a Dashboard Page or Analysis](#)
- [Accessing Oracle BI Publisher Reports in Dashboards](#)
- [About Navigating With Breadcrumbs](#)
- [Printing Dashboard Pages](#)
- [About Working with Scorecard Objects](#)
- [Modifying a KPI's Actual and Target Values](#)

About Exporting Results

Export analyses results to various formats.

As you work with analyses, you might want to export them to various formats such as Excel and PowerPoint.

Exporting Results

You can export analyses results to a variety of formats.

Various options are available for exporting the results of analyses, for example, exporting to Microsoft Excel or exporting to PowerPoint. These options are available on the **Export** link that is displayed with an analysis in a dashboard, if the content designer includes the link there.

1. Navigate to the analysis.
2. Click the **Export** link and select the appropriate export option.

About Exporting Dashboards and Dashboard Pages

You can export dashboards and dashboard pages to Microsoft Excel 2007+.

Depending on the export options that are available for a dashboard page, you can export:

- An entire dashboard using a standard export layout.
When you export the entire dashboard, each page is included on its own sheet in an Excel workbook, and each sheet is given the name of its corresponding dashboard page.
- A single dashboard page using a standard export layout.
- A single dashboard page using a custom export layout.
See [About Creating Custom Layouts for Printing and Exporting Dashboard Pages](#).

As you export dashboards and dashboard pages, be aware that some customizations and some views on the dashboard or dashboard page may not be supported in the export. (For example, BI Publisher reports and ticker views are not supported.) A non-supported item is skipped and replaced by an empty cell.

1. Display the dashboard or dashboard page that you want to export.
2. Click **Page Options** on the Dashboard page toolbar, select **Export to Excel**, and then **Export Current Page**, **Export Entire Dashboard**, or a custom export layout (depending on the options available).

You can open or save the dashboard or dashboard page as a spreadsheet file in the File Download dialog.

3. To change the default Wrap settings for the table heading, perform the following steps:
 - a. In the Title, click **Edit View**.
 - b. To the right of the Title field, click **Title**.
 - c. Deselect **Wrap Text**, and click **OK**.

About Sorting Values in Heat Matrix Views, Table Views, Pivot Table Views, and Trellis Views

You can sort values in heat matrix, table, pivot table, and trellis views.

You can sort on members, measures, and rows (where you see sideways triangles), and also on prompts and sections. See [Sorting Data in Views](#).

About Resizing Rows and Columns in Views

You can resize the row and column edges of table views, pivot table views, and advanced trellis views.

See [Resizing Rows and Columns in Table Views, Pivot Table Views, and Advanced Trellis Views](#).

About Drilling in Results

The hierarchy of data in views can be explored by drilling.

Many of the results that are displayed in views represent hierarchical data structures. The metadata specifies these hierarchies, and this enables you to access the different levels of detail within them. For example, information in a sales graph might be categorized by region. Clicking a specific region in the graph might display each country within that region, if the country is the next level within the hierarchy of the metadata. Such clicking is referred to as drilling.

If the content designer has set up views for drilling, then you can drill in them on dashboards.

What is Drilling?

You can see the details of data by drilling.

Drilling is a way to navigate through data in views.

- You drill down to display data in more detail, which displays more members.

You can drill down to an actual item in the database. For example, if you work in sales, you can drill down to the city level within a sales analysis, and observe that there is a large sale pending in Paris. If you are using an Oracle Siebel operational application, then you can then drill down on the pending sale and go directly to that opportunity in the Oracle BI application.

- You drill up to display data in less detail, in hierarchical columns.

For example, you might drill up from a month value to see a summary for the whole year. You can drill up in the current hierarchy, either for the entire column at the header level or for individual members. For example, you can drill up from District to Region. Drilling up hides the current level (such as District) and retains the higher level (such as Region).

Where Can I Drill?

You can drill into data in specific view types.

You can drill in the following types of views:

- Heat matrix, table, pivot table, and trellis — See [Drilling in Heat Matrixes, Tables, Pivot Tables, and Trellises](#)
- Graphs — See [Drilling in Graphs](#)

- Maps — See [Drilling in Map Views](#)

Drilling in Heat Matrixes, Tables, Pivot Tables, and Trellises

When you drill down in a heat matrix, table, pivot table, or trellis, the detail level data is added to the current data.

For example, when you drill from a continent, the table displays data for the continent and for the countries in that continent.

The way that you drill in heat matrixes, tables, pivot tables, and trellises depends on the column type.

Drilling in Attribute Columns

Drilling is a way to navigate through data in views quickly and easily.

To drill in an attribute column, click the heading or member in which you want to drill. When you hover over the value before clicking, an underline is displayed below the value to indicate that you can click to drill.

When you drill in an attribute column, you add the lower level to the view. All views are affected by drilling in an attribute column, which is equivalent to a filter drill. After you click the value, a column is added to the analysis and a filter is automatically created and listed in the Criteria tab.

You cannot drill on groups for attribute columns. To see the definition of a group for an attribute column, edit the corresponding step in the Selection Steps pane.

You can also use the Right-Click Menu for Data Views to drill in attribute columns.

Drilling in Hierarchical Columns

Drilling is a way to navigate through data in views.

To drill in a hierarchical column, click the **Expand** and **Collapse** icons beside the members. Click to expand or collapse one level. For example, expanding from Total Products to Products inserts the Product members while retaining the value for Total Products.

When you drill in a hierarchical column, you expand and collapse the nodes of data that are in the view. Drilling in a hierarchical column affects only that particular view. No other views are affected.

Drilling in level-based hierarchies and value-based hierarchies works the same. Each time you drill in a hierarchy, you expand or collapse one level. For example, if the hierarchy has a level for continents, regions, and cities, and the view shows continent data, you can expand from Australia down one level to display regions in Australia. From there, you can expand one level from a region, to cities in that region, or you can collapse one level, back to continents.

When you drill, the drill state is preserved. If you collapse at a higher level and re-expand, then the members are re-displayed at the same drill point.

When you click the **Collapse** icon, you collapse back to the current level any levels in the hierarchy that are present in the analysis, regardless of whether they were added by drilling down or by adding the levels from the Subject Areas pane.

You can perform asymmetric drilling, which enables you to drill various members to different levels. For example, if you expand World, then you might see Americas, Asia, and Australia at the same second-level for continents. You can then drill Americas to expand it and see its regions, while Asia and Australia are not expanded.

You can expand and collapse the members of a group for hierarchical columns. For example, if you have a group that includes cities and the group is included in a view, then you see the cities when you click the group name.

You can also use the Right-Click Menu for Data Views to expand and collapse hierarchical columns.

Drilling in Graphs

When you drill down in a graph, the detail level data replaces the current data.

For example, when you drill down from a continent, the graph displays data for the countries in that continent, but not for the continent itself.

You can drill down in the following ways:

- You can click a label (for which drilling is available) on any axis or in the legend to drill down. (A change in the mouse pointer indicates that drilling is available.)
- If the graph contains only attribute columns and measure columns, then you can click a data point to drill all columns.
- If the graph contains multiple columns including at least one hierarchical column, then when you click a label or a data point, you see a menu from which you can select which columns to drill down. If there are action links available, then the menu also displays those links.
- You can right-click on a data marker, legend, or group-level (X axis) item, and then select **Drill** from the menu. See [Right-Click Interactions in Views](#).

Depending on how the graph was embedded in the dashboard, you can use the breadcrumb feature, the **Back** button on the browser, the **Clear Customizations** option on the dashboard (for all views), and so on to return to a previous graph.

Note:

The time series line graph does not support drill down on a time column where data types other than data or date-time are used.

About Running Actions Using Action Links and Action Link Menus in Analyses and Dashboards

You can make changes to data in analyses and dashboards through action links and action link menus.

As you analyze data in analyses, view dashboards, or view content delivered by agents, you might want to take some action because of the business insight you gained from the data. You can do so by using action links and action link menus, if available:

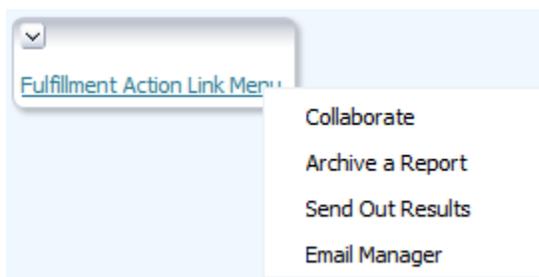
- An action link is a link embedded in an analysis (on a column heading or a data value) or dashboard page that, when clicked, runs an associated action.

For example, suppose a data value in an analysis includes an action link that sends the analysis to a specified email address. If, after analyzing the data, you decide that your manager must see this analysis, then you can send it to him directly from the analysis by clicking the action link. The following figure shows an example of an action link to send an email.

The screenshot shows a dashboard interface. At the top, there is a 'Title' section with the text 'Product/Revenue' and icons for edit and delete. Below this is a 'Table' section with a table containing product and revenue data. The table has two columns: 'P1 Product' and '1- Revenue'. The data rows are: '7 Megapixel Digital Camera' (3,489,231), 'Bluetooth Adaptor' (1,657,576), and 'CompCell RX3' (2,838,512). An 'Action links' menu is open over the 'Bluetooth Adaptor' row, showing a 'Send Email to Manager' option with a green mail icon.

P1 Product	1- Revenue
7 Megapixel Digital Camera	3,489,231
Bluetooth Adaptor	1,657,576
CompCell RX3	2,838,512

- An action link menu is a menu embedded on a dashboard page that groups multiple action links as options on the menu. An action link menu lets you select, from a list of action link options, the correct action to take. The following figure shows an example of an action link menu.



About Running Actions Associated with Action Links in Analyses and Dashboards

You can run an action associated with an action link in more than one way.

- Do one of the following:
 - If the action is associated with a standalone action link, then click the action link.
 - If the action is associated with an action link on an action link menu, then click the action link menu and then select the action link option.
- Respond to any request for more information or any confirmation prompt that is displayed.

A successful invocation message indicates only that the action that is associated with the action link ran successfully. It does not indicate that the process or operation that the action represents ran successfully.

Using Section Sliders in Graphs, Gauges, and Funnels

Some graphs, gauges, and funnels include section sliders.

Section sliders let you limit the data that is shown in a graph, gauge, or funnel. See [Defining Section Sliders in Graphs, Gauges, and Funnels](#).

- Use the components of the section slider to select a value as follows:
 - To select a particular value, move the slider thumb to that value.
 - To move the slider thumb to a value to the left of the current value, click the **Decrease** button (the second button from the left on the slider).
 - To move the slider thumb to a value to the right of the current value, click the **Increase** button (the right-most button on the slider).
 - To sequentially move the slider thumb through all the values, click the **Play** button (the left-most button on the slider). The **Play** button changes to a **Pause** button to allow you to stop on a particular value.

The data in the graph, gauge, or funnel is limited by the current value as indicated by the slider thumb.

About Working with Map Views on Dashboard Pages

A content designer can include map views on dashboard pages.

A map view presents data in spatial form. Through location context, map views allow you to discover trends and transactions across regions that might not be obvious in tables or graphs. For example, a map view can show a map of the United States with the states color-coded by sales performance.

This section provides the following information on working with maps on dashboard pages:

- [Panning in Map Views](#)
- [Zooming in Map Views](#)
- [Drilling in Map Views](#)
- [Modifying Thresholds for Formats on a Map View](#)
- [Showing or Hiding Formats on a Map View](#)

See [Editing Map Views](#).

Bear the following in mind when working with map views:

- When you download a map view to a Microsoft PowerPoint document, you might notice that some map format images and sliders might not be downloaded correctly or completely.
- The map view can include a background map that is configured to fetch its tiles from an external provider, such as Google Maps. A tile is an image that displays a limited portion of an entire map layer. If you print such a map view, then the output includes the formats that were applied but not the background map.
- If you receive a map view error and if you have the proper permissions, you can edit the map in an attempt to correct the issue. See [Editing Map Views](#).

Panning in Map Views

Panning in a map view lets you change your view to see various areas.

You pan in map views by clicking and dragging your mouse. You can pan on the main map or on the overview map. You can also use the reticule in the overview map to move around. When you pan, a new query is not issued.

You are in Pan mode whenever you are not in one of the Zoom modes.

In Pan mode, you can do the following:

- Click and drag on the map background.
- Hover over a region of the map to display an information window for that region for the data that is directly below the mouse cursor.
- Click to display an information window. The information window can be used to drill or update a detail view. See [About Working with Views that Are Linked in Master-Detail Relationships](#).
- Double-click the map to zoom.

Pan is the default mode for the map view, and the pan mode is indicated by a crossed-arrows cursor.

1. Make sure neither the **Zoom In** button nor the **Zoom Out** button is selected.
2. Click the map background and drag and drop it to the desired location.

Zooming in Map Views

Zooming the map adjusts the detail of the geographic data that is shown on the map.

Zooming in from a country level might show state and city details. Zooming out from a street-level view might show cities but not street-level information. For master-detail linking, the map view will focus on the detail feature that was selected in the master view.

When you zoom, you can do the following:

- Click on the map background. To zoom by clicking, you must first select the zoom mode from the toolbar. The default mode is pan, which is indicated by a hand cursor. When you are in zoom mode, the mouse pointer changes to a magnifying glass and you can click-zoom directly on the map itself.

When you are zooming in, you can either single-click or click and drag to use marquee zoom. You can draw a box that delineates the area in which you want to zoom.

- Hover over a region of the map to display an information window for that region for the data that is directly below the mouse cursor.
- Click to zoom in and out. When you click, the map zooms in one increment using the click location as the center point.

Zooming and drilling are not synonymous. When you zoom, no drill is performed (that is, no new query is issued). However, if you drill on a map layer, that drill likely results in a new zoom level being displayed, if a new layer is added to the map. If a new layer is not added, then the zoom level does not change.

You can zoom using either the buttons on the toolbar or the zoom slider. When you use the zoom slider, you zoom in or out of the map as it is currently displayed. When you hover over the zoom slider, the names of the map layers are displayed beside their mid-range zoom level. Click the names to zoom the map to that level. When you zoom, a new query is not issued.

1. To zoom using the Zoom In and Zoom Out tools:
 - Click the **Zoom In** or **Zoom Out** button on the toolbar.
 - Click the map background to zoom in that spot. If you are zooming in, you can click and drag to draw a rectangle to specify the area in which to zoom.
2. To zoom using the buttons on the zoom slider:
 - Click the plus or minus sign on either end of the slider.
 - Hover over the slider, then click the name of the level to zoom to.

Drilling in Map Views

Drilling in a map enables you to navigate through the data.

Drilling is available when the Pan tool is selected, as indicated by a hand cursor. If you hover over map data, then an information window is displayed with various information about that location.

When you click a region or a point on the map, one of the following occurs:

- If the column is configured as a master for another view, then that view is updated with the latest information.
- If the column or map is configured to drill into a column or to perform a single action, then the drill or action is immediately initiated.
- If the column is configured to perform multiple actions or if multiple drills are possible, then the information window that is displayed contains a list of the actions or links for the multiple columns.

All columns in which you can drill are displayed in the information window as link text. When you click the link for a simple drill, you drill in the data, the map is redrawn with a different layer, and the information window is dismissed. If action links are defined, then you see a popup window that shows additional links. See [About Running Actions Associated with Action Links in Analyses and Dashboards](#).

Drilling updates map formatting to reflect the newly drilled data. For some drills (such as drilling on a State), the map zooms to the specified region while simultaneously updating the formatting. How you zoom and the formats and geographic levels that the map contains affect what is displayed. Formats have particular zoom ranges and are visible at different zoom levels. Zooming back up might display a new format, if you zoom out past the zoom level of the drilled format.

After you have drilled down, use the zoom slider to drill back up. Use the **Return** button on a dashboard page to display the original map view at the zoom or drill level that was in place before you started drilling.

Modifying Thresholds for Formats on a Map View

The content designer can give you the ability to modify the thresholds that are used for displaying formats on the map view.

You know that you have this ability if you see a slider under a format name in the Map Formats pane. Modifying thresholds is a type of visual analysis of the data, which is sometimes referred to as what-if analysis.

Format ranges are displayed as color fills on the slider background, with a thumb for each threshold that can be edited. Users can manipulate the slider to specify their own threshold values, as follows:

- Hovering over a thumb displays the value under that thumb.
- Dragging the thumb adjusts the threshold.
- Clicking a section on the slider moves the thumb to that section.
- Right-clicking the slider displays a menu with the following options:
 - **Edit Color** — Displays a dialog, in which you select a predefined or custom color for the threshold.
 - **Add Threshold** — Adds another threshold to the slider, including a thumb to indicate the threshold. This addition creates a new formatting bin with a new color. For example, if three bins exist (with colors red, yellow, and green) and you create a threshold, then four bins now exist. A maximum of 12 bins is supported.
 - **Remove Threshold** — Removes the threshold above where you right-clicked, including removing the thumb from the slider and a formatting bin.
- Clicking on a slider thumb number value displays a text box in which you can edit the number that corresponds to the threshold value. Press Enter or click outside the box to update the threshold value and the thumb position.

Showing or Hiding Formats on a Map View

Content designers can superimpose multiple layers of information (sometimes known as themes) on a single map view.

Content designers can create formats to enhance the layers. You can display or hide the formats for a map.

- In the Map Formats pane, from the View menu, select either **View All Formats** or **View Visible Formats**.
- In the Map Formats pane, deselect the box beside a format's name.

Zooming and Scrolling in Graphs

If zooming and scrolling has been enabled for a graph, then the graph includes a Zoom icon.

The zoom icon enables you to zoom in and out of a graph's plot area using its axes. Once you zoom in on an axis, you can scroll the axis.

To enable zooming and scrolling in a graph, the content designer sets the zoom and scroll properties in the General tab of the Graph Properties dialog.

When you zoom in on an axis, a zoom and scroll slider is displayed. The illustration shows an example of a zoom and scroll slider.



A zoom and scroll slider consists of the following components:

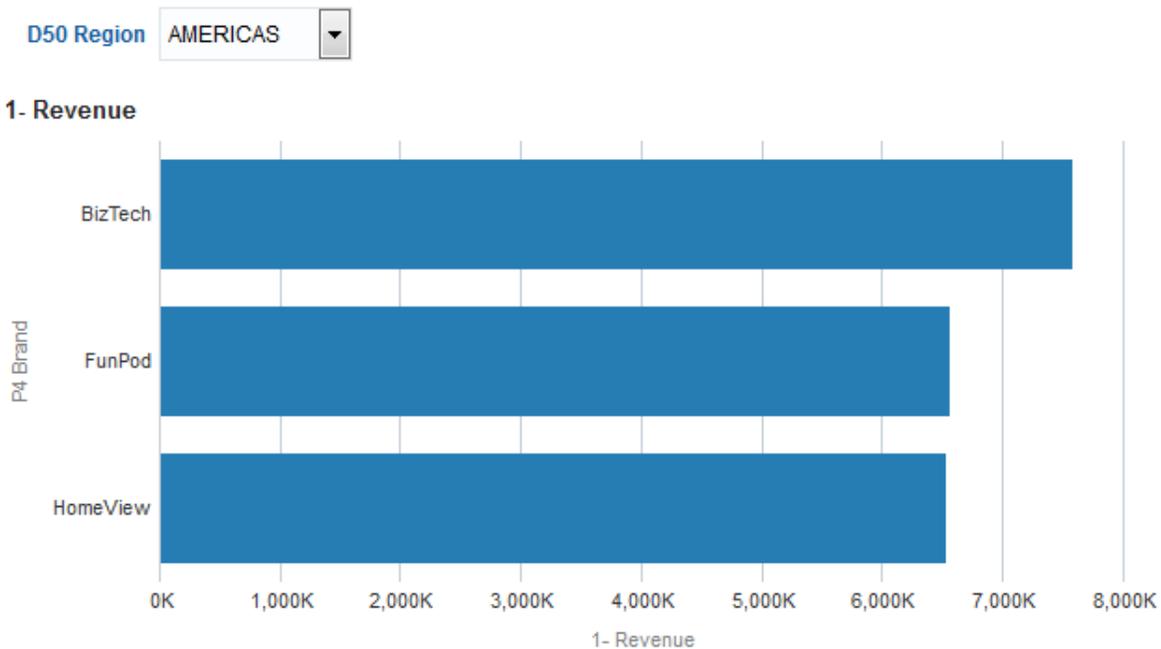
- **Left or bottom button** — Scrolls to the left on the X axis or to the bottom on the Y axis, revealing portions of the graph that are out of view.
 - **Right or top button** — Scrolls to the right on the X axis or to the top on the Y axis, revealing portions of the graph that are out of view.
 - **Scroll thumb** — Represents the visible portion of the graph in relation to the full graph. You drag the scroll thumb to dynamically scroll the graph, revealing portions of the graph that are out of view.
 - **Resize handles** — Are displayed at each end of the scroll thumb when you hover over the thumb. You use the resize handles to zoom in and out on an axis.
 - **Tooltip** — Is displayed only when you hover over either the thumb or a resize handle and describes the data that is currently displayed in the scroll thumb.
1. Hover the mouse over the graph to display the **Zoom** button.
 2. Click the **Zoom** icon and then:
 - If only one axis has zoom and scroll enabled, then select either **Zoom In** or **Zoom Out**.
 - If both axes have zoom and scroll enabled:
 - To zoom in and out and scroll on the X axis, select **Horizontal Axis** and then either **Zoom In** or **Zoom Out**. A zoom and scroll slider is displayed on the X axis.
To unzoom the X axis and display the actual graph size, select **Actual Size**.
 - To zoom in and out and scroll on the Y axis, select **Vertical Axis** and then either **Zoom In** or **Zoom Out**. A zoom and scroll bar is displayed on the Y axis.
To unzoom the Y axis and display the actual graph size, select **Actual Size**.
 - To unzoom both the X and Y axes and display the actual graph size, select **Actual Size**.
 3. Once you have zoomed in or out, zoom and scroll as desired by:
 - Using the **Zoom** button to zoom in and out incrementally
 - Dragging the scroll thumb on an axis to dynamically scroll the graph, revealing portions of the graph that are out of view
 - Clicking the scroll buttons on an axis to scroll left and right (on the X axis) or up and down (on the Y axis)
 - Using the resize handles to zoom in and out on an axis

About Working with Views that Are Linked in Master-Detail Relationships

Views can be linked in master-detail relationships.

When views are linked in such a relationship, you can click values in designated columns in one view (called the master view) and effect a data change in another view (called the detail view). See [What Is Master-Detail Linking of Views?](#) and [Linking Views in Master-Detail Relationships](#).

In the following figure, Regional Sales Master View and Regional Sales Detail View are linked in a master-detail relationship such that clicking a dollar value in Regional Sales Master View effects a data change in Regional Sales Detail View. For example, clicking the dollar value for the Eastern Region in the Regional Sales Master View, updates the Region prompt in Regional Sales Detail View to EASTERN REGION and refreshes the entire view.



D50 Region	1- Revenue
AMERICAS	20,645,342
APAC	21,299,582
EMEA	28,055,076

Modifying Data in a Table View in a Dashboard Page or Analysis

As a user of a dashboard page, you might have the ability to modify the data that you see in a table view.

The ability to modify data is often referred to as write back and is available if you have the appropriate privileges and if the administrator has configured it. You can update a value in the view that is written back to the record in the data source.

If your user name has the appropriate privileges and if the administrator has configured for the modification of data values, then a write back button (often labeled **Update**) is displayed on the table view. After clicking the button, you can update or write to the data source. For example, you can enter sales targets for the current quarter in a Sales dashboard. The name that is displayed on the write back button depends on how the content designer prepared the view for write back.

1. Display the dashboard and the view in which you want to modify values.
2. Click the button that is labeled **Update** or a similar name that indicates that write back is enabled to switch to Edit mode, in which you can modify values.

If you know that you can modify the values in the view but do not see an **Update** button or similar button, then the content designer has specified that the view always be in Edit mode. You can begin modifying values immediately and you never see an **Update** button or similar button.

The updating capability is not available for hierarchical columns.

3. When you are in Edit mode, you can type a value in the appropriate field. Fields to which you can write back have the appearance of a text box in a dialog.
4. After you have modified values, click one of the following buttons (or buttons with similar names):
 - **Apply**: By clicking this button, you modify the values in the data source and keep the view in Edit mode with the modified values being displayed.
 - **Revert**: By clicking this button, you restore the data to its original values if you have not yet clicked **Apply** or **Done** to save the modifications. Once you have written a modified value back to the data source, you cannot revert to its original value.
 - **Done**: By clicking this button, you modify the values in the data source and return the view to View mode (if the content designer has indicated that the view is not always in Edit mode).

When you click the **Apply** or **Done** button, the entire dashboard is refreshed from the data source, because other analyses on the dashboard might depend on that data.

If filters are enabled in the table view and you enter a value in a record that is affected by the filter, then that record might no longer be displayed in the view after the data is refreshed from the data source.

About Handling Errors for Write Back

You will see a message if errors occur during write back.

As you modify data values, you might encounter various errors. For example, you might enter an invalid value in a field and attempt to write it back to the data source, or the administrator might have specified the incorrect write-back template to use. If a problem occurs, then you see a basic error message. To obtain additional information about the problem, an administrator can increase the logging level of the session to create detailed log files. The administrator can search the log files for Presentation Services for a string such as "saw.writeback.action.executeimpl".

If you are writing back multiple values simultaneously and accidentally enter invalid values, then the results depend on the rows that are affected:

- If you are updating multiple values on one row and at least one of the values is invalid, then no values are written to the database.
- If you are modifying values in multiple rows and some values are invalid, then some values might not be written back while some write back successfully.

Accessing Oracle BI Publisher Reports in Dashboards

As a user of a dashboard page, you can access reports that were created in Oracle BI Publisher.

The report might be embedded in the dashboard page, or you might see a link that opens the report in Oracle BI Publisher.

1. Display the dashboard page that contains the report to access.
2. Perform the following tasks:
 - If the report is embedded in the page, then use the functions from the Oracle BI Publisher toolbar to affect the report.

If prompts are included on the dashboard, then use those prompts to specify parameters that affect the display of data in the report. Depending on the design of the report, certain prompts do not affect the display of data in the report.
 - If the page contains a link for the report, then click the link to open the report in Oracle BI Publisher.

Using the Oracle BI Publisher Toolbar on a Dashboard Page

The toolbar on a dashboard page varies based on user permissions.

The Oracle BI Publisher toolbar is displayed on the dashboard that contains a BI Publisher report. The options that you see depend upon your permissions. The toolbar functions are described in the table.

Function	Description
Template	If multiple report templates are available, then you see them in the Template list. Select a new template and then click View .
Output Type	If multiple output types are available, then select the desired output type (HTML, PDF, RTF, Excel, data) from the list and click View . The output is rendered in the browser.
View	Select a template or specify an output type and click this button to view the BI Publisher report.

Function	Description
Export	When you click this button, you are prompted to save the BI Publisher report or to open the appropriate application for the output type.
Send	When you click this button, the Destination dialog is displayed. From this screen, select the delivery destination (for example, Email, Printer, Fax, FTP, or Web Folder) and enter the appropriate information. You can select multiple delivery destinations.
Schedule	Click this button to schedule the BI Publisher report. See <i>Creating Report Jobs</i> in <i>User's Guide for Oracle Business Intelligence Publisher</i> .

About Navigating With Breadcrumbs

Breadcrumbs enable users to know their current location within Oracle BI content and the path that they have used to navigate Oracle BI content.

Breadcrumbs are active links that users can click to return to the place from which they navigated and to the state of the content when they left it.

Breadcrumbs display at the bottom of the page in Presentation Services or from Fusion Applications in the breadcrumb trail. Users reading this appendix need to understand these formats so that they can effectively navigate their breadcrumb trails.

Treemap breadcrumbs behave somewhat differently for page-edges. See [Editing Treemap Views](#).

Format	Description
... (Blue Ellipses)	This is the breadcrumbs overflow button. This button displays when there are many breadcrumbs in the breadcrumb trail and the page is not wide enough to display all of the breadcrumbs. When clicked, this button displays a list containing the breadcrumbs that are not shown in the trail on the bottom of the page. Click this button to view and select a location from a list of breadcrumbs.
Blue Text	This format indicates a link to a visited location.
Blue Text in Italics	This format indicates a link to a visited editor. For example, the Analysis editor.
Black Text	This format indicates your current location.
Black Text in Italics	This format indicates your current location in an editor. For example, the Analysis editor.

Printing Dashboard Pages

There are multiple ways to print a dashboard page.

Depending on the print options that are available for a dashboard page, you can print a dashboard page using a:

- Standard print layout (**Printable HTML** or **Printable PDF**).
- Custom print layout.

Using a custom print layout allows you to produce high-quality printed dashboard content. See [About Creating Custom Layouts for Printing and Exporting Dashboard Pages](#).

1. Display the dashboard page that you want to print.
2. Click the **Page Options** button on the Dashboard page toolbar and select **Printable HTML**, **Printable PDF**, or a custom print layout (depending on the options available):
 - If you selected **Printable HTML**, a new window shows the dashboard page to print. From the **File** menu, select **Print**.
 - If you selected **Printable PDF** or a custom print layout, an Adobe PDF window shows the dashboard page to print. Use the options that are available in the Adobe PDF window to save or print the file. If you set the column properties for a dashboard page, and then select the **Printable PDF** option, the **Width** field cannot exceed 100%.

About Working with Scorecard Objects

A variety of scorecard objects help convey information on dashboard pages.

The following scorecard objects can be added to a dashboard by the content designer:

- Cause & effect maps. See [What Are Cause & Effect Maps?](#)
- Custom views. See [What Are Custom Views?](#)
- Strategy maps. See [What Are Strategy Maps?](#)
- Strategy trees. See [What Are Strategy Trees?](#)
- KPI watchlists. See [What Are KPI Watchlists?](#)
- Smart watchlists. See [What Are Smart Watchlists?](#)

See [Adding Content to Dashboards](#) for additional information on adding a scorecard object to a dashboard.

As you work with scorecard objects, keep the following information in mind:

- If a dimension is not pinned, you can populate it by a prompt, if one is provided. See [What Are Dimensions and Pinned Dimension Values?](#)
- There are two types of diagrams for a strategy tree:
 - Strategy tree diagram. See [Understanding a Strategy Tree Diagram](#).
 - Strategy contribution wheel diagram. See [Understanding a Strategy Contribution Wheel Diagram](#).

You can toggle between the two by right-clicking in the background area of the strategy tree and selecting either **View as Tree Diagram** or **View as Wheel Diagram**.

- If the content designer saved the smart watchlist with the Filter pane displayed as a:
 - Control panel, you can specify filter criteria to dynamically change what is shown in the smart watchlist.
 - Text summary, you can view a read-only summary of the current filter criteria.

The content designer also has the option to hide the Filter pane.

- In Accessibility mode:
 - Views (that is, cause & effect maps, custom views, strategy maps, and strategy trees) are rendered as watchlists.
 - The Print function is disabled.

Modifying a KPI's Actual and Target Values

Some KPIs might include target settings.

For example, a content designer might include a KPI with target settings in an objective. A KPI that includes target settings allows you to update and save the KPI's actual and target values. To determine if a KPI contains target settings, look at the actual and target settings fields, and if they are surrounded by black-lined boxes, then they are writeable. If the fields are not surrounded with black-lined boxes, then they are not writeable.

The content designer might have created target settings on only the actual value field or the target value field, or both the actual value field and the target value field. Even though target settings have been added to a KPI and the fields display with the black-lined box, you might not have the proper privileges to update and save the modified values.

See [User Interaction with Target Settings](#).

1. Navigate to the watchlist, objective, or initiative that contains the KPI for which you want to update the actual and target values.
2. For each **Actual** and **Target** field that you want to modify and that is surrounded by a black-lined box, place your cursor in the field and type the new value.
3. Save the watchlist, objective, or initiative.

If you do not have the privileges required to modify the values, Oracle BI EE changes the color of the **Actual** or **Target** fields from white to red, displays the `Insufficient dimensional slice security for slice with dimension value` error message, and does not save the modified value.

B

Accessibility Features

This chapter provides information about how to configure and use accessibility features for Oracle Business Intelligence Enterprise Edition. It describes keyboard shortcuts and how to design for accessibility.

Topics

This chapter includes the following sections:

- [Using Accessibility Features](#)
- [Keyboard Shortcuts](#)
- [Designing for Accessibility](#)
- [Using Objects to Enhance Accessibility](#)

Using Accessibility Features

Accessibility features help users who work with accessibility tools access your information.

This section contains the following topics:

- [What are Accessibility Features?](#)
- [Signing In Using Keystrokes](#)
- [Changing to Accessibility Mode](#)

What are Accessibility Features?

The accessibility features in Oracle BI EE aim to make aspects of navigating and using the product easier for persons with disabilities and for the aging population.

The accessibility features support the use of standards-based assistive-technology hardware and software (such as Freedom Scientific JAWS or Microsoft Narrator). The accessibility features are grouped into these general categories:

- Features used by third-party assistive-technology products. These features center on providing a user interface that consists of standard HTML elements that can be interpreted by third-party assistive technology products.
- Accessibility mode. See [Changing to Accessibility Mode](#).
- Keyboard shortcuts that make it easier to navigate content for users with limited or no ability to use a mouse. See [Keyboard Shortcuts](#).
- Content design capabilities that make it possible for content creators to create content that supports users with accessibility needs. While Oracle BI EE provides accessibility mode that offers many features automatically, you as the designer must create content that meets the accessibility requirements of your user

community. See [Designing for Accessibility](#) and [Using Objects to Enhance Accessibility](#).

Signing In Using Keystrokes

You can sign in using a keyboard, which may be faster or more accessible than using a mouse.

Use the following procedure to sign into Oracle BI EE using keystrokes rather than the mouse.

To sign into Oracle BI EE using keystrokes:

1. In a browser, display the Sign In page for Oracle BI EE.
2. If you want to change the language that Oracle BI EE uses, press Tab to place the insertion point in the **Language** field and use the arrow keys to select the desired language. The insertion point is then placed in the **User ID** field.
3. Enter the ID and press Tab to place the insertion point in the **Password** field.
4. Enter the password.
5. Perform one of the following actions:
 - If you want content for Oracle BI EE to be rendered in a browser in a way that facilitates the use of a screen reader or want to change the language that Oracle BI EE uses, press Tab twice to place the insertion point in the **Accessibility Mode** box.
 - If you are ready to complete the sign-in process, then press Enter to activate the **Sign In** button.
6. If you want content for Oracle BI EE to be rendered in a browser in a way that facilitates the use of a screen reader, press the spacebar to select the **Accessibility Mode** box.
7. Press Shift+Tab twice to place the insertion point on the **Sign In** button, then press Enter to activate the **Sign In** button.

Changing to Accessibility Mode

Accessibility mode in Oracle BI EE makes the rendering of the user interface more compatible with screen readers while allowing only that functionality that is supported for users with disabilities to be visible.

The following list provides information on accessibility mode:

- The BI Composer wizard is displayed in place of the Analysis editor. See [Using BI Composer to Work with Analyses](#).
- The Home page does not contain links for accessing the Administration page or for performing most editing functions, such as for editing dashboards.
- Graphs and map views are not displayed but are instead converted to one or more annotated tables.
- Tables and pivot tables are rendered with appropriate internal annotations to enable screen readers to describe the contents of cells.

Refer to your assistive-technology documentation for all applicable table navigation shortcuts.

- You cannot use the mouse to modify the layout of a table or pivot table.
- Performance tiles, heat matrixes, and treemaps are rendered as pivot tables.
- The collapse icon is included in the upper-left corner of each section on a dashboard page, even if that section is marked as not collapsible in the Dashboard builder. This allows the icon to be the first element that receives focus when using the keyboard to navigate on a dashboard page.
- The **Page Options** button on a dashboard page, which displays a menu of page options, is not available.
- If the dashboard page is refreshed, even if you navigate to another page, then the location of the focus is not preserved. You must press Tab to navigate through the focusable items.
- Trellis views, when displayed on dashboards, are converted to pivot table views with the following changes:
 - Attribute columns of the inner graph are not included in the pivot table views.
 - Measure values are aggregated to the new grain of the pivot table views.

By default, Oracle BI EE does not use accessibility mode. Each user can decide whether to enable accessibility mode during sign in (see [Signing In Using Keystrokes](#)) or after sign in by using the following procedure.

1. Press Tab multiple times to navigate through the global header, until the focus is on your user name in the **Signed In As** area.
2. Press Enter, then Tab to highlight the **My Account** link.
3. Press Enter to display the My Account dialog.
4. Press Tab to select the Preferences tab.
5. Press Tab to navigate through the fields on the tab until you reach the **Accessibility Mode** options.
6. Use the arrow keys to select the **On** option.
7. Press Enter to save your changes and close the dialog.
8. Refresh the page to see it displayed in accessibility mode.

Keyboard Shortcuts

There are multiple topics about keyboard shortcuts for the application.

This section provides the following information about shortcuts:

- [Keyboard Shortcuts for Oracle BI EE and Oracle BI Publisher](#)
- [Navigating in Oracle Business Intelligence Dashboards](#)

Keyboard Shortcuts for Oracle BI EE and Oracle BI Publisher

Keyboard shortcuts can speed up your work in the applications.

Both Oracle BI EE and BI Publisher support standard keyboard shortcuts that are used in many software applications. In addition, both components offer shortcuts to perform tasks that are specific to those components. The table that follows describes general keyboard shortcuts for use with Oracle BI EE and BI Publisher.

If you use Freedom Scientific JAWS or other screen reader programs, then you must first disable the virtual PC cursor before using the keystroke combinations to navigate the dashboard. You must enable the virtual PC cursor at other times, such as when navigating within table objects on a dashboard.

Keyboard Shortcut	Result
CTRL+ALT+G	Navigates to the first focusable element in the global header, which is the Skip to Content link. This link enables you to bypass the options that are available in the global header and to move to the features that available in the main part of the Home page.
CTRL+ALT+D	Navigates to the Dashboards popup menu in the global header. You can then press ENTER to display a menu from which you select a dashboard to display.
CTRL+ALT+P	Navigates to the current dashboard page tab, if the tab is displayed. If there is only one page in the dashboard, then the page tab is not displayed.
CTRL+SHIFT+S	Navigates to the first focusable element in the next section. For a dashboard page, the first element is the collapse icon.
CTRL+SHIFT+ U	Navigates to the first focusable element in the previous section. For a dashboard page, the first element is the collapse icon.
TAB	Navigates to the next focusable element.
SHIFT + TAB	Navigates to the previous focusable element.
Down Arrow	Navigates to the next menu option.
Up Arrow	Navigates to the previous menu option.
ENTER	Triggers the activity, when the focus is on a link, an image, or a button with an associated URL or activity.
ESC	Closes the menu that has the focus.

The table that follows describes keyboard shortcuts for navigating in dashboards in Oracle BI EE and reports in BI Publisher.

Keyboard Shortcut	Result
ALT + Up or Down Arrow	Opens drop-down and combo boxes.
CTRL + Up or Down Arrow	Shows the next or previous item in a combo box.

The table below describes keyboard shortcuts for navigating the BI Composer wizard. See [Using BI Composer to Work with Analyses](#).



Note:

The Catalog tree that is displayed in the Catalog tab of the BI Composer wizard is interpreted as a table. To navigate the tree, use the table keystrokes for your screen reader program.

Keyboard Shortcut	Result
ALT + SHIFT + b	Navigates to the Back button.
ALT + SHIFT + c	Navigates to the Cancel button.

Keyboard Shortcut	Result
ALT + SHIFT + I	Navigates to the Finish button.
ALT + SHIFT + x	Navigates to the Next button.
ALT + CTRL + m	Navigates to the context menu. For example, selecting an item in the Catalog tree and pressing ALT + CTRL + m displays a menu with options to expand and collapse menu items.
ALT + Down Arrow	Reads the messages in a pop-up window, one by one.

Navigating on the Home Page

You can navigate the Home page using a keyboard.

If you display the Home page after signing into Oracle BI EE or by navigating from another location in Oracle BI EE, then you must press CTRL+ALT+G to place the focus on the **Skip to Content** link in the upper-left corner of the Home page.

1. Sign into Oracle BI EE.
2. Press CTRL+ALT+G to display the **Skip to Content** link in the upper-left corner of the Home page.
3. Press one of the following:
 - ENTER on this link to navigate to the default starting location on the Home page, which is the first link in the upper-left corner under the global header.
 - TAB to navigate to the first focusable element in the global header.
4. Continue to press TAB to navigate through the elements on the Home page.

Navigating in Oracle Business Intelligence Dashboards

Using keyboard shortcuts will help you navigate the application quickly.

You can navigate a dashboard using keyboard shortcuts in several ways. The following procedure is an example of one way to navigate using keyboard shortcuts.

1. Sign into Oracle BI EE.
 - If the Home page is displayed first, then use keystrokes to display the dashboard. Press CTRL+ALT+D to navigate to the Dashboards menu in the global header, press ENTER to display the menu, press TAB or the arrow keys to navigate through the dashboard names, then press ENTER on the name of the dashboard to display.
 - If a dashboard is displayed, then proceed to the next step.
2. Navigate to the desired dashboard page:
 - a. Press CTRL+ALT+G to display the **Skip to Content** link.
 - b. Press TAB multiple times to navigate through the global header to the tab that corresponds to the first page of the dashboard.

If there are no page tabs, then you navigate to the first focusable element on the dashboard page.
 - c. Press TAB to move through the dashboard pages. After the last page, pressing TAB gives focus to the dashboard page menu.

- d. Press ENTER when the focus is on the appropriate page tab to open that page of the dashboard.
3. Press CTRL+SHIFT+S to navigate to the first focusable element in the next section, which is the collapse icon.
4. Press TAB to navigate to the next focusable element in the current section.
5. Press CTRL+SHIFT+S to navigate to the first focusable element in the next section.
6. While the section collapse and expand icon has focus, press ENTER to collapse the current section.
7. To navigate in a table or pivot table:
 - a. Press TAB to select the table.
 - b. Press TAB to move through the headers of the table and to select any menus that exist there.
 - c. When the table has focus, press the arrow keys to navigate among the columns and body cells of the table
 - d. To access the drop-down menus in the header rows when a body cell has focus, press TAB, then ENTER to display the options for the menu in the first header row. Press TAB and use the arrow keys to highlight the options in the menu and press ENTER to select the desired option.

Designing for Accessibility

When creating content for consumption by a wide variety of users, you must plan to provide support for users with various disabilities.

Accessibility support is a legal requirement in many locations throughout the world.

You can follow several general guidelines when designing content for consumption by a variety of people with differing abilities. These guidelines apply to any content that you create for Oracle BI EE or other applications. You must also be aware of features that are specific to Oracle BI EE that ensure that the content that you provide supports accessibility requirements.

This section contains the following topics on designing for accessibility:

- [Obtaining General Information](#)
- [Avoiding Common Misconceptions](#)
- [Following Best Practice Recommendations](#)
- [Following General Guidelines for Accessible Content](#)
- [Designing Dashboards that are Accessible](#)

Obtaining General Information

Information about the application can be found in various documents.

You can locate information about accessibility across the Information Technology industry in numerous published books. This guide does not intend to duplicate those works. Various standards and legislation are documented, especially as part of the

World Wide Web Consortium (W3C) and Section 508 of the United States Rehabilitation Act.

Avoiding Common Misconceptions

Many designers make assumptions about technology and accessibility.

Some of the more common misconceptions include:

- HTML content automatically equals accessible content.
- Accessible tools automatically create accessible content.
- Automated testing tools can reliably determine accessibility.

None of these assumptions, however, is correct. Developers can create non-accessible content using HTML. A tool that can produce accessible content might not do so by default, or might allow a developer to select options that turn off the accessible features within existing accessible content. Automated testing tools do not always interact with content the same way end that users do. As a result, they can erroneously report accessible elements as non-accessible. Therefore, accessibility is ultimately the responsibility of the content designer. When creating content, designers must be aware of certain common practices to ensure the content is accessible to all users.

Following Best Practice Recommendations

Dashboards will be most effective if you follow some basic guidelines.

When configuring or creating content for dashboard pages, consider the following best practice recommendations:

- Refrain from using tickers, because they are not supported.
- When saving dashboards, ensure that you save them in appropriate locations so that they are easily accessible to users. See [Saving Dashboards by Other Names and in Other Locations](#).
- Reduce the interactivity and the complexity of pages. For example, restrict the number of prompts and drop-down menus, do not use the drill-inline feature for sections, and configure tables to show as many rows as possible.

Following General Guidelines for Accessible Content

Always consider the fact that multiple disabilities exist and that multiple disabilities might manifest in the same individual.

You must also remember that there are varying degrees of certain disabilities (such as the various types of color vision deficiency). Your designs must take all these possibilities into account.

This section contains guidelines on the following general areas of design:

- [Font Selection](#)
- [Color Selection](#)
- [Color Contrast](#)

Font Selection

Choosing the most appropriate font for presentations helps users comprehend the information.

Users with low visual acuity often use screen magnification software to make the screen easier to read. The fonts that you use should be readable even when magnified by accessibility tools by as much as 20 times. Some fonts do not display well when magnified, while others do.

Oracle BI EE dashboards use style sheets to set standard display definitions. Ensure that these style sheets consistently use font selections that magnify well. That way, content creators automatically default to using fonts that are accessible.

Color Selection

Choose colors for your data output carefully to ensure those with deficient color vision can interpret the data properly.

Many different types of color vision deficiency exist, from an inability to see the difference between one common color pair such as red-green (the most common deficiency), all the way to full color blindness where a person can see only varying shades of gray and black. Using only color to convey critical information means that certain users are not fully aware of all the pertinent information about a subject. And, of course, a blind user needs any information conveyed by color to also be present in an alternate textual format.

As a developer, you must not create any content that provides key information by color alone. One example of a non-accessible design is to denote negative numbers solely by coloring the text red. Another example is a typical stoplight-style indicator where the only context information comes from its color — green for good and red for bad.

Using Color with Text

Color-coding text can help increase understanding of the presented data.

You can use color in designs if you also include another indication of the same information. For example, you can include a minus sign or parentheses to denote negative numbers in tables and pivots. For stoplight displays, you can add descriptive text or different shaped icons in addition to the color. You can include text such as `Status: good`. You can include green circles for good, yellow triangles for warning, and red octagons for bad.

Color Contrast

Because color vision deficiency can also manifest as an inability to distinguish between subtle shades of similar colors, overall color design of all screen elements must provide a large amount of contrast.

You should strive to achieve a minimum of a 4.5:1 color luminosity contrast ratio. For example, use black text on a white background instead of dark gray text on a light gray background.

You can check the following web sites for assistance:

- This site offers a tool that can test for the proper level of contrast:

<http://www.paciellogroup.com/resources/contrast-analyser.html>

- This site offers a tool for viewing how a web site is displayed for individuals with various types of color vision deficiency:

<http://colorfilter.wickline.org/>

Designing Dashboards that are Accessible

Dashboards are a primary format for conveying a lot of information, so it is important to design them for maximum comprehension.

Use the guidelines in the following sections for designing accessible dashboards:

- [Promoting a Consistent Structure](#)
- [Keeping Dashboard Pages Simple](#)
- [Enhancing On-Screen Content](#)
- [Providing Alternate Displays](#)
- [Avoiding Prohibited Features](#)

Promoting a Consistent Structure

Using a consistent structure for dashboards ensures that users will see data presented in a familiar way.

Use the following guidelines to promote a consistent structure for dashboards:

- If multiple dashboards contain similar functions or content, then keep those links or forms in the same place on all dashboards.
- Use the same text and labels for buttons and links that have the same functions or destinations. When graphical elements are used to identify controls, status indicators, or other programmatic elements, ensure that the meaning assigned to each graphical element is consistent throughout the pages of the dashboard.
- Associate the same text with icons and other graphics that are used for the same functions. Graphics cannot be read by assistive technologies, and low-vision users might be unable to discern the meaning of a graphic. Therefore, all graphics must have additional text to describe the functionality.

Graphics must have ALT text, which is descriptive text associated with the graphic that adequately describes its purpose. This alternate text is specified using the ALT attribute for the element in HTML code. Even if a graphic is present for aesthetic purposes and has no functional value, then you must still specify null ALT text (`alt=" "`) for its element so that screen readers know that the text should be skipped.

For other graphical elements that do not support creation of ALT text, you should include text fields at the top or side to denote functionality, such as `Select a Display View Below`.

Keeping Dashboard Pages Simple

Keeping dashboard pages simple helps ensure users will be able to understand them easily.

Try to keep dashboard pages simple. Do not try to include too many objects on one page. Include multiple pages that are easy to navigate rather than one page that is cluttered and difficult to navigate.

Enhancing On-Screen Content

Dashboards can be enhanced in a variety of ways.

Use the following guidelines to enhance on-screen content for dashboards:

- As you do in graphs to promote a high color luminosity contrast ratio, do not use colored or patterned backgrounds for dashboard pages.
- Use styles that support high contrast between the background and the text, both in the dashboard header area and in the tabs on multi-page dashboards.
- Place the most important content at the top of the page so that users of screen readers can access that content without having to navigate the entire screen.

Providing Alternate Displays

Providing accessible data for users who use accessibility tools is an important way to ensure all users receive the same information.

For displays that are inherently visual, such as interactive GIS maps or audio-video feeds, no method might exist for making these elements directly accessible. When you deploy this kind of content, you must also provide a text-based equivalent display of the same information with similar interaction capabilities. Typically this means either creating an equivalent table or pivot table of the related data (if applicable), or providing a caption and text description for audio-visual content.

Including Descriptions for Analyses

Dashboard pages generate explanatory text for objects based on their description fields.

Ensure that each analysis that you create includes a short description of its functionality. You specify this description in the **Description** field of the Save dialog for the analysis.

Working with Styles for Dashboards

The set of styles and skins that are available for the Oracle BI EE system controls the overall look and feel of any dashboard. You can work with styles and skins for accessibility:

- [Creating Custom Styles and Skins](#)
- [Applying a Style to a Dashboard](#)

Creating Custom Styles and Skins

You can create custom styles and skins to implement standard settings that support accessibility, such as default font selections, high-contrast color schemes, and so on.

You can start by copying and modifying the default styles. By modifying these files, you can select default colors, contrast, and fonts that can benefit users with certain disabilities.

Applying a Style to a Dashboard

You can set a default style for all dashboards and you can also select a style to apply to an individual dashboard.

You might want to create a set of dashboards with content that is specifically optimized for users with accessibility needs. You might also want to apply a special accessibility style to one or more individual dashboards for those users who need it.

You specify a style on the Dashboard Properties dialog for a particular dashboard.

Avoiding Prohibited Features

Certain features should not be used at all, such as elements that blink with a frequency between 2Hz and 55Hz, or that use excessive animation (such as a stock ticker display widget).

Ensure that you are familiar with all legally mandated design prohibitions that apply in your locality and avoid including those elements on dashboard pages.

Using Objects to Enhance Accessibility

You can make data presentations more accessible by using objects.

This section contains the following topics that provide examples of using objects to enhance accessibility:

- [Switching Content with View Selectors](#)
- [Using Static Text Objects for Custom HTML Markup](#)

Switching Content with View Selectors

In some cases, you might want to create additional content that is specifically optimized for users with accessibility needs.

The view selector is a useful tool for providing the most feature-rich content for all user communities.

For example, suppose that you have a view called HR Pie Graph that uses color to show job categories in slices. This graph can be the default view for the dashboard page. You can include a view selector on the page that allows users to select either a table or a graph with cross-hatching instead of color for displaying the data. The graph can also add text elements that display the actual values that each slice represents, can simplify the background grid, and can include a descriptive title.

Using Static Text Objects for Custom HTML Markup

You can provide improved accessibility for users by altering the default HTML output.

Screen readers generally use standard HTML markup to provide information for navigating on a page. One of the most commonly used markup tags is the Header tag.

The default title view on an Oracle BI EE dashboard includes a Title tag when Accessibility mode is turned on. However, you cannot add other tags to the design of a title view.

You can use the static text view to replace the title view and supply the necessary HTML tag at the same time. Select the **Contains HTML Markup** box in the Static Text editor of the Results tab and enter the appropriate HTML code. You can access the styles that are contained in the style sheets for your Oracle BI EE system to ensure consistency with the rest of your dashboards.

For example you can create a header for a dashboard that enables you to enter a title marked with the H3 tag and a horizontal rule line underneath. Enter the following HTML code for the static text view:

```
<H3>My HR Report</H3><HR WIDTH=650 ALIGN=LEFT>
```