# Contents

Preface ........................................................................................................................................................................... xi

  Audience ....................................................................................................................................................... xi
  Related Resources ........................................................................................................................................ xi
  Conventions .................................................................................................................................................. xii

What’s New in Oracle BI Cloud Service? ............................................................................................................ xiii

**Part I  Introducing Oracle Business Intelligence Cloud Service**

1  Getting Started with Oracle Business Intelligence Cloud Service

   About Oracle BI Cloud Service ...................................................................................................................... 1-1
   About Reports and Dashboards .................................................................................................................. 1-2
   Before You Begin with Oracle BI Cloud Service ................................................................................... 1-3
   How to Begin with Oracle BI Cloud Service ......................................................................................... 1-3
   Accessing Oracle BI Cloud Service .......................................................................................................... 1-4
   Finding and Exploring Your Content ....................................................................................................... 1-5
   Analyzing and Interacting with Information for Insight ......................................................................... 1-7
   Using Oracle BI Cloud Service on Mobile Devices .................................................................................. 1-7
   Top Tasks for Oracle BI Cloud Service .................................................................................................... 1-8
   Top Tasks for Exploring ............................................................................................................................. 1-8
   Top Tasks for Analyzing ............................................................................................................................ 1-9

**Part II  Exploring Data in Visual Analyzer**

2  Getting Started with Visual Analyzer

   About Visual Analyzer ............................................................................................................................... 2-1
   Accessing Visual Analyzer ......................................................................................................................... 2-1
   Searching for Content in Visual Analyzer ............................................................................................... 2-2

3  Exploring Your Content

   Typical Workflow for Exploring Content ................................................................................................. 3-1
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choosing Data Sources</td>
<td>3-2</td>
</tr>
<tr>
<td>Adding Data Elements to Visualizations</td>
<td>3-3</td>
</tr>
<tr>
<td>Adding Data Elements to Drop Targets</td>
<td>3-3</td>
</tr>
<tr>
<td>Adding Data Elements to Visualization Drop Targets</td>
<td>3-4</td>
</tr>
<tr>
<td>Adding Data Elements to a Blank Canvas</td>
<td>3-6</td>
</tr>
<tr>
<td>Adjusting the Canvas Layout</td>
<td>3-6</td>
</tr>
<tr>
<td>Changing Visualization Types</td>
<td>3-7</td>
</tr>
<tr>
<td>Adjusting Visualization Properties</td>
<td>3-8</td>
</tr>
<tr>
<td>Undoing and Redoing Edits</td>
<td>3-9</td>
</tr>
<tr>
<td>Reversing Visualization Edits</td>
<td>3-9</td>
</tr>
<tr>
<td>Refreshing Visualization Content</td>
<td>3-10</td>
</tr>
<tr>
<td>Exploring Data Using Filters</td>
<td>3-10</td>
</tr>
<tr>
<td>About Filters</td>
<td>3-10</td>
</tr>
<tr>
<td>About Filter Types</td>
<td>3-10</td>
</tr>
<tr>
<td>About Automatically Applied Filters</td>
<td>3-11</td>
</tr>
<tr>
<td>Creating Filters</td>
<td>3-11</td>
</tr>
<tr>
<td>Applying Range Filters</td>
<td>3-12</td>
</tr>
<tr>
<td>Applying List Filters</td>
<td>3-12</td>
</tr>
<tr>
<td>Applying Date Filters</td>
<td>3-13</td>
</tr>
<tr>
<td>Building Expression Filters</td>
<td>3-13</td>
</tr>
<tr>
<td>Exploring Data in Other Ways</td>
<td>3-13</td>
</tr>
<tr>
<td>About Composing Expressions</td>
<td>3-14</td>
</tr>
<tr>
<td>Creating Calculated Data Elements</td>
<td>3-15</td>
</tr>
<tr>
<td>Specifying How Visualizations Interact with One Another</td>
<td>3-16</td>
</tr>
<tr>
<td>Adding Your Own Data</td>
<td>4-1</td>
</tr>
<tr>
<td>Typical Workflow for Adding Data from External Sources</td>
<td>4-1</td>
</tr>
<tr>
<td>About Adding Your Own Data</td>
<td>4-2</td>
</tr>
<tr>
<td>About Characteristics for External Sources</td>
<td>4-3</td>
</tr>
<tr>
<td>Adding Data from External Sources</td>
<td>4-5</td>
</tr>
<tr>
<td>Blending Data that You Added</td>
<td>4-6</td>
</tr>
<tr>
<td>Refreshing Data that You Added</td>
<td>4-8</td>
</tr>
<tr>
<td>Updating Details of Data You Added</td>
<td>4-9</td>
</tr>
<tr>
<td>Controlling Sharing of Data You Added</td>
<td>4-9</td>
</tr>
<tr>
<td>Removing Data that You Added</td>
<td>4-10</td>
</tr>
<tr>
<td>Deleting Data that You Added</td>
<td>4-10</td>
</tr>
<tr>
<td>Managing Data Files</td>
<td>4-11</td>
</tr>
</tbody>
</table>

Part III  Reporting Data in Oracle Business Intelligence Cloud Service

5  Creating Analyses

Typical Workflow for Creating Analyses                                   | 5-1  |
Creating Your First Analysis                                             | 5-2  |
6  Viewing Data in Different Ways

Typical Workflow for Viewing Data in Different Ways ................................................................. 6-2
About Views .................................................................................................................................... 6-2
Adding Views ................................................................................................................................. 6-3
Editing Views ................................................................................................................................. 6-3
Editing Various Types of Views ...................................................................................................... 6-4
   Editing Table and Pivot Table Views ......................................................................................... 6-5
   Editing Gauge Views ................................................................................................................. 6-6
   Editing Heat Matrix Views ....................................................................................................... 6-8
   Editing Map Views .................................................................................................................... 6-10
   Editing Performance Tile Views ............................................................................................... 6-21
7 Building Dashboards

Typical Workflow for Building Dashboards .................................................. 7-1
Creating Your First Dashboard .......................................................... 7-2
Editing Dashboards .............................................................................. 7-4
Adding and Deleting Pages in Dashboards .......................................... 7-5
    Adding Pages to Dashboards ......................................................... 7-5
    Adding Content to Dashboard Pages ............................................. 7-6
Changing the Properties of a Dashboard and Its Pages ....................... 7-6
Changing the Properties of Objects Added to Dashboard Pages .......... 7-7
Deleting Objects on Dashboard Pages .............................................. 7-7
Deleting Dashboard Pages ................................................................... 7-8
Printing Dashboards .......................................................................... 7-8
Organizing Dashboard Pages in Briefing Books .................................. 7-9
    Adding Content to New or Existing Briefing Books ..................... 7-9
    Editing the Content of Briefing Books ......................................... 7-10
    Downloading Briefing Books ......................................................... 7-10
    Adding a List of Briefing Books to a Dashboard Page .................... 7-11
Improving the Time to Display Dashboard Pages with Default Selections 7-12
Recalling Personalized Settings .......................................................... 7-13
    Saving Customizations of Dashboard Pages ................................... 7-13
    Applying Saved Customizations .................................................... 7-14
    Editing Saved Customizations ....................................................... 7-14
    Clearing the Current Customization ............................................. 7-15
Linking to Dashboard Pages ............................................................... 7-15
    About Bookmark Links .................................................................. 7-15
    Creating Links to Dashboard Pages ............................................... 7-15

8 Filtering and Selecting Data for Analyses

Typical Workflow for Filtering and Selecting Data .............................. 8-1
About Filters and Selection Steps ......................................................... 8-1
    About Prompted Filters ................................................................. 8-2
Creating Filters for Columns .............................................................. 8-2
    Creating Inline and Named Filters ............................................... 8-3
    Specifying Values for Filters ....................................................... 8-4
    Saving Filters ................................................................................ 8-6
Editing Filters for Columns ............................................................... 8-6
Reusing Filters ................................................................................... 8-8
Using a Saved Analysis as a Filter ....................................................... 8-9
Advanced Techniques: How Dashboard Prompts and Analysis Prompts Interact 8-9
Refining Selections of Data ............................................................... 8-11
    Creating Selection Steps .............................................................. 8-11
    Editing Selection Steps ................................................................ 8-13
Saving Selection Steps for Reuse ...................................................... 8-14
Advanced Techniques: Creating Condition Steps ................................ 8-14
Manipulating Members Using Groups and Calculated Items ............... 8-16
Assigning Ownership of Items ............................................................................................................ 11-6
Assuming Ownership of Items ............................................................................................................ 11-7

Part IV  Reference

A  Terminology

B  Frequently Asked Questions
Top FAQs for Exploring and Reporting ............................................................................................ B-1

C  Troubleshooting
Troubleshooting General Issues ......................................................................................................... C-1
Troubleshooting Issues with Projects, Analyses, and Dashboards .................................................... C-2

D  Expression Editor Reference
Data Model Objects ............................................................................................................................ D-1
SQL Operators ..................................................................................................................................... D-1
Conditional Expressions .................................................................................................................... D-2
Functions .......................................................................................................................................... D-3
  Aggregate Functions .......................................................................................................................... D-3
  Calendar Functions ........................................................................................................................... D-4
  Conversion Functions ......................................................................................................................... D-5
  Display Functions ............................................................................................................................. D-6
  Evaluate Functions ............................................................................................................................ D-7
  Mathematical Functions .................................................................................................................... D-7
  String Functions ............................................................................................................................... D-9
  System Functions ............................................................................................................................. D-10
  Time Series Functions ...................................................................................................................... D-10
Constants .......................................................................................................................................... D-10
Types ............................................................................................................................................... D-11
Variables .......................................................................................................................................... D-11

E  Accessibility
About Accessibility Features .................................................................................................................. E-1
Changing to Accessibility Mode .......................................................................................................... E-1
Learn how to use the service to explore and analyze data by creating and editing projects and reports.

Topics:
- Audience
- Related Documents
- Conventions

Audience

Using Oracle Business Intelligence Cloud Service is intended for business intelligence consumers and analysts who use Oracle BI Cloud Service:

- Business intelligence consumers customize dashboard pages and work with their favorite reports. Dashboards allow consumers to quickly analyze and manage activity across their system.

- Business intelligence analysts load and model data and create reports for consumers. Data integration options range from self-service import to operational ETL updates. Analysts can select interactive visualizations and create advanced calculations to reveal insights in the data.

Related Resources

These related Oracle resources provide more information.

- Oracle Public Cloud
  http://cloud.oracle.com
- Getting Started with Oracle Cloud
- Preparing Data in Oracle Business Intelligence Cloud Service
- REST API Reference for Oracle Business Intelligence Cloud Service
- Data Modeler REST APIs for Oracle BI Cloud Service
- Using Oracle Database Cloud Service (Database as a Service)
- Using Oracle Database Cloud Service (Database Schema)
## Conventions

The text conventions used in this document are described in this topic.

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>boldface</strong></td>
<td>Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.</td>
</tr>
<tr>
<td><em>italic</em></td>
<td>Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.</td>
</tr>
<tr>
<td><strong>monospace</strong></td>
<td>Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.</td>
</tr>
</tbody>
</table>
What’s New in Oracle BI Cloud Service?

Anyone who subscribes to Oracle BI Cloud Service receives automatic upgrades as soon as new features become available. You don’t need to request an upgrade or take any actions yourself. Here’s an overview of new features and enhancements added recently to improve your Oracle BI Cloud Service experience.

November 2015

• Fresh new look to Oracle BI Cloud Service
  Improved design that’s simple to navigate and easy to use. Includes a brand new Academy to help you get the most out of Oracle BI Cloud Service.

• View your data in a heat matrix
  Use a heat matrix view to see a two-dimensional depiction of data in which values are represented by a gradient of colors. See Editing Heat Matrix Views.

• Visualize geographical data on maps
  Use a map view to display data on a map in several different formats and to interact with the data. See Editing Map Views.

• Manage your data files
  Review, download, and delete data files you’ve uploaded for analysis. Quickly see whether you’re close to reaching your quota. See Managing Data Files.

• Enhancements to Data Modeler:
  – Let Oracle BI Cloud Service recommend fact and dimension tables when you start to build your data model. See Creating Fact and Dimension Tables from a Single Table or View.
  – Override the aggregation set for a measure for one or more dimensions. See Specifying Aggregation for Measures in Fact Tables.
  – Sort attribute values by a different column. See Editing Columns.
  – Define variables that return multiple values. See Defining Variables.
  – Programmatically delete any query data cached for your model through new REST APIs. See Data Modeler REST APIs for BI Cloud Service.
  – To make sure the data model is always backed up, a copy of your data model saves automatically when you publish changes to the model. Now it’s easier to recover to a previous version if something goes wrong.
April 2015

- **Explore data using Visual Analyzer**
  
  Visual Analyzer provides self-service analysis, seamlessly transitioning you between all phases of the analysis lifecycle: data staging, analysis, composition, and consumption. See Getting Started with Visual Analyzer.

  Manage access to Visual Analyzer through a new application role called BIDiscoveryContentAuthor. See Application Roles Predefined in Oracle BI Cloud Service.

- **Add your own data to analyses**
  
  You can add data from an external source to an analysis in Oracle BI Cloud Service. Adding your own data is sometimes referred to as “mash-up.” See Adding Data from External Sources to Analyses.

- **Upload data models from a file**
  
  If you’ve modeled your data with Oracle Business Intelligence Enterprise Edition, then you don’t need to start from scratch in Oracle BI Cloud Service. Simply upload your on-premises data model file (.rpd) to Oracle BI Cloud Service and start exploring your data through visualizations, reports, and dashboards. See Uploading On-Premises Data Models.

- **Integrate with Oracle Database Cloud - Database as a Service**
  
  Connect Oracle BI Cloud Service to any Oracle Database Cloud - Database as a Service instance. See Changing the Database Connection.

March 2015

**Loading Data**

- **Load data programmatically**
  
  Use methods of REST APIs to programmatically create, manage, and load schemas, tables, and data into Oracle BI Cloud Service. See About the Oracle BI Cloud Service REST API.

February 2015

**Modeling Data**

- **Copy objects in Data Modeler**
  
  Sometimes it’s quicker to copy objects rather than starting from scratch. You can copy fact tables, dimension tables, database tables, and database views. See Copying Model Objects.

- **Drag and drop to extend dimensions**
  
  We’ve made it easier to add columns to dimension tables. Simply drag and drop tables or views that contain columns that you want to add to the dimension table. See Adding Columns from Another Source to a Dimension Table.

- **Aggregate before or after calculating the expression for a measure**
  
  You can create calculations that contain pre-aggregated measures. See About Creating Calculated Measures.

- **Use fact tables indirectly joined through dimension tables in expressions**
When you define a calculated measure in Expression Editor, the Expression Elements section includes the current fact table, any dimension tables joined to that table, and any fact tables indirectly joined through a dimension table. See About the Expression Editor.

• **Data Modeler detects relationships and suggests facts and dimensions for your model**

When you add source objects with relationships to other tables or views to the model, Data Modeler asks whether you want to include related fact or dimension tables and offers to add them to the model.
This part introduces you to Oracle BI Cloud Service.

Chapters:

- Getting Started with Oracle Business Intelligence Cloud Service
Getting Started with Oracle Business Intelligence Cloud Service

This topic describes how to get started with Oracle BI Cloud Service.

**Topics:**

- About Oracle BI Cloud Service
- About Reports and Dashboards
- Before You Begin with Oracle BI Cloud Service
- How to Begin with Oracle Business Intelligence Cloud Service
- Accessing Oracle BI Cloud Service
- Finding and Exploring Your Content
- Analyzing and Interacting with Information for Insight
- Using Oracle BI Cloud Service on Mobile Devices
- Top Tasks for Oracle BI Cloud Service

**About Oracle BI Cloud Service**

Oracle BI Cloud Service is one of the Platform as a Service (PaaS) services that is provided by Oracle Cloud.

The service simplifies the creation, management, and deployment of analyses. The service offers many self-service capabilities such as creating reports for your line of business. The report consumption features of the service are natively mobile.

You can find more information on Oracle BI Cloud Service here:

[https://cloud.oracle.com/business_intelligence](https://cloud.oracle.com/business_intelligence)

Using Oracle BI Cloud Service, you can easily and efficiently:

- Explore data and add your own data from external sources.
  
  For more information, see Exploring Data in Visual Analyzer.

- Create and share analyses and dashboards that enable users to solve business problems.
  
  For more information, see Reporting Data in Oracle Business Intelligence Cloud Service.
About Reports and Dashboards

You use analyses, projects, and dashboards to find the answers that you need from key business data displayed in graphical formats.

An analysis is a query against your organization’s data that provides you with answers to business questions. Analyses enable you to explore and interact with information visually in tables, graphs, pivot tables, and other data views. You can also save, organize, and share the results of analyses with others.

A project enables you to dynamically explore multiple data sets in graphical way, all within a single interface. You can upload data from external sources (spreadsheets) to create robust sets of information within project visualizations.

Dashboards can include multiple analyses to give you a complete and consistent view of your company’s information across all departments and operational data sources. Dashboards provide you with personalized views of information in the form of one or more pages, with each page identified with a tab at the top. Dashboard pages display anything that you have access to or that you can open with a web browser including analyses results, images, text, links to websites and documents, and embedded content such as web pages or documents.

When you embed an analysis in a dashboard, the analysis automatically displays the most current data every time you access the dashboard. For example, if you are a sales
executive whose company captures sales data on a daily basis, then you can have the dollar volume by product sold today displayed when you open or run the dashboard.

For more information about sharing analyses and dashboards, see Sharing Your Content with Others.

Before You Begin with Oracle BI Cloud Service

Before you sign in to Oracle BI Cloud Service, familiarize yourself with:

- **Oracle Cloud**
  
  Your administrator creates and configures your account on Oracle Cloud. For more information about creating accounts on Oracle Cloud, see Requesting a Trial Service or Purchasing a Subscription to an Oracle Cloud Service in Getting Started with Oracle Cloud.

- **Oracle Database Cloud Service**
  
  You need Oracle Database Cloud - Database Schema Service or Oracle Database Cloud - Database as a Service to store and manage the data for Oracle BI Cloud Service. See How Does Oracle BI Cloud Service Integrate with Oracle Database Cloud Service? in Preparing Data in Oracle Business Intelligence Cloud Service.

- **Oracle Business Intelligence Cloud Service**
  
  Your administrator sets up accounts for you and assigns you roles in Oracle BI Cloud Service. See Typical Workflow for Administrators of Oracle BI Cloud Service in Preparing Data in Oracle Business Intelligence Cloud Service.

How to Begin with Oracle BI Cloud Service

Oracle BI Cloud Service offers features for different kinds of users who perform various tasks. The largest user population is end users who are given an address and their sign-on credentials for accessing the service and analyses and dashboards.

Before users can sign in, administrators must have configured the user population, loaders must have loaded the data into Oracle Database Cloud - Database Schema Service, and modelers must have modeled the data. When data is modeled, users can create analyses and dashboards that allow them to glean important information about their business.

<table>
<thead>
<tr>
<th>Task</th>
<th>User</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access the service.</td>
<td>All</td>
<td>Accessing Oracle BI Cloud Service</td>
</tr>
<tr>
<td>Create analyses that show the data in views on dashboards. Share these analyses with co-workers, clients, and business partners.</td>
<td>Content developers</td>
<td>Creating Your First Analysis</td>
</tr>
<tr>
<td>Filter the data in the analyses.</td>
<td>Content developers</td>
<td>Creating Filters for Columns</td>
</tr>
<tr>
<td>Add views to the analysis.</td>
<td>Content developers</td>
<td>Adding Views</td>
</tr>
</tbody>
</table>
A summary table is presented with the following headings: Task, User, and More Information. The table includes:

<table>
<thead>
<tr>
<th>Task</th>
<th>User</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add interactivity to the analysis.</td>
<td>Content developers</td>
<td>Adding Interactivity to Analyses</td>
</tr>
<tr>
<td>Create prompts to drive the display of data in the analyses on dashboard pages.</td>
<td>Content developers</td>
<td>Creating Prompts</td>
</tr>
<tr>
<td>Build interactive dashboards for users to analyze data.</td>
<td>Content developers</td>
<td>Creating Your First Dashboard</td>
</tr>
<tr>
<td>Find and explore content.</td>
<td>Content developers and content consumers</td>
<td>Finding and Exploring Your Content</td>
</tr>
<tr>
<td>Analyze information for insight.</td>
<td>Content consumers</td>
<td>Analyzing and Interacting with Information for Insight</td>
</tr>
</tbody>
</table>

**Accessing Oracle BI Cloud Service**

When you subscribe to Oracle BI Cloud Service, you can access it directly from a link provided by the service administrator. Or you can sign in to Oracle Cloud and select Oracle BI Cloud Service at this location: cloud.oracle.com

When you sign in to Oracle BI Cloud Service for the first time, Oracle Cloud displays the product tour, which provides helpful information on using the service.

At the end of the tour, you see the Home page for Oracle BI Cloud Service. The branding bar at the top of the page identifies the user who is signed in. From the Home page, you can access the various features for which you have the appropriate privileges.
Finding and Exploring Your Content

You can find the reports and other items that you access frequently on the Home page and in the catalog.

Video

Tutorial

The catalog contains content that you or someone else defined and saved for future use (such as analyses and dashboards). You can search your content to find something that you want to work with or change. You can edit items, share them with others, access their properties, and so on. For example, a sales analyst needs to use an analysis to track the weekly sales of a specific beverage brand in the Central and Eastern regions. The catalog administrator gives the analyst the appropriate permissions for completing tasks on the targeted content.

To manage your content:

1. On the Home page, click Catalog.

2. On the Catalog page, click Search to display the Search pane.
3. In the Search pane, set up your search.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search</td>
<td>Specify the full or partial name of the item or folder that you are looking for. The search is case-insensitive. Enter an asterisk (<em>) in the search string to perform a wildcard search. The asterisk specifies zero or more alphanumeric characters within the name. For example, to search for objects that have the word “brand” in their name, specify br</em></td>
</tr>
<tr>
<td>Location</td>
<td>Select the catalog folder to search, such as Company Shared.</td>
</tr>
<tr>
<td>Type</td>
<td>Select the kind of item that you are looking for, such as Analysis or Dashboard.</td>
</tr>
</tbody>
</table>

4. To search for Hidden Items, select **Show Hidden Items**, which is located on the header of the Catalog page.

5. Click **Search**.

The Catalog area shows you the items for which you have appropriate permissions and that satisfy the search criteria.

6. When you find the item that are looking for, you can perform tasks on it:
   a. Edit the item.
   b. Share the item with others. For information, see **Sharing Your Content with Others**.
   c. Access the properties of the item. For information, see **Accessing Properties**.
   d. Assign ownership of the item. For information, see **Assigning Ownership of Items**.
Analyzing and Interacting with Information for Insight

You use Oracle BI Cloud Service to create analyses of your data. When an analysis is built, you can share it with others, who then interact with the data and analyze the data for insight. By focusing on the data values, users can glean important information about the state of the company or their products. For example, users can pivot the data. They can drill in the data to see greater detail.

You can obtain a sample application called QuickAnalytics that provides prebuilt analyses and dashboards. These samples give you ideas and a starting point for creating your own analyses and dashboards. You can obtain QuickAnalytics from Oracle Technology Network:


Using Oracle BI Cloud Service on Mobile Devices

You can easily access Oracle BI Cloud Service analyses, projects, 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 the Apple App Store and from the Google Play Store.

To install and configure Oracle Business Intelligence Mobile for analyses and dashboards from Oracle BI Cloud Service:

1. Search the Apple App Store or the Google Play Store for "Oracle".
2. Select the "Oracle BI Mobile HD" application (for Apple) or the Oracle BI Mobile application (for Google), and tap the Install button.
3. On your device's Home screen, tap the Oracle BI Mobile icon. The end-user licensing agreement screen is displayed.
4. Scroll to read the licensing agreement, and if you agree to the terms, tap Accept.
5. On the Login screen or the Connections screen, tap the Add Server row (with the plus sign) or the Add button (the circled plus sign) to enter your initial server configuration settings.
6. In the Server Settings screen or the Connections screen, specify the following details. Contact your administrator for assistance in completing the fields.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name or Nickname</td>
<td>Give the server connection a name. Once you specify this name, you cannot change the name later.</td>
</tr>
<tr>
<td>Host</td>
<td>Enter the name of the server to connect to. Enter either the IP address (for example: 192.168.1.1) or the fully qualified host name of the computer on which Oracle BI Presentation Services is running (for example, host1.analytics.us2.oraclecloud.com). Do not enter a stand-in URL, such as tinyurl.com/1234 that redirects to a server.</td>
</tr>
</tbody>
</table>
### Setting Description

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port</td>
<td>Enter the port number (for example, 443). Generally, you can accept the default value.</td>
</tr>
<tr>
<td>SSL</td>
<td>Leave this set to ON. The Secure Sockets Layer (SSL) protocol is configured on the entry point for the server for Oracle Business Intelligence Presentation Services by the system administrator.</td>
</tr>
<tr>
<td>SSO</td>
<td>Leave this set to ON. Single Sign-On (SSO) is configured on the entry point for the server for Oracle Business Intelligence Presentation Services by the system administrator.</td>
</tr>
<tr>
<td>Username</td>
<td>Accept the default value. You are prompted for your user name when you start to connect to the server.</td>
</tr>
<tr>
<td>Password</td>
<td>Accept the default value. You are prompted for your user name when you start to connect to the server.</td>
</tr>
<tr>
<td>Save Password</td>
<td>Accept the default value.</td>
</tr>
<tr>
<td>Device Locale</td>
<td>Accept the default value.</td>
</tr>
<tr>
<td>Analytics Path</td>
<td>Enter the path for starting Oracle BI Cloud Service (for example, <code>/analytics/saw.dll</code>). Generally, you can accept the default value.</td>
</tr>
</tbody>
</table>

7. On an Apple device, tap **Save**, then tap **Login**.

8. On an Android device, tap **Test Connection** if you want to try the server connection. Then tap **Done**.

Once you are signed in on an Apple device, you can modify your server configuration or add a new server connection by tapping the **Options** icon (in the branding bar) and then **Settings**. Once you are signed in on an Android device, you can modify your server configuration or add a new server connection by tapping the **Menu** icon (the three stacked squares), then **Connections**.

For information about using Oracle BI Cloud Service on mobile devices, see the Oracle Business Intelligence Mobile Help system that is available from within the mobile application.

### Top Tasks for Oracle BI Cloud Service

In Oracle BI Cloud Service, there are top tasks for exploring and analyzing.

**Tasks:**

- Top Tasks for Exploring
- Top Tasks for Analyzing

### Top Tasks for Exploring

The top tasks for exploring are identified in this topic.

- Choosing Data Sources
- Adding Data Elements to Visualizations
- Exploring Data Using Filters
Top Tasks for Analyzing

The top tasks for analyzing are identified in this topic.

- Finding and Exploring Your Content
- Creating Your First Analysis
- Creating Your First Dashboard
- Adding Interactivity to Analyses
- Formatting Columns
- Exporting Content from Analyses and Dashboards
- Adding Views
- Adding Content to Dashboard Pages
- Creating Column Prompts
- Adding Prompts to Dashboard Pages
Part II
Exploring Data in Visual Analyzer

This part explains how to explore data in Visual Analyzer.

Chapters:

- Getting Started with Visual Analyzer
- Exploring Your Content
- Adding Your Own Data
Getting Started with Visual Analyzer

This topic describes how to get started with Visual Analyzer.

Topics:

• About Visual Analyzer
• Accessing Visual Analyzer
• Searching for Content in Visual Analyzer

About Visual Analyzer
Oracle Business Intelligence Cloud Service Visual Analyzer is a web-based tool that enables you to explore Oracle analytics data visually and on an individual basis.

• Creating visualizations is easy in Visual Analyzer in that your data analysis work becomes more of an individual experience in exploration and discovery rather than an extended process of constructing views from data. Visual Analyzer enables you to experiment with a wealth of different options for how to view your data, and in this experimentation process, you find correlations, discover patterns, and see trends in your content.

• In Oracle BI Cloud Service, you can create detailed analyses and carefully curated dashboards, but Visual Analyzer provides you with a set of end-user tools for faster, simpler assembly of detailed reports arranged together in an appealing, meaningful display. Visual Analyzer goes even further to give you dynamic views for focused, exploratory interaction with your data. In addition, with Visual Analyzer’s capability to load external data sources, you get self-service data blending of governed enterprise data with your own files.

Accessing Visual Analyzer
You access Visual Analyzer from the Home page of Oracle BI Cloud Service.

1. Sign in to Oracle BI Cloud Service.
2. Click VA Projects on the Home page.
Visual Analyzer is designed for viewing both at a desk and on the move. You can work with Visual Analyzer in the Safari browser on the iPad and iPhone.

**Searching for Content in Visual Analyzer**

Visual Analyzer enables you to quickly and easily search for content to use in projects. Just enter the characters in a Search field, and Visual Analyzer automatically begins the search.

For example, you can use the Search field in the Data Elements pane to find all data elements that contain the word “Revenue”. Visual Analyzer returns matching results that are included in the data sources associated with the project.

![Search Field Example](image)

You can also use the Search field in the Data Sources pane to search for data source names and column names contained in uploaded data source files, and in the Visualizations pane to search for visualization names.
Exploring Your Content

This topic describes how to explore content in Visual Analyzer.

Video

Tutorial

Topics:

- Typical Workflow for Exploring Content
- Choosing Data Sources
- Adding Data Elements to Visualizations
- Adjusting the Canvas Layout
- Changing Visualization Types
- Adjusting Visualization Properties
- Undoing and Redoing Edits
- Reversing Visualization Edits
- Refreshing Visualization Content
- Exploring Data Using Filters
- Exploring Data in Other Ways
- About Composing Expressions
- Creating Calculated Data Elements
- Specifying How Visualizations Interact with One Another

### Typical Workflow for Exploring Content

Here are the common tasks for exploring content in Visual Analyzer.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select data sources</td>
<td>Select subject areas or external data sources for a project.</td>
<td>Choosing Data Sources</td>
</tr>
<tr>
<td>Add data elements</td>
<td>Add data elements from a selected data source to visualizations.</td>
<td>Adding Data Elements to Visualizations</td>
</tr>
</tbody>
</table>
Choosing Data Sources

Before you can begin to explore data in a project, you must select the source for that information. For example, if you want to explore product sales by region, you can select the Sample Sales subject area as the data source. You can select subject areas or external sources such as excel spreadsheets as your data sources.

To choose data sources in a project:

1. In the Add Source dialog, select a subject area, saved file, or upload a file that contains the measures and attributes you want to visualize. This dialog opens automatically when you create a new project.

   See also Adding Data from External Sources.

2. Click Add to Project.
Note: To add data sources to an existing project, click the Data Sources shelf tab, and then click the Add Data Source link.

Adding Data Elements to Visualizations
This topic describes how you add data elements to visualizations in Visual Analyzer.

Topics:
- Adding Data Elements to Drop Targets
- Adding Data Elements to Visualization Drop Targets
- Adding Data Elements to a Blank Canvas

Adding Data Elements to Drop Targets
After you select the data sources for your project, you can begin to add data elements such as measures and attributes to visualizations.

Note: To toggle the Explore pane on or off, click the Explore button on the project toolbar.
Here are some of the ways you can add data elements to drop targets:

- Click the Data Elements shelf tab, and then drag and drop one or more data elements to drop targets in the Explore pane. You can also double click data elements in the shelf to add them.

Visual Analyzer automatically positions the data elements in the best drop target in the Explore pane, and it may also change the visualization type to optimize the visualization layout.

**Note:** You can use the Ctrl key to select multiple data elements at a time.

- You can replace a data element in the Explore pane by dragging it from the shelf and dropping it over an existing data element already in the pane.
- You can swap data elements in the Explore pane by dragging a data element already inside the pane and dropping it over another data element in the pane.
- You can remove a data element from the Explore pane by clicking the X in the data element token.

**Note:** If you add an attribute to the Color drop target, it renders discrete colors in the canvas, whereas if you add a measure to that drop target, it only renders shades of a single color. When you perform these same actions on a Pivot visualization, the result is a heat map.

If you add multiple measures to the Values drop target, most of the visualizations render in a discrete color for each measure.

---

### Adding Data Elements to Visualization Drop Targets

You can use visualization drop targets to help you position data elements in the optimal locations for exploring content.

To add data elements to visualization drop targets:
• If you drag and drop a data element over to a visualization (but not on a specific drop target), Visual Analyzer shows you a blue outline around the recommended drop targets (Columns as shown below) in the visualization. If you drop the data element in the visualization, it is automatically shuttled to the best drop target. Also, you see a green plus icon next to the data element when it is over a valid drop target.

![Visualization with data element drop target](image)

**Note:** If you are not sure where to drag and drop any data element, simply drag and drop the data element anywhere over the visualization, and not to a specific drop target. Visual Analyzer automatically adds it to the best drop target in the canvas.

After you drop data elements into visualization drop targets or when you move your cursor outside of the visualization, the drop targets disappear.

• To display the drop targets again in the visualization, in the visualization toolbar, click **Assignment**. You can also do this to keep the visualization drop targets in place while you work.

![Visualization with drop targets](image)

For more information on adding, removing, or moving data elements, see Adding Data Elements to Drop Targets.
Adding Data Elements to a Blank Canvas

You can add data elements directly from the Data Elements pane to a blank canvas.

To add data elements to a blank canvas:

Drag one or more data elements to a blank canvas or between visualizations in the canvas. Visual Analyzer automatically creates a new visualization and selects the best visualization type and layout. For example, if you add time and product attributes and a revenue measure to a blank canvas, then Visual Analyzer places the data elements in the best locations and selects the visualization type of Line.

Note: If there are visualizations already in the canvas, then you can drag and drop data elements between them.

Adjusting the Canvas Layout

You can adjust the look and feel of visualizations in the canvas to make them more visually attractive. For example, you can create a visualization and then copy it to the canvas. You can then modify the data elements in the duplicated visualization, change the visualization type, and then resize it.

To adjust the canvas layout:

- To add additional visualizations to the canvas, click the Visualizations shelf tab, and drag and drop a visualization type from the Visualizations pane to the canvas. Alternatively, on the project toolbar, click Add Visualization. You can then position the new visualization adjacent to a single visualization or spanning multiple ones.

- To delete a visualization from the canvas, right-click it and select Delete.

- To rearrange a visualization in the canvas, drag and drop the visualization to the location (the space between visualizations) where you want it to go. The target drop area is highlighted in blue.

- To resize a visualization, use your cursor to drag the edges to size it.
• To copy a visualization in the canvas, right-click it and select **Copy**. To paste a copied visualization in the canvas, right-click the canvas and select **Paste**.

**Changing Visualization Types**

You can change visualization types to maximize the graphical representation of the data you are exploring.

Visual Analyzer automatically selects the visualization type based on the selected data elements. However, this is only true when you create a new visualization by dragging data elements to a blank area in the canvas. Once a visualization is created, dragging additional data elements to it won’t change the visualization type automatically.

To change visualization types:

1. Select a visualization in the canvas, and in the visualization toolbar, click **Visualization Type**.

   ![Visualization Type Button]

   **Note:** You can also add a new visualization to the canvas by dragging it from the Visualizations pane to the canvas.

2. In the View Select dialog, select a visualization type. For example, change the visualization type from Bar to Stacked Bar.

   **Note:** You can choose any visualization type, but the visualization types that are displayed in blue are the recommended ones based on the data elements you select and where they are positioned in the canvas.
When you change the visualization type, the data elements are moved to matching drop target names. If an equivalent drop target does not exist for the new visualization type, then the data elements are moved to a drop target labeled Unused. You can then move them to the drop target you prefer.

**Adjusting Visualization Properties**

You generally don’t need to make changes to the properties of your visualizations, because Visual Analyzer sets them for you automatically. You might want to make adjustments such as hiding the legend, or changing axis labels.

To adjust properties for a visualization:

1. In the active visualization toolbar, click **Actions**, and then select **Properties** to display the Properties dialog.

2. On the General tab, select the options to specify title formatting and enable and position the legend for the visualization.

3. In the dialog, click the Axis tab.

4. On the Axis tab, select which the options to affect the axis label titles and the start and end values for the axes.

5. In the dialog, click the Values tab.
6. On the Values tab, specify the appropriate options to specify how you want values handled in the visualization.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregation Method</td>
<td>Specifies the method for aggregating data in the visualization, such as Auto, Sum, or Average.</td>
</tr>
<tr>
<td>Number Format</td>
<td>Specifies number formatting in the visualization, such as Auto, Percent, or Currency.</td>
</tr>
</tbody>
</table>

7. In the dialog, click the Analytics tab.

8. On the Analytics tab, click Add and then select Add Reference Line to set reference lines and bands that display at minimum or maximum values of a measure included in the visualization.

9. In the dialog, click the Edge Labels tab.

10. On the Edge Labels tab, expand a data element in the visualization, and set Show Total to On to display row or column totals in the visualization or Off to hide them.

**Undoing and Redoing Edits**

You can quickly undo an action and then redo the action if you change your mind. For example, you could try a different visualization type when you don’t like the one you have just selected, or you can go back to where you were before a drill. These options are especially useful as you experiment with different visualizations.

To undo and redo visualization edits:

Click the Undo Last Edit or Redo Last Edit buttons on the project toolbar.

**Note:** You can also use Ctrl+Z to undo an edit and Ctrl+Y to redo it.

**Reversing Visualization Edits**

You can easily back out of the edits you make in a project. For example, if you move data elements to different drop targets in a visualization, and you decide you don’t like those changes, you can easily reverse your changes.

To reverse any edits that you made in a project since you last saved it:

Click Actions on the project toolbar and select Revert to Saved.
Refreshing Visualization Content

To see whether a newer set of data is available for exploration in a project, you can refresh the data source data. This action clears the data cache and reruns queries to retrieve the latest data from the data sources to display in the canvas.

To refresh the data that is displayed in a project:

Click Actions on the project toolbar and select Refresh Data.

Exploring Data Using Filters

This topic describes how you explore your content using filters in Visual Analyzer.

Topics:

- About Filters
- About Filter Types
- About Automatically Applied Filters
- Creating Filters
- Applying Range Filters
- Applying List Filters
- Applying Date Filters
- Building Expression Filters

About Filters

Filters help you understand your visualizations by reducing the amount of data that you are working with and by telling you what data you are looking at. In Visual Analyzer, filters determine the data set for all the visualizations in the canvas.

When you have multiple filters in the filter bar, you can re-order them by dragging them to different placements.

If visualizations are connected with a master-detail relationship, then you can click data in the master visualization to filter the detail visualization.

---

**Note:** The filters in the filter bar at the top of the canvas filter all visualizations in the canvas. If you turn off Synchronize Visualizations, then a filter bar is added above each visualization. This smaller filter bar applies only to that visualization. For more information, see Specifying How Visualizations Interact with One Another.

---

About Filter Types

You can apply filters of various types including Range, List, Date, and Expression. Visual Analyzer assigns different types of filters automatically based on the type of data you are filtering.

Here are the filter types you can use to explore content:
• Range filters are applied to data elements that are measures. Range filters limit data to a range of contiguous values, such as revenue of $100,000 to $500,000. Use histogram sliders for range filters to interactively adjust the range so as to understand how it relates to the value’s distribution. See Applying Range Filters.

• List filters are applied to all data elements that are dimensions, except for those of type Date. List filters limit data when you want to select discrete members of data elements. See Applying List Filters.

• Date filters use calendar controls to adjust time or date selections. You select a single contiguous range of dates. See Applying Date Filters.

• Expression filters enable you to set advanced filtering across multiple data elements. See Building Expression Filters.

About Automatically Applied Filters

The Auto-Apply option is set by default on list filters that you add.

When Auto-Apply Filters is on (checked), the selections you make in the filters are applied directly as you are in the process of making them. When Auto-Apply Filters is off (unchecked), the selections you make in the filters are not applied to the canvas until after you click the Apply button in the bottom-right corner of the list filter panel.

You can turn off Auto-Apply for list filters by hovering your mouse over the top right of the filter bar, clicking the Actions icon, and selecting Auto-Apply Filters.

Creating Filters

You can create filters yourself, and you can let Visual Analyzer apply filters automatically as a result of the actions that you take on visualizations, such as drilling.

To add a filter to a project:

• From the Data Elements pane, drag a data element to the filter bar.
• From the Data Elements pane, right-click a data element and select Create Filter.
• From the Explore pane, drag a data element to the filter bar.
• Optionally, add an expression filter as described in Building Expression Filters.

**Note:** When you work with visualizations that are part of master-detail relationships, your data selections in the master visualization apply a filter to all the other visualizations in the canvas. For more information on master-detail relationships and synchronizing visualizations, see Specifying How Visualizations Interact with One Another.
Applying Range Filters

Once you add a range filter to a visualization, you then can change the selections it includes.

To use a range filter:
1. In the filter bar, click the filter to view the Range list.
2. In the Range list, click By to view the Selections list.
   All members that are being filtered in the canvas have check marks next to their names.
3. Optionally, in the Selections list, for any selected member you want to remove from the list of selections, click the member.
   The check mark disappears next to the previously selected member you clicked.
4. Optionally, in the Selections list, for any non-selected member you want to add to the list of selections, click the member.
   The check mark appears next to the member you click.
5. Optionally, set the range you want to filter on by moving the sliders in the histogram. The default range is from minimum to maximum, but as you move the sliders, the Start field and End field adjust to the range you set.
6. Click off the filter to close the filter panel.

Applying List Filters

Once you add a list filter to a visualization, you can change the selected members it includes.

To use a list filter:
1. In the filter bar, click the filter to view the Selections list.
2. Optionally, to the left of the Selections list, use the Search field to find the members you want to add to the filter.
3. Scroll down the list of members (or through the Search results) and click once on a member to add it to the Selections list.
4. Optionally, add more members to the Selections list.
5. Optionally, in the Selections list, you can click a member to remove it from the list of selections, causing the member to be filtered out of the canvas.
6. Optionally, in the Selections list, you can click the eye icon next to a member to cause it to be filtered out of the canvas but not removed from the list of selections.
7. Optionally, click Add All or Remove All at the bottom of the filter panel to add or remove all members to or from the Selections list at once.
8. Click off the filter to close the filter panel.
9. Optionally, to clear the filter selections, right-click in the filter bar, and then select Clear Filter Selections.
10. Optionally, to remove the filter, right-click in the filter bar, and then select **Remove Filter**.

**Applying Date Filters**

Once you add a date filter to a visualization, you can change the selections it includes.

To use a date filter:

1. In the filter bar, click the filter to view the **Calendar Date** list.
2. In the **Start** calendar, select the date that begins the range on which you want to filter.
   
   Use the **Previous** arrow and **Next** arrow to move backward or forward in time, or use the drop-down lists to change the month or year.
3. In the **End** calendar, select the date that ends the range on which you want to filter.
4. Optionally, to start over and select new dates, click the **Action** icon and then select **Clear Filter Selections**.
5. Click off the filter to close the filter panel.

**Building Expression Filters**

If you want a free-form filter, you can build an expression. An expression filter is a special type of filter that allows you to specify the filter in the form of an expression that may reference one or more data elements.

You build expressions using Visual Analyzer’s Expression Builder. You can drag and drop data elements, and then choose operators to apply. Visual Analyzer validates the expression for you before you apply it.

To build an expression filter for an attribute or measure:

1. In the filter bar, click the Action icon and select **Add Expression Filter**.
2. In the Expression Filter panel, compose an expression. For more information, see **About Composing Expressions**.
3. In the Label field, give the expression a name.
4. Optionally, click **Validate** to check whether the syntax is correct.
5. Fix any errors, if necessary.
6. Click **Apply**. The expression is applied to the visualizations on the canvas.
7. Click off the filter panel to view your results in the canvas.

Another use of the Expression Builder is in creating calculations, but this is different from creating expression filters. If you want to create a calculation, see **Creating Calculated Data Elements**.

**Exploring Data in Other Ways**

While adding filters to visualizations helps you narrow your focus on certain aspects of your data, you can take a variety of other analytic actions to explore your data—
such as drilling, sorting, and selecting. When you take the analytic actions described in this topic, Visual Analyzer applies filters automatically for you.

Here are some of the analytic actions that you can take when you right-click content in visualizations:

- **Use Sort** to sort attributes in a visualization, such as product names from A to Z.
- **Use Drill** to drill to a data element, and you can drill through hierarchies in data elements, such as drilling to weeks within a quarter. You can also drill asymmetrically using multiple data elements. For example, you can select two separate year members that are columns in a pivot table, and drill into those members to see the details.
- **Use Drill to [Attribute Name]** to directly drill to a specific attribute within a visualization.
- **Use Keep Selected** to keep only the selected members and remove all others from the visualization and its linked visualizations. For example, you can keep only the sales that are generated by a specific sales associate.
- **Use Remove Selected** to remove selected members from the visualization and its linked visualizations. For example, you can remove the Eastern and Western regions from the selection.
- **Use Add Reference Line or Band** to add a reference line to highlight an important fact depicted in the visualization, such as a minimum or maximum value. For example, you might add a reference line across the visualization at the height of the maximum Revenue amount. You also might add a reference band to more clearly depict where the minimum and maximum Revenue amounts fall on the Revenue axis.

**Note:** To add a reference band to a visualization, right-click it and select **Add Reference Line** to display the Properties dialog. On the Analytics tab, in the **Method** field, toggle **Line to Band**.

---

### About Composing Expressions

You can compose an expression to use in an expression filter or in a calculation. For both expression filters and calculations, you use the Expression Builder. Expressions
that you create for expression filters must be boolean (that is, they must evaluate to true or false). Expressions that you create for calculations are not limited in this way.

**Note:** While you compose expressions for both expression filters and calculations, the end result is different. A calculation is a new data element that you can create and then add to your visualization. An expression filter, on the other hand, is just another filter that you can apply to the data in your visualization.

You can compose an expression in various ways:

- You can directly enter text and functions in the Expression Builder by typing.
- You can add data elements from the Data Elements pane (drag and drop, or double-click).
- You can add functions from the function panel (drag and drop, or double click).

**Creating Calculated Data Elements**

You can use the Add Calculation dialog to create a new data element—typically a measure—to add to your visualization. For example, you could create a new measure called Profit. This new data element might involve the Revenue and Discount Amount measures.

To add a calculation:

1. Launch the Add Calculation dialog in one of two ways:
   - At the bottom of the Data Elements shelf tab, click **Add Calculation**.
   - Right-click the My Calculations folder and select **Add Calculation**.

2. In the Expression Builder, compose an expression. See **About Composing Expressions**.

   For example, to create the new measure called profit, compose this expression:
   
   
   "Sample Sales Lite"."Base Facts"."Revenue"-"Sample Sales Lite"."Base Facts"."Discount Amount"
   
3. Optionally, click **Validate**.

   **Note:** If you click **Save** without first clicking **Validate**, Visual Analyzer validates the expression, and if the expression is invalid, it keeps the dialog open.

4. In the **Display** field, enter a data element name.

5. Click **Save**.

   The new data element is now created and you can use it in your visualizations as you would any other data element. For example, in visualization drop targets or in filters.
Specifying How Visualizations Interact with One Another

You can specify how visualizations interact with each other. Such interactions often involve master-detail relationships.

You use the Synchronize Visualizations setting to specify how the visualizations on your canvas interact. By default, visualizations are linked for automatic synchronization. You can turn off Synchronize Visualizations to unlink your visualizations for automatic synchronization.

- When Synchronize Visualizations is on (checked):

  All filters and actions that produce filters (such as Drill, Keep Selected, Remove Selected) are applied to all visualizations in the canvas. For example, if you have a canvas with multiple visualizations and you drill in one of the visualizations, a corresponding filter is added to the filter bar and it affects all visualizations on the canvas.

- When Synchronize Visualizations is off (unchecked):

  - The analytic actions such as Drill or Keep Selected affect only the visualization to which you applied the action. In this mode, the filters are displayed in a small filter bar above each visualization.

  - There is an additional option, Use as Master that is available from all visualizations' context menu. If Use as Master is turned on for a given visualization, then that one becomes the master visualization for the canvas. This means that selecting data in the master applies a filter to all other visualizations on the canvas.
Note: There can be zero or one master visualization per canvas.

When a visualization is set as the master, a circled blue M is displayed before its name.
Adding Your Own Data

This topic describes how to add your own data in Visual Analyzer.

Topics:

- Typical Workflow for Adding Data from External Sources
- About Adding Your Own Data
- About Characteristics for External Sources
- Adding Data from External Sources
- Blending Data that You Added
- Refreshing Data that You Added
- Updating Details of Data You Added
- Controlling Sharing of Data You Added
- Removing Data that You Added
- Deleting Data that You Added
- Managing Data Files

Typical Workflow for Adding Data from External Sources

Here are the common tasks for adding data from external sources.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add data</td>
<td>Add data from external sources.</td>
<td>Adding Data from External Sources</td>
</tr>
<tr>
<td>Blend data</td>
<td>Blend data from external sources with an existing subject area.</td>
<td>Blending Data that You Added</td>
</tr>
<tr>
<td>Refresh data</td>
<td>Refresh data when you know the external source was updated.</td>
<td>Refreshing Data that You Added</td>
</tr>
</tbody>
</table>
### About Adding Your Own Data

You can easily add data from external sources. Adding your own data is sometimes referred to as “mash-up.”

You can add data in these ways:

- **Add your own data to analyze on its own.**
  
  You can create a project that is based solely on data from an external source without adding that data to an existing data model in Oracle BI Cloud Service.

- **Add your own data as an extension to an existing subject area.**
  
  You can load data to Oracle BI Cloud Service from an external source that is related to an existing Subject Area. You may need to identify the columns that have common values so that Oracle BI Cloud Service can match external and Subject Area rows appropriately. You can "Add Facts" where a table includes measures - columns that are typically summed or averaged, or you can "Extend Dimensions" where a table includes no measures.

---

**Note:** You can match multiple external sources to a subject area, but you can’t match an external source to another external source.

---

Suppose that you have a subject area that contains data about sales, such as Products, Brands, and Salespeople. You have a spreadsheet file that contains Target Revenue sales figures, which do not exist in the subject area. You’d like to create a visualization that combines Product and Brand values from the subject area with the Target Revenue figures from your spreadsheet. When you add the data, you match the Product and Brand columns from the spreadsheet with those in the subject area and add Target Revenue as a measure. The matching connects the spreadsheet with the subject area. When you drag the three columns to the canvas, Visual Analyzer treats the data as if it is part of one integrated system.
When you add data to projects, Visual Analyzer uses the names and data types of the columns being added to guess the best way to blend the data for you. You can make manual adjustments if that guess is not appropriate. In Visual Analyzer, data modeling is implied rather than explicit. The system does the work for you, but you can make manual adjustments if you want to. For more information, see Blending Data that You Added.

When you blend external data files, the columns that you introduce behave as though they are part of the data model, even though you have not made any changes in Oracle BI Cloud Service. The data that you add is saved by name in Oracle BI Cloud Service. You can add the data to projects and share it with other users. You can delete the data from Oracle BI Cloud Service when you need to preserve space. For more information, see Deleting Data that You Added.

### About Characteristics for External Sources

A data source that you add must have certain characteristics.

The data must be from a Microsoft Excel spreadsheet file, with the XLSX extension (signifying a Microsoft Office Open XML Workbook file) and a maximum size of 1 MB. The files that you add are saved to your cloud system. Each user has a maximum allowed storage of 10 MB. All users in one organization have a maximum allowed combined storage of 100 MB.

**Note:** Before you can upload a Microsoft Excel file as a data source, it must be structured in a data oriented way. This includes avoiding null values in dimension attributes and deleting aggregate rows. Also, ensure that all values for a dimension are placed in a single column. For example, don’t include a column for January, another for February, and so on.
A data source either extends a dimension by adding attributes or extends facts by adding measures and optional attributes. Hierarchies cannot be defined in external data sources.

Various criteria apply to sources that extend a dimension by adding attributes:

- Matches can be made only to a single dimension.
- The set of values in match columns must be unique in the external data source. For example, if the data source matches on zip code, then zip codes in the external source must be unique.
- Matches can be between one or composite columns. An example of a one-column match is that “product key” matches “product key”. For composite columns, an example is that “company” matches “company” and “business unit” matches “business unit”.
- All other columns must be attributes.

Various criteria apply to sources that add measures:

- Matches can be made to one or more dimensions.
- The set of values in match columns does not need to be unique in the external data source. For example, if the data source is a set of sales matched to date, customer, and product, then you can have multiple sales of a product to a customer on the same day.
- Matches can be between one or composite columns. An example of a one-column match is that “product key” matches “product key”. For composite columns, an example is that “company” matches “company” and “business unit” matches “business unit”.
- The data source that adds measures can include attributes. You can use these attributes only alongside the external measures and not alongside the curated measures in visualizations. For example when you add a source with the sales figures for a new business, you can match these new business sales to an existing time dimension and nothing else. The external data might include information about the products sold by this new business. You can show the sales for the existing business with those of the new business by time, but you can’t show the old business revenue by new business products, nor new business revenue by old business products. You can show new business revenue by time and new business products.

When you save a project or an analysis, permissions are synchronized between the project or analysis and the external sources that it uses. If you share the project or analysis with other users, then the external sources are also shared with those same users.

Be aware of the effect of mixing columns that don’t match from data sources with a subject area. For example, suppose that you have a subject area that includes a Product attribute and an Orders attribute. You create a pivot table that includes those two attributes with a Revenue measure from a data source. The data source that includes the Revenue measure includes a Product column that matches the Product attribute in the subject area, but the data sources does not include an Orders columns. No Revenue data is shown in the pivot table for the Orders attribute.
Adding Data from External Sources

You can introduce your own external sources directly into a production reporting environment without changing the data model. Visual Analyzer automatically conforms the external data to the curated enterprise data.

You can add data to blend with an existing subject area or create a new project without a subject area that includes data from an external source. A project can contain one subject area with one or more external subject areas, or a project can contain one external subject area. Subject areas and external subject areas have separate, distinct icons in the Data Sources pane to help you identify them. For more information, see About Characteristics for External Sources.

To add data from an external source:

1. From the Home page in Oracle BI Cloud Service, click **VA Projects**.
2. On the Visual Analyzer Projects page, open or create a project.
3. Right-click the Data Sources pane, and select **Add Data Source**.
   
   ![Add Data Source](image)

   You can also click the **Add Data Source** link at the bottom of the Data Sources pane or right-click anywhere in the pane to display the **Add Data Source** option.

4. In the Add Source dialog, select either the **Data Files** tab (if the file is in saved storage) or click **Upload File** (if the file is stored locally).

   ![Add Source Dialog](image)

   **Note:** When you select to add a saved file and already have a subject area for the project, you see a list of those saved files that are already connected by default. You can select and add a source that is not connected.

5. Select the appropriate file and click **Add to Project**.

   If you selected a saved file on the Data Files tab, then the external data source is added to the project and you can skip the remaining steps.

6. In the **Upload a File** dialog, click **Select File** to select a locally stored file.

7. If the file contains multiple sheets, select the sheet with the data you want to load.
8. When uploading a source for the first time, edit the source names and descriptions to be more meaningful to you.

9. Preview a sample of the data. Visual Analyzer automatically matches columns in the external source with the appropriate items in the data model. Note how columns will be added as measures, as attributes, or matched with an existing column in the subject area.

10. To exclude a column, hover over the column name and click the check mark. **Note:** A column that is unavailable and marked with a red information symbol is invalid and will be excluded. You can hover over the symbol to learn the reason why the column is invalid.

11. Click **Add to Project** to accept the data associations. See **Blending Data that You Added** for details on manually editing data associations.

The data model expands to include the data from the source that you added. **Note:** You can load a new data set independently of an existing subject area, which means that you can analyze almost any data in Visual Analyzer. From the project toolbar, click **New Project**. In the Add Source dialog, select an existing file from saved storage or upload the file from a local disk.

**Blending Data that You Added**

You might have a project that includes data from a subject area and find that an external source includes data that enhances that subject area. You can blend the data from the external source with the subject area after adding the data to the project.

For example, the external source might contain new dimensions that extend the attributes of the subject area or new facts that you can use alongside the measures that already exist in the subject area. When you add data from external sources, Visual Analyzer tries to find matches for the data that is added. Visual Analyzer automatically matches external dimensions where they share a common name and have a compatible data type with attributes in the subject area. You can also fine-tune the blending of the data from the external source into the subject area.

To blend data that you added:

1. Add data as described in **Adding Data from External Sources**.

2. In the upper-right corner of the project’s title bar, click **Source Diagram**.
3. Click the number along the line that connects the external source to the subject area to display the Connect Sources dialog.

4. In the Connect Sources dialog, make changes as necessary.
   
a. To change the match for a column, click the name of each column to select a different column from the external data source or from the subject area.

   **Note:** If columns have the same name and same data type, then Visual Analyzer recognizes them as a possible match. You can customize this and specify that one column matches another by explicitly selecting it even its name is not the same. You can select only those columns with a matching data type.

b. Click **Add Another Match**, then select a column from the external source and from the subject area to match.
c. For a measure that you are uploading for the first time, specify its aggregation type such as Sum or Average.

See Specifying Aggregation for Measures in Fact Tables for descriptions of aggregation types.

d. Click the X to delete a match.

5. Click OK to save the matches from the external source to the data model on the server.

Refreshing Data that You Added

After you add data, you might need to refresh the data from its source if you learn that it has changed.

To refresh data that you previously added, you must ensure that the newer spreadsheet file contains a sheet with the same name as the original one. In addition, the sheet must contain the same columns that are already matched with the subject area.

In Visual Analyzer, you can completely replace data that you previously added, if you add new data to the data source and rename that data source the same as the existing one. You are prompted to verify that you want to overwrite the existing data and it doesn’t matter whether the sheet name or columns match.

To refresh data that you added:

1. In the Data Sources pane of Visual Analyzer or the Subject Areas pane of Oracle BI Cloud Service, right-click the data that you want to refresh.

2. Select Reload Data.

3. In the dialog, select the source that contains the newer data and click Open.
4. Review the data to refresh and click **OK**.

The original data is overwritten with new data, which is displayed in visualizations in the project or analysis, once the visualization is refreshed.

**Updating Details of Data You Added**

After adding data, you can inspect its properties and update details such as its description and aggregation.

1. In the Data Sources pane of Visual Analyzer, right-click the data and select **Inspect**.

2. Inspect the properties and update the description of the data as appropriate.

3. In the Columns area, specify whether to change a column to measure or attribute as appropriate. For measures, specify the aggregation type, such as Sum or Average.

   See Specifying Aggregation for Measures in Fact Tables for descriptions of aggregation types.

4. To specify if others can share the data, see **Controlling Sharing of External Subject Areas**.

5. Click **OK** to save your changes to the data model.

**Controlling Sharing of Data You Added**

After you add data, the data is visible only to you as the user who uploaded and owns it. You as the owner or other users with appropriate permissions can specify the data as a shared resource that other users who have access to the server environment can include immediately in projects. You control which users can share the external data.

To control sharing of external data:

1. In the Data Sources pane, right-click the external data and select **Inspect**.

2. In the Permissions tab, double-click a user or role to grant access.

   Select the appropriate level of access: Full Control, Modify, Read, or No Access.
3. In the Permissions tab, click the X beside a user or role to remove it from the selection of permissions that you are managing.

Removing Data that You Added

You can remove data that you have added from an external source.

If you remove data, it is removed from the project or analysis. Removing data differs from deleting data, as described in Deleting Data that You Added.

To remove data that you added:

1. In the Data Sources pane of Visual Analyzer or the Subject Areas pane of Oracle BI Cloud Service, right-click the data that you want to remove.

2. Select Remove from Project or Remove from Analysis to remove data from the list.

Deleting Data that You Added

You can delete data that you have added, when you need to free up space in cloud storage.

Deleting permanently removes the external source from cloud storage. You can only delete external sources. You cannot delete subject areas that you have included in projects or analyses. Deleting data differs from removing data, as described in Removing Data that You Added.

To delete data that you added:

1. In the Data Sources pane of Visual Analyzer or the Subject Areas pane of Oracle BI Cloud Service, right-click the data that you want to remove.

2. Select Delete to erase the data from cloud storage.
Note: You can also delete external data sources from the Data Sources page. See Managing Data Files.

Managing Data Files

You’ll find all the file based sources you’ve uploaded for analysis on the Data Sources page. From here, you can view file properties, see columns in the data file, change column properties such as the aggregation type, share your files with others, and delete any files you longer need. An indicator displays at the bottom of the page to help you keep track of the dataset quota.

Note: The data storage quota and space usage information displayed on the Manage Datasets page reflects the quota for the entire service.

You might see additional data files that other people have shared with you. The actions you’re allowed to perform on these files will depend on the permissions granted to you: Read, Modify, or Full Control.

To view and manage data files:

1. On the Home page, click Console and then Manage Datasets.

2. On the Data Sources page, click a data file to select it. For example, select the XSA Dim Products_Dim_Lite data file.

3. Click Actions icon, and then select Inspect.

4. Review the columns in the data file. On the Data Source dialog Overview tab, you can change the data file description and column properties. For example, for the Product Number column, you can change the Aggregation type to Minimum.
5. Optionally, change whether to treat the columns as measures or attributes. You can’t change how a column is treated if it is matched to a measure or attribute in your data model. For more information on removing matches, see Blending Data That You Added.

6. Click the Permissions tab if you want to share your data file with other people. Click the user (or role) you want, and then choose either Read, Modify, or Full Control. See also Controlling Sharing of Data You Added.

Note: With Full Control permissions, you can grant permissions to others and delete the data file. Be careful not to delete a data file that is still a data source for reports. See Deleting Data that You Added.
7. Click OK.
Part III

Reporting Data in Oracle Business Intelligence Cloud Service

This part explains how to work with reports of data in Oracle BI Cloud Service.

Chapters:

- Creating Analyses
- Viewing Data in Different Ways
- Building Dashboards
- Filtering and Selecting Data for Analyses
- Prompting in Analyses and Dashboards
- Making Analyses Interactive
- Accessing and Organizing Catalog Content
Creating Analyses

This topic describes how to create an analysis for Oracle BI Cloud Service.

Video

Topics:

- Typical Workflow for Creating Analyses
- Creating Your First Analysis
- Setting Properties for Columns
- Exporting Content from Analyses and Dashboards
- Editing Formulas or Calculated Measures
- Adding Data from External Sources to Analyses
- Blending Data that You Added to an Analysis
- Setting Properties for Analyses
- Setting Your Preferences
- Advanced Techniques: Importing Formatting from Another Analysis
- Advanced Techniques: Combining Columns to Display Data Differently
- Advanced Techniques: Examining the Logical SQL Statements for Analyses
- Advanced Techniques: Referencing Stored Values in Variables

Typical Workflow for Creating Analyses

Here are the common tasks to start creating analyses.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create an analysis</td>
<td>Select and arrange columns that you want to use in an analysis.</td>
<td>Creating Your First Analysis</td>
</tr>
<tr>
<td>Set properties for columns</td>
<td>Specify properties such as heading and value formats, display of data, and conditional formatting.</td>
<td>Setting Properties for Columns</td>
</tr>
</tbody>
</table>
Creating Your First Analysis

You can quickly create an analysis to query against your organization's data. The analysis results help you answer your business questions. For example, you can create an analysis using the SampleApp subject area Brand and Revenue columns. You then review the results of the analysis to answer key business questions about the revenue generated by product brand.

Video

Tutorial

To quickly create an analysis:

1. On the Home page, click **Create**.

2. Select **Analysis**, and then select a subject area.

3. Optionally in the Subject Areas pane, click **Sort Subject Area**, then select **A to Z** to sort in ascending order. Select **Z to A** to sort in descending order. Select **Sort in Saved Order** to return the list order to its original state.

4. Add the columns that you want to include in the analysis by dragging and dropping them from the Subject Areas pane to any position within the Selected Columns pane.
5. To change the column order, use the crosshairs on the column to drag and drop the column to a different position.

6. To remove the column, use the Selected Columns pane, click **Options** beside the column name, and then click **Delete**.

Tip:
Instead of removing columns, you can hide the columns whose appearance adds no value to the analysis. For information, see Setting Properties for Columns.

7. Click the Results tab to see the results of the analysis in a table or pivot table.
8. Click **Save Analysis** to display the dialog to save the analysis.

9. In the Save As dialog, select a folder and specify a name and optional description for the analysis. If you want others to be able to view the analysis, then save it in a folder under the **Company Shared** folder. If you don’t want anyone else but yourself to be able to view the analysis, then save it in **My Folders**.

10. Click **Refresh** at the bottom of the pane to double-check that the analysis is listed under the folder in which you saved it.

### Setting Properties for Columns

When you build an analysis, you can edit column properties to control the look and feel of the column. For example, you can specify that values in the Revenue column are displayed with two decimal places and a dollar sign.

To set column properties:

1. Open the analysis for editing.

2. In the Selected Columns pane, click **Options** beside the column name, and then select **Column Properties**.

3. Specify how you want column values to be displayed. For more information, see **Applying Formatting to Content**.

4. Format column headings and custom text, and add data display conditions. For more information, see **Formatting Columns**.

5. Specify what action you want to happen when a user clicks a column heading or value. For more information, see **Adding Interactivity to Analyses**.

6. Set default column formatting. For more information, see **Setting Default Formats for Your System**.

7. Click **OK**.
Applying Formatting to Content

You can apply basic formatting to values in many types of content including columns, views, and dashboard page sections.

For example, you might want region names in a column to be displayed as Arial 14 point and red. You might also want state names to be displayed as Calibri 12 point and blue.

To apply formatting to content:

1. Open the analysis and open a column for format editing. The Column Properties dialog, Style tab is displayed.

2. Specify the style characteristics of the column such as font, cell alignment, and border.

3. Optionally, save the formatting for this column as the system wide default format. For more information, see Setting Default Formats for Your System.

4. Optionally, at the top of the dialog, click Clear Cell Format to remove the specifications that you have made and to return the settings to the values that they had when defaults were last saved. To format multiple objects in the same way, click Copy Cell Format, and then paste the formatting to the appropriate place.

5. Click OK.

Formatting Columns

When you create 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.

For example, you can specify that values that exceed $1 million in the Revenue column are displayed with a green background.
To apply formatting to a column:

1. Open the analysis and then open the column for format editing.

2. In the Column Properties dialog, click the Column Format tab.

3. To hide the column in the analyses without affecting value aggregation, select the Hide check box.

   For example, you might want to build an analysis that includes only Illinois customers. You can hide the Customers.State column because you only added this column for filtering purposes and its appearance adds no value to the analysis.

4. To enter your own values in the Folder Heading and Column Heading fields, select the Custom Headings check box. You can use these fields to reference variables and format the heading values. These values identify the column in the analysis.

   For more information, see Advanced Techniques: Referencing Stored Values in Variables.

5. To affect the display of repeating data values for the column, select one of the Value Suppression options.

   When the same value occurs in multiple consecutive rows, you can specify to show that value only once. When you do this, it can make it easier to see the relationships in the data. For example, suppose that one column lists customer names and another column lists the regions that those customers are in. The region data could be repeated for each customer row. If you specify to not display repeated values, then the distinctions in that data can be more apparent.

6. To override the default display of data for the column, click the Data Format tab.

   The options on the tab differ depending on the data type. For the text data type, the tab includes the Treat Text As and Custom Text Format fields. From the Treat Text As list, you can select to display the values as plain text, HTML, or a link. Based on your choice, the "Custom Text Format" field displays the applicable HTML string used to display the data.

   If you select Custom Text Format, then you can write HTML calls that provide formatting. You can also enter any valid HTML string, including JavaScript, VBScript, and so on. The first character must be the at sign (@). This character enables devices that are incapable of displaying the custom format to display the data in the appropriate default format.

   For example, the following sample HTML code sets the width and height of a column in tables and pivot tables. In the example, the text html enclosed in brackets ([html]) means to use HTML. The at sign character represents the dynamic contents of the column.

   ```
   @[html]<span style="width:200px; height:50px">@</span>
   ```

7. To specify if column values are displayed in a certain way based on certain criteria, click the Conditional Format tab. Conditional formats can include colors, fonts, images, and so on, for the data and for the cell that contains the data.

   **Note:** You cannot apply conditional formatting to the data cell background or font color in a heat matrix.
8. Click **Add Condition**, and then select a column. The New Condition dialog is displayed.

![New Condition Dialog]

9. Select an operator such as **is equal to** / **is in** or **is greater than**.

10. Specify a value for the operator by either entering a value directly (such as 1000000) or by selecting a value from the list.

11. Optionally, click **Add More Options** to add a variable to the condition. For information, see Advanced Techniques: Referencing Stored Values in Variables.

12. Specify the formatting to apply when the condition is true, as described in Applying Formatting to Content.

13. Click **OK**.

### Making Your Analyses Dynamic

You can specify what you want to happen when a user clicks a column heading or value in an analysis. For example, you could specify that when a user clicks the Product column value, it drills down into the data that was summed to create the column value.

![Video]

**Video**

**Topics:**

- Adding Interactivity to Analyses
- Making Interactions Available

### Adding Interactivity to Analyses

In analyses, views that display data are not static. You can make views dynamic by specifying the interactions that are available to those who left-click in a view or right-click to display a popup menu.

The default primary interaction is a left-click that drills down to detail in the data, if data is hierarchical.

Other interactions are available as options on a right-click popup menu. These interactions can include displaying a web page and linking views such that one view drives changes to data in one or more other views. You can also specify that no interactions are available.

For example, you can specify the default primary interaction (the left-click action) for the Region column as **Drill**. This enables you to drill down to information by state by left-clicking in the column.
To add interactivity to an analysis:

1. Open the analysis for editing.

2. In the Selected Columns pane, click **Options** beside the column name, and then select **Column Properties**.

3. In the Column Properties dialog, click the Interaction tab.

   ![Column Properties dialog]

   The default primary interaction for column headings and values in views is **Drill**, which enables users to drill down to more detailed information.

4. Optionally, select an interaction from the drop-down menu in the Column Heading section.

5. Optionally, select a primary interaction from the menu in the Value section.

   ![Column Interaction Options]

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Action</th>
<th>More information</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Disables all interactions on the column.</td>
<td>None</td>
</tr>
<tr>
<td>Drill (Default)</td>
<td>Displays a deeper level of detailed content if the data is hierarchical. If no hierarchy is configured for the column, then drilling is not enabled.</td>
<td><a href="#">Drilling in Results</a></td>
</tr>
<tr>
<td>Action Links</td>
<td>Opens a web page or navigates to supporting BI content.</td>
<td><a href="#">Adding Actions to Analyses</a></td>
</tr>
<tr>
<td>Send Master-Detail Events</td>
<td>Links views so that one view drives changes in one or more other views.</td>
<td><a href="#">Linking Views in Master-Detail Relationships</a></td>
</tr>
</tbody>
</table>

6. Click **OK**.

You can specify the interactions that are available at runtime when you right-click a dashboard column or data cell. Here’s an example of the available interactions when you right-click a product name in the Products column. This column is in a Top Product Performers Based on Revenue table.
Of the selections shown, you can set Drill, Create Group, and Create Calculated Item.

Making Interactions Available

When you add interactions to analyses, you then make those interactions available to others in popup menus.

To make analyses interactions available to others:

1. Open the analysis for editing.
2. Click either the Analysis editor: Criteria tab or Analysis editor: Results tab.
3. Click Edit Analysis Properties on the toolbar.
4. Click the Interactions tab of the Analysis Properties dialog.
5. Select the appropriate interactions from the list.
6. Click OK.

Setting Default Formats for Your System

If you have the appropriate privileges, then you can save the formatting of a column as default formatting. When you set a system-wide default, it can provide users with a more consistent experience and save them time when working with analyses.

For example, suppose that your organization 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 system-wide default for text columns. All existing analyses that contain text columns in which the font family is specified as Default (Arial) are updated automatically. You specify a specific value, such as Arial, only when you are certain that you want that value rather than the system default value.

A best practice is to change the default value rather than overriding the default with specific values.

To set default column formatting:

1. Open the analysis for editing.
2. In the Selected Columns pane, click Options beside the column name, and then select Column Properties.
3. In the Column Properties dialog, select an option to create the column formatting.

<table>
<thead>
<tr>
<th>Option</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restore column property defaults</td>
<td>Returns the property values for the column back to the last saved default values.</td>
</tr>
<tr>
<td>Save as the system-wide default for this column</td>
<td>Save the properties as the system-wide default for this column in all analyses in which it is used.</td>
</tr>
<tr>
<td>Save as the system-wide default for this data type</td>
<td>Save the properties as the system-wide default for all columns that have the same data type as this column.</td>
</tr>
</tbody>
</table>

Note:
You cannot save and restore the settings on the Column Properties dialog, Conditional Format tab.

You can change a column format option if the value is set to Default (System). The column acquires whatever is currently set as the system default value.

4. Click OK.

Exporting Content from Analyses and Dashboards
You can export content from analyses and dashboards.

Topics:
- Exporting the Results of Analyses
- Exporting Dashboards and Dashboard Pages
- Tips for Exporting

Exporting the Results of Analyses
You can export analyses results to various formats, including Microsoft Office Excel and Adobe PDF.

For example, you can export a Stock Control analysis, so that one of your suppliers can see the results in Microsoft Excel.
To export the results of an analysis:

1. Open the analysis for editing.
2. Click Export this Analysis.
3. Select the export option that you want, such as export to a PDF file, an Excel spreadsheet, or a PowerPoint presentation. Select Data to export data as a comma-separated or tab-delimited list of values in a file. You can then open the file in an application such as Excel. Select Web Archive to export as an MHT file that you can display in a browser.

You can also export an analysis from a dashboard page by clicking Export below the analysis. The Export link is available only if the dashboard designer included the link.

**Exporting Dashboards and Dashboard Pages**

You can export an entire dashboard or a single dashboard page to Microsoft Excel 2007+. When you export dashboard content to Microsoft Excel, the state of the dashboard (such as prompts or drills) won’t change.

For example, you can export the dashboard page that contains the Brand Revenue analysis. This enables brand managers to review this data in Microsoft Excel.

To export a dashboard or a dashboard page:

1. Open the dashboard or dashboard page that you want to export.
2. On the Dashboard page toolbar, click Page Options, select Export to Excel, and select either Export Current Page or Export Entire Dashboard.

If you export an entire dashboard:

- Each page is included on its own sheet in an Excel workbook.
- Each sheet is given the name of its corresponding dashboard page.

3. Use the File Download dialog to open or save the dashboard or dashboard page as a spreadsheet file.

**Tips for Exporting**

Here are some tips to keep in mind as you export analyses, dashboards, and dashboard pages.

- By default, the Value Suppression option in the “Column Properties dialog: Column Format tab” determines if the cells in tables or pivot tables that span rows and cells that span columns are repeated when exporting to Excel (rather than always repeated). Do not suppress values when exporting to Excel if those who use the Excel spreadsheets want to manipulate the data.
  - If Value Suppression is set to Suppress, then cells that span rows and cells that span columns are not repeated. For example, in a table that has Year and Month values, Year is displayed only once for Month values. This value suppression is useful if you want to simply view data in Excel spreadsheets.
  - If Value Suppression is set to Repeat, then cells that span rows and cells that span columns are repeated. For example, in a table that has Year and Month values, Year is repeated for all Month values.
• By default, when you export to PDF, rows are split across page breaks rather than kept together.

• You can export as many as 65,000 rows of data from an analysis in a Comma Separated Values (CSV) file format. You can export as many as 1,000 rows of data into a file formatted with Microsoft Excel (.xlsx) format.

• Action links are not included in exported formats, for example, Excel and PDF.

• Data values (that is, numbers and dates) are exported in raw format with full number precision and format mask, rather than as a string in the data format specified, when exporting to Excel.

• While you can export directly to an Excel format, you might notice better performance during the export of large numbers of rows if you export first to CSV, and then import that file into Excel.

Editing Formulas or Calculated Measures

You can fine-tune the columns in an analysis by editing the formulas of columns or editing calculated measures.

Topics:
• Editing the Formula for a Column
• Editing Calculated Measures

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.

A column formula specifies what the column values represent. In its most basic form, such as "Revenue Metrics"."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, you can edit the formula of a Revenue column to display values after a 10% increase in revenue. You can do this by writing a formula that multiplies the Revenue column by 1.1.

To edit the formula for a column:

1. Open the analysis for editing.

2. In the Selected Columns pane, click Options beside the column name, and then select Edit Formula.
3. On the Column Formula tab of the Edit Column Formula dialog, enter a formula in the Column Formula pane.

By default, the name of the column on the Selected Columns pane is displayed in the Column Formula pane.

- You can use the operator and character buttons on the bottom of the Column Formula pane to help build the formula.

- You can use the f(...) button to display the Insert Function dialog that enables you to include a function in the column formula. For example, you can build a formula based on a SQL function, such as RANK("Sales Measures"."Dollars"). For information about SQL functions, see Expression Editor Reference.

- You can use the Filter... button to display the Insert Filter dialog that enables you to include a filter expression in the column formula. Start the filter expression with at least one measure column. Include a Boolean expression that contains no measure columns or nested queries.

  For example, you can build a formula that uses the SQL FILTER function to filter the data, such as FILTER("Sales Measures"."Dollars" USING ("Markets"."Region" = 'EASTERN REGION').

- You can use the Variable button to include a variable in the formula. For information, see Advanced Techniques: Referencing Stored Values in Variables.

- You can reference a column name in the formula using the form Folder-Name.Column.Name. If either the folder name or the column name includes non-alphanumeric characters (such as spaces or underscores), then enclose each name in double quotes. You can enclose the names in double quotes even if they have all alphanumeric characters.

- You use single quotes to include literals or constants that have a data type of string. For example, you can include constants such as ‘John Doe’ or ‘Best Selling Product’ in a formula.
4. Optionally, in the Subject Areas pane, double-click a column to replace the column name in the Column Formula pane. This action creates a new formula.

5. Optionally, click the Bins tab to perform "binning," which enables you to combine values for the column into sets. For example, suppose that the Region column has a value EASTERN. You can specify "My Home Region" instead as the text that displays for that value in a view. Binning differs from groups in that groups enable the view to display each member in the group.

Click Add Bin to display the dialog for creating a filter expression to display as a CASE statement in the column's formula. You can combine multiple values or ranges of values from a given column into bins. When you add and name the bins, all instances of the various values that comprise the bin in the result set values are replaced by the bin name. Aggregations are performed accordingly as well. For example, you can specify that all values over $10M are displayed as "My10M."]

Note:
The Bins tab is not affected by the button bar in the Formula area in the Formula tab. However, if you create a CASE statement using the Bins tab, the button bar is hidden when you click the Column Formula tab. You must clear all bins to display the button bar.

6. Click OK. On the Analysis editor: Results tab, the column displays its values with the formula applied.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Revenue</th>
<th>Revenue*1.12</th>
</tr>
</thead>
<tbody>
<tr>
<td>BiTech</td>
<td>318,000,000</td>
<td>350,510,000</td>
</tr>
<tr>
<td>FunPad</td>
<td>320,000,000</td>
<td>354,200,000</td>
</tr>
<tr>
<td>Homeflex</td>
<td>159,900,000</td>
<td>175,840,000</td>
</tr>
</tbody>
</table>

**Editing Calculated Measures**

You can use calculated measures that are derived from other measures and created by using formulas.

For example, you might need to find the value after discounts are taken off the revenue. You create a calculated measure that subtracts the Discounted Amount from the Revenue value.

To create a calculated measure for an analysis:

1. Open the analysis for editing.

2. On the Analysis editor: Results tab, click **New Calculated Measure** on the toolbar to display the dialog.
3. Edit the formula for the calculated measure as described in Editing the Formula for a Column.

4. Click OK.

Adding Data from External Sources to Analyses
You can introduce your own external sources directly into a production reporting environment without having to change the data model. Oracle BI Cloud Service automatically conforms the external data to the curated enterprise data. Adding your own data is sometimes referred to as “mash-up.”

Tutorial
You can add data into an existing subject area or create a new analysis without a subject area that includes data from an external source. An analysis can contain no subject areas and one external subject area, or one subject area with multiple external subject areas. Subject areas and external subject areas have separate, distinct icons in the Criteria tab of the Analysis editor to help you identify them. For more information, see About Characteristics for External Sources.

To add data from an external source to an existing analysis:

1. Open the analysis for editing.

2. In the Criteria tab, click Add Data Source.

3. In the dialog, select the file that contains the data to add and click Open.

4. If the file contains multiple sheets, then select the sheet with the data to load and click OK.

5. Edit the values in the Data Source Name and Description fields to be more meaningful to you.
6. Select whether to add columns that add measures to facts or that extend dimensions by adding attributes.

7. Preview a sample of the columns and values from the external source. Oracle BI Cloud Service automatically matches columns from the external source with the appropriate items in the data model. Note how columns will be added as measures, as attributes, or matched with an existing column in the subject area.

8. To exclude a column from being added, deselect the box beside the column name.

**Note:** A column that is unavailable and marked with a red information symbol is invalid and excluded from being added to the data source. You can hover over the symbol to learn the reason why the column is invalid.

9. Click **Load** to accept the data associations that have occurred automatically or see Blending Data that You Added to an Analysis for details on manually editing the associations.

**Note:** To create an analysis that uses only data from an external source, on the Home page, click **Create**, select **Analysis**, and then select **Add Data Source**. Select the data to include.

After adding data, you perform various tasks:

- Blending Data that You Added to an Analysis
- Refreshing Data that You Added
- Removing Data that You Added
- Deleting Data that You Added

**Blending Data from External Sources to Analyses**

You might have an analysis that includes data from a subject area and find that an external source includes data that enhances that subject area. You can blend the data from the external source with the subject area.

For example, the external source might contain new dimensions that extend the attributes of the subject area or new facts that you can use alongside the measures that already exist in the subject area. When you add data from external sources, Oracle BI Cloud Service tries to find matches for the data that is added. Oracle BI Cloud Service automatically matches external dimensions where they share a common name and have a compatible data type with attributes in the subject area. You can also fine-tune the blending of the data from the external source into the subject area.

To blend data that you added to an analysis:

1. Add data as described in Adding Data from External Sources to Analyses.

2. In the Subject Areas pane of Oracle BI Cloud Service, right-click the data and select **Inspect**.

3. For each column, select either **Match with**, **Add Measure**, or **Add Attribute**. For matches, select the column in the subject area to match. For a measure that you are uploading for the first time, specify its aggregation type such as Sum or Average.
See Specifying Aggregation for Measures in Fact Tables for descriptions of aggregation types.

**Note:** If columns have the same name and same data type, then Oracle BI Cloud Service recognizes them as a possible match. You can customize this and specify that one column matches another by explicitly selecting it even its name is not the same. You can select only those columns with a matching data type.

4. To exclude a column from being added, deselect the box beside the column name.

5. Click **Update** to confirm your changes.

**Setting Properties for Analyses**

You can set analysis properties to specify how results are displayed and how data is handled. You can also set which actions are available when users right-click in a pivot table, table, heat matrix, treemap, or trellis view.

For example, you can create a custom message for the Brand Revenue analysis. This message could display when a filter on the Revenue column is too restrictive and no results are displayed.

To set properties for an analysis:

1. Open the analysis for editing.

2. In the Criteria tab toolbar or the Results tab toolbar, select **Edit Analysis Properties** to display the Analysis Properties dialog.

![Analysis Properties dialog](image.png)

3. On the Results Display tab, select options to affect the display of results. For example, select **No Results Settings** to specify the default or custom message that display if no results are returned when you run the analysis. You might see the message, for example, if you have a very restrictive filter placed on the columns in the analysis. You do not see the custom message if you simply create the analysis without including columns.

4. In the dialog, click the Interactions tab.

5. Specify which actions (for example, **Drill**) are available when you right-click in a pivot table, table, graph, heat matrix, treemap, or trellis view.
6. In the dialog, click the Data tab.

![Analysis Properties](image)

7. On the Data tab, specify the appropriate options to specify how you want the data handled in the analysis.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include Null Values</td>
<td>Specifies if null values are displayed in the analysis when the entire row or column contains all nulls. If you select this checkbox, null suppression is turned off for all views. This suppression applies to the entire edge (that is, the row and column axis) of the analysis.</td>
</tr>
</tbody>
</table>
| Display of Columns Added in Criteria Tab | Specifies how columns are added to an analysis from the Criteria tab after displaying the analysis results:  
  • Display in existing and new views  
  • Exclude from existing views, but display in new views |

8. Click OK.

### Setting Your Preferences

While working with Oracle BI Cloud Service, you can set account preferences to reflect where you live and to support how you work.

For example, you might select a specific Sales Dashboard as your starting page and Pacific Standard Time as your time zone. By specifying a starting page, you can get to Oracle BI Cloud Service and start working with your dashboard right away.

To set preferences:

1. In the global header, click **Signed In As username** and select **My Account**.
2. Use the tabs of the My Account dialog to specify preferences, such as your starting page, locale, and time zone.
3. Click **OK** to save your changes.

### Advanced Techniques: Importing Formatting from Another Analysis

You can import formatting from a saved analysis and its views to format new or existing analyses. Most people don’t need to perform this task.

For example, suppose that you have applied different colors to the Store, City, and Product columns of the Last Year’s Brand Revenue analysis. You can import formatting from that analysis to apply colors to the This Year’s Brand Revenue-2013 analysis.
You apply formatting by using the **Import Formatting** button from two toolbars:

<table>
<thead>
<tr>
<th>Location</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compound Layout toolbar</td>
<td>Applies formatting to all applicable views in the layout.</td>
</tr>
<tr>
<td>View editor toolbar</td>
<td>Applies formatting only to the view that you are editing.</td>
</tr>
</tbody>
</table>

The following table describes the views from which you can import formatting:

<table>
<thead>
<tr>
<th>View Type</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narrative</td>
<td>Imports only the text font color.</td>
</tr>
<tr>
<td>Pivot table, table, and trellis</td>
<td>Imports formatting for the columns, green bar specifications, sub-totals and grand totals, and section properties.</td>
</tr>
<tr>
<td>Static text</td>
<td>Imports only the text font color.</td>
</tr>
<tr>
<td>Title</td>
<td>Imports formatting for the title, logo, subtitle, start time, and help URL.</td>
</tr>
<tr>
<td>View Selector</td>
<td>Imports only the caption formatting.</td>
</tr>
</tbody>
</table>

Formatting is applied slightly differently depending on whether you import formatting applied to columns, views, or view containers in the Compound Layout.

**References:**
- About Applying Formatting from Columns
- About Applying Formatting from Views
- About Applying Formatting from Containers
- Importing Formatting from a Saved Analysis to a Target Analysis

**About Applying Formatting from Columns**

Applying formatting from columns works best for views when the saved analysis has the same number of columns as the target column.

For a single column, formatting is applied to all columns in the tables, pivot tables, and trellises of the target analysis.

For multiple columns, formatting is applied from left to right for column headings and values. Suppose the number of columns in the target analysis is greater than the number in the saved analysis. Then, the closest column’s format is repeated in the subsequent columns.

For example, suppose that the saved analysis contains four columns formatted with the following colors in this order: red, green, blue, and yellow. In the target analysis, its six columns would acquire these colors in the following order: red, green, blue, yellow, yellow, yellow.
About 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 table with custom formatting. If you import that formatting into a target analysis that contains three tables, then all three tables inherit that formatting.

About Applying Formatting from Containers

In the Compound Layout, you can specify formatting properties such as background color, borders, and padding to view containers.

Suppose you import that container formatting. 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 are not required to be exactly the same. If the target analysis contains more views than the source analysis, then extra views inherit the imported formatting.

For example, suppose that a saved analysis contains two tables that are stacked on top of each other in the Compound Layout. Suppose that 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 from a Saved Analysis to a Target Analysis

You can import formatting from one analysis to another.

For example, suppose you have an analysis that contains one column. You have applied formatting to that Revenue column such as font family, horizontal alignment, and background color. You can save the analysis and use it as a template. You can apply it to the same formatting to all columns in a view in another analysis.

To use a saved analysis to modify the appearance of another analysis:

1. Open the analysis for editing.
2. Display the target analysis in the Analysis editor: Results tab, or edit the view.
3. Click Import formatting from another analysis on the toolbar.
4. In the Select Analysis dialog, navigate to the saved analysis.
5. Click OK.

Advanced Techniques: Combining Columns to Display Data Differently

You can combine columns based on set operations such as Union or Intersect. By combining columns, you create a column for displaying the data in a different way. Most people don’t need to perform this task.

For example, you can combine a Region column with a City column and create a column named Regions and Cities.

The analysis must meet certain criteria if you want to use set operations:

- The number and data types of the columns must be the same.
• You cannot use hierarchical columns, selection steps, or groups when you combine criteria.

To combine columns based on set operations:

1. Open the analysis for editing.

2. On the Analysis Editor: Criteria tab, in the Selected Columns pane toolbar, click **Combine results based on union, intersection, and difference operations**.

   The Set Operations area is displayed in the Selected Columns pane. Note the boxes with the dotted line borders. These boxes indicate the kind of column that you must combine with those that you have previously included in the analysis.

3. In the Subject Areas pane, select the columns to combine with the original columns. Note that the dotted line borders and contents have been replaced.

4. In the Result Columns area on the Set Operations pane, click on the **Union** button and select a set operation. The following table describes the operations.

<table>
<thead>
<tr>
<th>Operation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union</td>
<td>Specifies that only nonduplicate rows from all columns are returned.</td>
</tr>
<tr>
<td>Union All</td>
<td>Specifies that rows from all columns, including duplicate rows, are returned.</td>
</tr>
<tr>
<td>Intersect</td>
<td>Specifies that only rows common to all columns are returned.</td>
</tr>
<tr>
<td>Minus</td>
<td>Specifies that only rows from the first column that are not in the second column are returned.</td>
</tr>
</tbody>
</table>

5. Click the **Result Columns** link. The Selected Columns pane shows the newly combined columns.

6. To rename the heading of the column:
   a. Click the **Options** button for the column.
   b. Select **Column Properties**.
   c. Select **Column Format**.
   d. Ensure that **Custom Headings** is selected.
   e. In the **Column Heading** box, enter the new heading.
   f. Click **OK**.

7. Click the Results tab to view the columns in a table view.
Advanced Techniques: Examining the Logical SQL Statements for Analyses

You can examine the logical SQL to see the XML code and logical SQL statement that is generated for an analysis. You can optionally create an analysis based on that SQL statement using the Advanced tab of the Analysis editor. Most people don’t need to perform this task.

Before using the Advanced tab, keep in mind that this tab is only for advanced users and developers who have the appropriate responsibilities to access the Advanced tab. You must understand advanced SQL statements and have expertise working with the metadata for analyses. You must also understand the content and structure of the underlying data sources.

To examine the SQL statement that is generated for an analysis:

1. Open the analysis for editing.
2. Click the Analysis editor: Advanced tab.
3. Use the read-only box in the SQL Issued area to examine and copy the SQL statement that is used for executing the analysis.
4. Click New Analysis to create an analysis based on the SQL code.

Advanced Techniques: Referencing Stored Values in Variables

You can reference stored values in variables in several areas of Oracle BI Cloud Service, including in analyses, dashboards, and actions. Most people don’t need to perform this task.

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. You can use five types of variables: session, repository, presentation, request, and global.

Topics:

- About Session Variables
- About Repository Variables
- About Presentation Variables
- About Request Variables
- About Global Variables
- Creating Global Variables
- Syntax for Referencing Variables

For information about using variables when modeling data, see Creating Variables to Use in Expressions in Preparing Data in Oracle Business Intelligence Cloud Service.
About Session Variables

A session variable is a variable that is initialized at login time for each user. When a user begins a session, Oracle BI Cloud Service 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 Oracle BI Cloud Service. Each instance of a session variable can be initialized to a different value.

There are two types of session variables.

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>A session variable used by Oracle BI Cloud Service 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).</td>
</tr>
<tr>
<td>Non-system</td>
<td>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 variables using Data Modeler. For information, see Creating Variables to Use in Expressions.</td>
</tr>
</tbody>
</table>

About Repository Variables

A repository variable is a variable that has a single value at any point in time. A static repository variable has values that persist and do not change until the administrator changes it. A dynamic repository variable has values that are refreshed by data returned from queries.

About Presentation Variables

A presentation variable is a variable that you can create as part of the process of creating a column prompt or a variable prompt.

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Column prompt</td>
<td>A presentation variable 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, you must select Presentation Variable in the Set a variable field. Enter a name for the variable in the Variable Name field. For information on working with column prompts, see Creating Column Prompts.</td>
</tr>
<tr>
<td>Variable prompt</td>
<td>A presentation variable 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, you must select Presentation Variable in the Prompt for field. Enter a name for the variable in the Variable Name field. For information on working with variable prompts, see Creating Variable Prompts.</td>
</tr>
</tbody>
</table>
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.

**About Request Variables**

A request variable enables you to override the value of a session variable but only for the duration of a database request initiated from a column prompt. You can create a request variable as part of the process of creating a column prompt.

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

- 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, you must select **Request Variable** in the **Set a variable** field. Enter the name of the session variable to override in the **Variable Name** field.

- 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 must select **Request Variable** in the **Prompt for** field. Then enter a name of the session variable that you want to override in the **Variable Name** field.

The value of a request variable is populated by the column prompt with which it was created. That is, each time a user selects a value in the column 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.

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.

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**Note:**

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

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**About Global Variables**

A global variable is a column created by combining a specific data type with a value. The value can be a Date, Date and Time, Number, Text, and Time.

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 the BIAdvancedContentAuthor role can manage (add, edit, and delete) global variables.

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.
Creating Global Variables

You can save a calculation as a global variable then reuse it in different analyses. By simply creating a global variable, you do not have to create a new column in the Data Modeler.

To create a global variable:

1. Open the analysis for editing.

2. In the Selected Columns pane, click Options beside the column name.

3. Select Edit Formula to display the Column Formula tab. You can create a custom header for the global variable by using this tab.

4. Click Variable and select Global to display the Insert Global Variable dialog.

5. Click Add New Global Variable to display the New Global Variable dialog.

6. Enter the value for the Name. For example, gv_region, date_and_time_global_variable, or rev_eastern_region_calc_gv. See Syntax for Referencing Variables for syntax requirements.

   **Note:**

   The name for a global variable must be fully qualified when referencing the variable, and therefore is prefixed by the text "global.variables". For example, a global variable set to calculate revenue is displayed in the Column Formula dialog as follows:

   "Base Facts"."1- Revenue"*@{global.variables.gv_qualified}

7. Enter values for the Type and Value.
Note:

If you are selecting "Date and Time" as the data type, then 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, then you must use the Text data type, as in the following example: "Base Facts"."1-Revenue"*3.1415

8. Click OK. The new global variable is added to the Insert Global Variable dialog.

9. Select the new global variable that you just created, and click OK. The Edit Column Formula dialog is displayed with the global variable inserted in the Column Formula pane. The Custom Headings check box is automatically selected.

10. Enter a new name for the column to which you have assigned a global variable to more accurately reflect the variable.

11. Click OK.

Syntax for Referencing Variables

You can reference variables in analyses and dashboards.

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 that you use depends on the type of variable as described in the following table.

<table>
<thead>
<tr>
<th>Type</th>
<th>Syntax</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session</td>
<td>@{biServer.variables['NQ_SESSION.variablename']}'</td>
<td>@biServer.variables['NQ_SESSION.USER']</td>
</tr>
<tr>
<td></td>
<td>where variablename is the name of the session variable, for example</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DISPLAYNAME.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>@{biServer.variables.variablename}</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>@{biServer.variables['variablename']}</td>
<td></td>
</tr>
<tr>
<td></td>
<td>where variablename is the name of the repository variable, for example</td>
<td></td>
</tr>
<tr>
<td></td>
<td>prime_begin</td>
<td></td>
</tr>
<tr>
<td>Repository</td>
<td>@biServer.variables.variablename</td>
<td>@biServer.variables.prime_begin</td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>@{biServer.variables['variablename']}</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>@{biServer.variables['prime_begin']}</td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Syntax</td>
<td>Example</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Presentation or request</td>
<td><code>@{variables.variablename}[format][defaultvalue]</code></td>
<td><code>@{variables.MyFavoriteRegion}[EASTERN REGION]</code></td>
</tr>
<tr>
<td></td>
<td>or</td>
<td><code>@{MyFavoriteRegion}</code></td>
</tr>
<tr>
<td></td>
<td><code>@{scope.variables['variablename']}</code></td>
<td><code>@{dashboard.variables['MyFavoriteRegion']}</code></td>
</tr>
<tr>
<td></td>
<td>where:</td>
<td><code>(@{myNumVar}[#,#0][1000])</code></td>
</tr>
<tr>
<td></td>
<td><code>variablename</code> is the name of the presentation or request variable, for example, MyFavoriteRegion.</td>
<td><code>(@{variables.MyOwnTimestamp}[YY-MM-DD hh:mm:ss])</code></td>
</tr>
<tr>
<td></td>
<td>(optional) <code>format</code> is a format mask dependent on the data type of the variable, for example #,##0, MM/DD/YY hh:mm:ss. (Note that the format is not applied to the default value.)</td>
<td><code>(@{myTextVar}[A, B, C])</code></td>
</tr>
<tr>
<td></td>
<td>(optional) <code>defaultvalue</code> is a constant or variable reference indicating a value to be used if the variable referenced by <code>variablename</code> is not populated.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><code>scope</code> 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.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> 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.</td>
<td></td>
</tr>
</tbody>
</table>
Type | Syntax | Example
---|---|---
Global | @{global.variables.variablename} | @{global.variables.gv_date_n_time} 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.

You can also reference variables in expressions. The guidelines for referencing variables in expressions are described in the following sections.

### Session Variables
The guidelines for referencing session variables in expressions are:

- 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.

For example:

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

### Presentation Variables
When referencing a presentation variable, 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}'

If the @ sign is not followed by a {, then it is treated as an @ sign. 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'))

For example:

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

**Repository Variables**

The guidelines for referencing repository variables in expressions are:

- 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.

For example:

CASE WHEN "Hour" >= VALUEOF("prime_begin") AND "Hour" < VALUEOF("prime_end") THEN 'Prime Time' WHEN ... ELSE...END
You can view data in different ways by adding views to analyses.

Topics:

- Typical Workflow for Viewing Data in Different Ways
- About Views
- Adding Views
- Editing Views
- Editing Various Types of Views
- Graphing Data in Analyses
- Saving Views
- Rearranging Views
- Refreshing the Results in Views
- Printing Views
- Changing Print Options for Views
- Previewing How Views Are Displayed on Dashboards
- Removing Views
- Sorting Values in Views
- Clearing Sorts in Views
- Drilling in Results
- Resizing Rows and Columns in Views
- Suppressing Null Values in Views
- Assembling Views for Display
- Linking Views in Master-Detail Relationships
- Modifying the Layout of Data in Views
- About Drop Targets in the Layout Pane
Typical Workflow for Viewing Data in Different Ways

Here are the common tasks to start adding views to analyses to view data in different ways.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create an analysis</td>
<td>Select and arrange columns that you want to use in an analysis.</td>
<td>Creating Your First Analysis</td>
</tr>
<tr>
<td>Add a view</td>
<td>Add views to an analysis to visualize data in different ways.</td>
<td>Adding Views</td>
</tr>
<tr>
<td>Edit a view</td>
<td>Use the editor that is available for each type of view to edit that view.</td>
<td>Editing Views</td>
</tr>
<tr>
<td>Remove a view</td>
<td>Delete a view from a compound layout or from an analysis.</td>
<td>Removing Views</td>
</tr>
<tr>
<td>Save a view</td>
<td>Save a view by saving the analysis.</td>
<td>Saving Views</td>
</tr>
<tr>
<td>Print a view</td>
<td>Print a single view or group of views in printable HTML or printable PDF.</td>
<td>Printing Views</td>
</tr>
</tbody>
</table>

About Views

A view is a visualization that helps communicate an outcome. Views enable you to look at results of analyses in meaningful, intuitive ways. Views give you different ways of looking at your data to help you discover patterns, trends, outliers, and other interesting characteristics of your data.

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. For example, you can include a bar graph view of revenue.
Adding Views

By default when you create an analysis, you see either a table or pivot table view, depending on the columns that you selected. You can add other views to the analysis to enable you to visualize the data in different ways.

For example, you can analyze trends for your Sales Forecast analysis by creating a new view and selecting Recommended Visualization and the Analyzing Trends option.

Video

To add a view:

1. Open the analysis for editing.

2. On the Results tab, click New View, then select one of the following options.

   The view is added in the current compound layout.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best Visualization</td>
<td>Oracle BI Cloud Service automatically creates the most appropriate view based on the data in the analysis.</td>
</tr>
<tr>
<td>Recommended Visualization</td>
<td>Select the kind of analysis that you want to perform and Oracle BI Cloud Service recommends the best views for that purpose and your data. For example, select Analyzing Trends or Comparing Explicit Results.</td>
</tr>
<tr>
<td>View Type</td>
<td>You select the desired view type, such as Pivot Table or Gauge.</td>
</tr>
</tbody>
</table>

3. To format the container for the views in the analysis, click Format Container.

4. Complete the fields in the Format Container dialog to specify options such as alignment, colors, and borders.

5. Click OK.

6. Click Save Analysis.

Editing Views

Each type of view has its own editor. The editors include both common functionality across views and view-specific functionality.

For example, you can edit a graph in a Brand Revenue analysis in the Graph editor to show the legend.

The following procedure provides general information on editing views. For more information, see Editing Various Types of Views and Graphing Data in Analyses.

To edit a view:

1. Open the analysis for editing.

2. Click the Analysis editor: Results tab.

3. To edit the view, click Edit View.
4. In the view editor (such as the Graph editor) make the appropriate edits, such as showing the legend.

5. To affect the display of data in the view, see Modifying the Layout of Data in Views. You can perform tasks such as dragging and dropping columns.

6. Associate data views such that one view drives changes in one or more other views. For information, see Linking Views in Master-Detail Relationships.

7. Drag and drop named groups and named calculated items from the Catalog pane to the view. For information, see Manipulating Members Using Groups and Calculated Items.

8. To customize the selection of data in the view, see Refining Selections of Data.

9. Click Done.

10. To save the view, see Saving Views.

Editing Various Types of Views
This topic identifies additional information for editing various types of views.

Topics:
- Editing Table and Pivot Table Views
- Editing Gauge Views
- Editing Heat Matrix Views
- Editing Map Views
- Editing Performance Tile Views
- Editing Trellis Views
- Editing Treemap Views
Editing Table and Pivot Table Views

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

For example, you can edit a pivot table in the analysis and place Brand on the row edge to display its corresponding Revenue data for each Quarter and Region. You can include a table and a pivot table side-by-side in a compound layout.

To edit a table or pivot table view:

1. Open the analysis for editing.
2. Click the Analysis Editor: Results tab.
3. Click View Properties to edit properties.

You can set properties such as the following ones:

- The method to be used to browse data — either scrolling or paging controls.
- The display of headings for the columns and the view.
- Formatting preferences such as size and colors.
- Green bar styling. Setting this property shows alternating rows or columns in a light green color, which is the default color that you can change.

4. Click OK.

5. Click **Edit View** to display the Table View editor.

6. For a pivot table view, click the **Graph Pivoted Results** button on the toolbar to display the results of the pivot table in a graph view, which is displayed alongside the pivot table.

   The two views are fully linked, which means that changes made to one view are automatically reflected in the other.

7. Click **Done**.

8. To specify sorting in the view, see **Sorting Values in Views**.

9. To drill in the data in the view, see **Drilling in Results**.

**Editing Gauge Views**

You can use gauge views to graphically compare performance to goals. Due to their compact size, gauges can be more effective than graphs for showing a single data value. Results show as dial, bar, or bulb gauges.

For example, you can use a gauge to see whether Actual Revenue falls within predefined limits for a brand.

The following figure shows a dial gauge:

![Dial Gauge Example](image1)

The following figure shows a bar gauge:

![Bar Gauge Example](image2)

The following figure shows a bulb gauge:

![Bulb Gauge Example](image3)
To edit a gauge view:

1. Open the analysis for editing.
2. Click the Analysis Editor: Results tab.
3. Click **View Properties** to perform tasks such as the following:
   - Specify the number of rows of gauges to display and placement of labels in **Gauges per Row**.
   - Change the width and height of gauges and the appearance of titles and labels.
   - Specify the scale of gauge limits and tick marks. For example, you can specify a custom gauge limit. You can specify a static value such as 1000 as either an actual value or as a percentage. The value that you specify depends on the range of data points. You must ensure that the maximum gauge limit is more than the maximum data point. Do so to ensure that all data points are displayed on the gauge.
   - Specify the marker type for a dial gauge, such as Needle, Line or Fill.
4. Click **OK**.
5. Click **Edit View** to display the Gauge View editor.
6. Click the **Gauge Type** button on the toolbar to select the type of gauge, such as bulb or dial.
7. Define thresholds for the gauge, as described in **Setting Thresholds**.
8. Click **Done**.

**Setting Thresholds**

You can set thresholds for display in gauges and funnel graphs.

Each threshold has a high and a low value and is associated with a color in which the range identified by the threshold is displayed in the gauge, such as green for acceptable, yellow for warning, and red for critical.

To set thresholds:

1. Click **Edit View** to display the view editor.
2. In the Settings pane, select either **High values are desirable** or **Low values are desirable**.
   
   For example, selecting **High values are desirable** lists the statuses in order from the most desirable indicator (such as Excellent) at the top to the least desirable indicator (such as Warning) at the bottom. Generally with columns such as Revenue, high values are desirable. With columns such as Expenses, low values are desirable.
3. In the Threshold list, specify the data values that highlight a particular range of values.
   
   The values must be between the minimum and maximum values set for the view’s limits. The range that a threshold identifies is filled with a color that differs from the color of other ranges.
To specify a data value, you can enter a static value directly in a Threshold field, or you can click **Threshold Options** to set the value based on a measure column, a variable expression, or the results of a SQL query. Select **Dynamic** to enable the system to determine the threshold value.

4. Enter the labels for the ranges in the Status area.
   - Select **Threshold Values** to use the current threshold values as the label for the range.
   - Select **Specify Label** to use text that you specify as the label for the range, such as Excellent.

**Editing Heat Matrix Views**

A heat matrix view shows you a two-dimensional depiction of data in which values are represented by a gradient of colors.

To edit a heat matrix view:

1. Open the analysis for editing.
2. Click the Analysis Editor: Results tab.
3. Click **View Properties** to edit properties.

   You can set various properties including those:
   - That control the method to be used to browse data — either scrolling or paging controls.
   - Related to the size of the heat matrix and to the display of the header and data cells.
   - Related to whether a legend is to be displayed to show the continuous color variations or binning for the heat matrix.

4. Click **OK** to dismiss the dialog.
5. Left-click to drill in a 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 in 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.

6. Right-click the outer edges to display a context menu of options, such as **Drill**, invoke actions, **Keep Only**, **Remove**, or focus on a specific cell.
7. Click **Edit View** to display the Heat Matrix editor.
8. In the Layout pane:
   a. In the **Style** box, select **Percentile Binning** or **Continuous Color Fill** to change the color palette of the view.
   b. Change the measures and columns to visualize the data in more meaningful ways by using **Rows**, **Columns**, and **Color By** drop targets.
9. To specify sorting, right-click a cell in the view and click Sort. The interactions that are available in the Sort dialog depend on the location in which you right-click within the view.

10. Click Done.

About Heat Matrix Views

A heat matrix view shows you 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 outlier values.

A heat matrix displays data from one measure. 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. Cells are displayed as percentile bins or as a continuous color. You can hover over a cell to display its value or display values in cells all the time.

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. The Style element defaults to Percentile Binning with “quartile” as the value for the number of bins. Cells display uniformly, in that each cell has the same width and the same height. Cell height and width do not have to be the same. A "transparent" diagonal pattern of stripes indicates null values.

You can display a legend below the heat matrix that includes:

- One measure (selected in the Color By list) and its corresponding label.
- The 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."

Here is an example of a heat matrix view on a dashboard page. Each sales representative’s revenue is displayed by region and product and prompted by product type. Sales revenue is binned by year. This heat matrix depicts the product revenue outliers for each sales representative (for example, in 2008, Angela Richards has no sales revenue for Bluetooth Adaptors or MP3 Speakers Systems for any region.)
Editing Map Views

You use map views to display data on maps in several different formats and to interact with the data.

Tutorial

A map view presents data in spatial form. Through location context, map views allow you to easily 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.
You create a map view after selecting columns to display in that view. The administrator can specify multiple background maps. Initially, the map view is displayed with the first background map that has at least one layer that is associated with a column that you selected. You can edit a map view by selecting a different background map, applying layers to the background map, and formatting the layers.

To edit a map view:

1. Open the analysis for editing.
2. Click the Analysis Editor: Results tab.
3. Click **View Properties** to display the Properties dialog.
4. Optionally on the Canvas tab of the Properties dialog, specify options for the size of the map:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canvas Size</td>
<td>Specifies the size of the map within its container. You can select either Default, Custom, or a predefined size. If you select Default or a predefined size, then no other options are available and the map is sized to fit its container. The container is whatever area is holding the map, such as the area in the Map editor or the section of a dashboard page.</td>
</tr>
<tr>
<td>Map Wrap-Around</td>
<td>Specifies a &quot;wrap-around&quot; feature when you include line formats on a map. Lines are the only format that cross map borders, such as an airplane flight from San Francisco to Tokyo. When this feature is turned on, you can pan the map so that lines are not broken.</td>
</tr>
</tbody>
</table>

5. Optionally on the Labels tab of the Properties dialog, specify whether to show labels for all layers or specific layers on the map view. The tab includes a box for each layer on the map view. The labels are displayed in the same order as that of the layers listed in the Map Formats area of the Map editor. Custom point layers have labels hidden by default.

6. Optionally on the Interaction tab, set the initial view ports. See **Setting the Initial View Ports for Map Views**.

7. Optionally on the Tools tab of the Properties dialog, specify which tools are available for display with the map such as the zoom slider and the distance indicator.

8. Click OK.

9. Apply formats to the layers, as described in **Applying Formats to Layers in Map Views**.

10. Click **Edit View** to display the Map editor.

11. Modify formats and layers, as described in **Editing Formats and Layers in Map Views**.
12. Click **Done**.

13. Drill in values, as described in **Drilling in Map Views**.

**About Map Views**

You use map views 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.

A map consists of numerous components including a background or template map and a stack of layers that are displayed 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.

**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 an image such as the floor maps of office buildings or the appearance and presence of items such as countries, cities, and roads.

**Layers**

One or more interactive or custom layers can overlay the main content, as described in **About Layers in Map Views**.

**Toolbar**

The toolbar is visible by default and you can click its buttons 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 **Pan**, **Zoom Out**, and **Zoom In** buttons.

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

**Zoom Controls**

These controls adjust 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.

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 BI data at that level. You affect the display of data by drilling.

The zoom controls include a zoom slider that is displayed in the upper left-hand corner of the map view with a thumb for large scale zooming and buttons for zooming a single level. When the zoom control is zoomed-out all the way, the zoom level is set to 0 and the entire map view is displayed.

You determine the visibility of the zoom control. When you create a map view, 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.

**Scale Tool**

Also known as the Distance Indicator, this tool 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 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 current zoom level.

When you select a format on the map, the corresponding legend item is 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).

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**

The 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.

The 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.

**Interactive Panel**

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 the 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. You cannot apply formats to non-BI layers.

**About Formats and Layers in Map Views**

This topic describes how formats and layers interact in map views.

**Topics:**

- About Layers in Map Views
- About Formats in Map Views

**About Formats in Map Views**

A format defines display properties for a feature such as a point or a line that represents a city or a river.

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.

For more information, see Applying Formats to Layers in Map Views.

**About the Types of Formats**

A map view uses columns of BI 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 the map thresholds is applied.

You can apply various kinds of formats to map views and BI layers. You cannot apply formats to non-BI layers. You can define various formats to apply to BI layers.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color Fill</td>
<td>Displays the Color Fill (Layer) dialog, which you use to display 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.</td>
</tr>
<tr>
<td>Bar Graph</td>
<td>Displays the Bar Graph (Layer) dialog, which you use to display 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 recommend as the formats might overlap on the layer and the displayed results might be undesirable.</td>
</tr>
<tr>
<td>Pie Graph</td>
<td>Displays the Pie Graph (Layer) dialog, which you use to display a series of data as a pie graph within an area.</td>
</tr>
</tbody>
</table>
**Field** | **Description**
--- | ---
Shape | Displays the Variable Shape (*Layer*) dialog, which you use to display 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 display a bubble within an area, similar to the shape format.

Image | Displays the Image (*Layer*) dialog, which you use to display 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 display 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 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 display 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

**About the Visibility of Formats**

The visibility of a format depends on various factors:

- 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 are displayed on top of each other.

**About the Application of Formats**

Various guidelines apply to formats:
• The Color Fill, Bubble, Pie Graph, and Bar Graph formats apply to geographic areas such as polygons.

• The Bubble, Variable Shape, Image, and Custom Point formats are based on a single latitude and longitude location (a 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.

**About Layers in Map Views**

A layer is 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, are not related to data.

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, as described in Configuring How Data Is Displayed on Maps. 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.

**Editing Formats and Layers in Map Views**

You can edit the formats that are displayed on layers of a map view.

Not all formats are available for all layer types. For example, point layers cannot have Color Fill formats. 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 are displayed on top of each other.

To edit formats and layers in map views:

1. Open the map view for editing, as described in Editing Map Views.

2. Click **Edit View** to display the Map editor.

3. Click **View** then **View All Formats** to specify that all defined formats are listed in this area, or click **View Visible Formats** to specify that only those formats that are currently displayed on the map are listed in this area.

4. Click **New**, select a format type, then select a layer to display the appropriate dialog for defining that format.

   You can select an existing layer, or you can choose to create a custom point layer, which enables you to apply formats to points on the map based on the latitude and longitude. Layer types include bar graphs, pie graphs, bubbles, lines, and shapes.

   For more information, see About Formats in Map Views.

   When you add a format, it is displayed at the top of the list of formats, to ensure that you see it on the map.

5. Select **Automatically create formats when drilling** to specify whether to automatically create formats when you drill in a map. The formats that are added are listed in the Map Formats pane. For example, suppose you drill from Districts to Cities. Additional formats are added for the Cities layer.

6. If no layers are specified in the map formats area, then click **New Map Format**. The map prompts you to import the geo-encoded columns for displaying a format for a particular geo-layer, if the columns are not part of the analysis.

7. Hover over a layer name in the list to display options for modifying the layer:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add New Map Formats</td>
<td>Displays a list of formats so that you can select the appropriate format to display the appropriate dialog for defining that format. The list contains only those formats that apply for the geometry of that layer. For example, bar graphs and pie graphs do not apply to point layers. After selecting a format, select the column to which it applies. If you add a format but do not see it on the map, then ensure that the map is showing the appropriate zoom level.</td>
</tr>
<tr>
<td>Delete</td>
<td>Removes the layer and all its formats from display on the map.</td>
</tr>
</tbody>
</table>

8. Hover over a format name under a layer name in the list to display options for reordering, editing, and deleting formats.

9. Click the box beside a format name to make the format visible or invisible on the map.

10. Optionally, in the Feature Layer area, add non-BI layers to the map. These layers have not been associated with BI data so are not interactive. Click **New**, then select the layer that you want to add to the map.
Applying Formats to Layers in Map Views

You can format a map view, including with colors, bar graphs, pie graphs, variably sized bubbles, images, lines, or colored shapes that help you to apply binning and other formatting options.

For more information, see About Formats and Layers in Map Views.

To apply a format to a layer:

- 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.

See also Showing or Hiding Formats on Map Views.

Moving Around in Map Views

This topic describes various techniques for moving around in map views.

Topics:

- Panning in Map Views
- Zooming in Map Views
- Modifying Thresholds for Formats on a Map View
- Showing or Hiding Formats on Map Views

Panning in Map Views

You pan using the map's toolbar and can pan on the main map or on the overview map. You can also use the reticule in the overview map to move around.

Pan is the default mode for the map view, and the pan mode is indicated by a hand cursor. With the Pan tool selected, you can move in various ways:

- 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 cursor.
- Click to display an information window. The information window can be used to drill or update a detail view.
- Double-click the map to zoom.

To pan in a map view, using the Pan tool, click the Pan button on the toolbar, then click the map background and drag and drop it to the appropriate 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 focuses on the detail feature that was selected in the master view.

You can zoom in various ways:

- 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 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.

To zoom in a map view:

- To zoom using the tools, click the Zoom In or Zoom Out button on the toolbar, then click the map background to zoom in that spot.

  If you are zooming in, then you can click and drag to draw a rectangle to specify the area in which to zoom.

- To zoom using the buttons on the slider, click the plus or minus sign on either end of the slider.

  You can also hover over the slider, then click the name of the level to zoom.

**Modifying Thresholds for Formats on a Map View**

You can 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 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 you can edit.

To modify thresholds for formats on a map view:

- Hover over a thumb to display the value under that thumb.

- Drag the thumb to adjust the threshold.

- Click a section on the slider to move the thumb to that section.
• Right-click the slider to display a menu with various 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 allowed.
  
  – **Remove Threshold** — Removes the threshold above where you right-clicked, including removing the thumb from the slider and a formatting bin.
  
• Click on a slider thumb number value to display 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. They can create formats to enhance the layers. You can display or hide the formats for a map.

To show or hide the formats of a map view:

• 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.

See also Applying Formats to Layers in Map Views.

### Setting the Initial View Ports for Map Views

You can set the initial view port (the initial center of the map and zoom level) when a map view is first loaded or refreshed in a browser.

To set the initial view port for a map view:

1. Edit the map, as described in **Editing Map Views**.

2. Click **View Properties** to display the Properties dialog.

3. In the Initial Map View section of the Interaction tab, select the appropriate value:
### Editing Various Types of Views

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
</table>
| Dynamic | Specifies that the map is zoomed or panned to the actual data on the map.  
This option focuses on the content that the user has added to the map view. This option is preferable for the initial displaying of the map view and for refreshing the map view, because it tries to display all BI content. This setting does not affect the printing of maps, because the coordinates and zoom level control all WYSIWYG interaction.  
The map is zoomed to the maximum zoom-level that still allows the content to fit on the map. This zoom-level might exceed the minimum and maximum visible zoom-levels that are specified for this layer in the Edit Background Map dialog. If the minimum and maximum visible zoom-levels are exceeded, then the format is hidden. |
| Last Saved | Specifies that the map is displayed at the last saved map center and zoom level.  
This option focuses on the last map window that was viewed. The display is based on the X (longitude) and Y latitude center coordinates and on the zoom level. While you can select this option for the initial view port, this option is preferable and is always used for printing maps and other WYSIWYG interactions. |

4. Click **OK**.

### Editing Performance Tile Views

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 following figure shows performance tiles on a dashboard page:

![Performance Tiles](image)

To edit a performance tile view:

1. Open the analysis for editing.
2. Click the Analysis Editor: Results tab.
3. Click **View Properties** to edit properties. You can set the following kinds of properties:
   - Related to the size of the tile.
That control the appearance of the tile, such as the background and border colors. You can apply conditional formatting to the tile.

That abbreviate the value on the tile.

A performance tile can show a value using its measure's default formatting or the value can be abbreviated to the nearest thousand, million, and so on.

Examples of formatting are shown in the following table:

<table>
<thead>
<tr>
<th>Default Formatting</th>
<th>Abbreviated Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>123,456.50</td>
<td>123K</td>
</tr>
<tr>
<td>123,456,789.50</td>
<td>123M</td>
</tr>
<tr>
<td>123,456,789,123.50</td>
<td>123B</td>
</tr>
</tbody>
</table>

4. Click one of the following buttons to align the performance tile label:

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed positions</td>
<td>Sets (or &quot;fixes&quot;) the positions of the labels. The label text is displayed in fixed positions. This option is recommended for layouts with multiple performance tiles (of the same size) in a row, where you want to ensure visual consistency by displaying text anchored at the same height despite variations in content.</td>
</tr>
<tr>
<td>Utilize available space</td>
<td>Evenly spaces the label text on the performance tile vertically. The label text utilizes all available space on the performance tile. Note that when you have multiple tiles placed beside each other, the labels might be displayed at different heights and look uneven based on the varying label content.</td>
</tr>
</tbody>
</table>

5. Click OK.

6. Click Edit View to display the Performance Tile editor.

7. In the Styles pane, change the tile size to Small, Medium, or Large.

8. Select a themed (or stylized) tile located below the Tile Size option buttons to change the theme for the performance tile.

9. Click Done.
Editing Trellis Views

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

A trellis view can be simple or advanced. A simple trellis displays a core inner graph multiplied across row sets and column sets, displaying many small multiples that are ideal for comparing and contrasting. An advanced trellis displays a grid of small spark graphs that are ideal for monitoring trends and spotting patterns in a data set. For more information, see About Simple Trellis Versus Advanced Trellis.

The following figure shows a simple trellis view:

![Trellis View Example](image)

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.

To edit a trellis view:

1. Open the analysis for editing.
2. Click the Analysis Editor: Results tab.
3. Click **View Properties** to edit properties.

You can set the following kinds of properties:

- Related to the grid canvas, such as legend location (simple trellis views only).
- Related to graph size for the visualizations that are included in the trellis.
- That specify the method to be used to browse data — either scrolling or paging controls.
• 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).

4. Click OK.

5. Click Edit View to display the Trellis editor.

6. In the Layout pane:
   a. Drag and drop columns into the Columns and Rows fields to specify how data is arranged in the trellis.
   b. Select the type of graph you want to display for each of the cells in the trellis.
   c. Drag and drop columns to indicate how to color the graphs.

7. To specify sorting in the view, see Sorting Values in Views.

8. Click Done.

About the Functions of Trellis Views

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

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

• Right-click to hide or 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 display 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 is in a pivot table view.

About Simple Trellis Versus Advanced Trellis

A trellis view has one of two types: Simple Trellis and Advanced Trellis.

The Simple Trellis 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. Having a common axis makes all graph markers easy to compare across rows and columns.

This figure shows a simple trellis view:
The Advanced Trellis accommodates the display of multiple visualization types within its grid. An advanced trellis that illustrates sales trends might show a grid that contains numbers in the cells of one column (revenue, for example). Another column alongside the numbers column displays Spark Line graphs in its cells. 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.

This figure shows an advanced trellis view:

<table>
<thead>
<tr>
<th>Region</th>
<th>Brand</th>
<th>Revenue</th>
<th>Avg Order Size</th>
<th>Profit Ratio %</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMERICAS</td>
<td>BizTech</td>
<td>$36,500,000</td>
<td>$1,019</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FunPod</td>
<td>$41,400,000</td>
<td>$899</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HomeView</td>
<td>$17,500,000</td>
<td>$709</td>
<td></td>
</tr>
<tr>
<td>APAC</td>
<td>BizTech</td>
<td>$19,000,000</td>
<td>$1,011</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FunPod</td>
<td>$21,900,000</td>
<td>$901</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HomeView</td>
<td>$9,100,000</td>
<td>$698</td>
<td></td>
</tr>
<tr>
<td>EMEA</td>
<td>BizTech</td>
<td>$34,500,000</td>
<td>$1,016</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FunPod</td>
<td>$39,700,000</td>
<td>$900</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HomeView</td>
<td>$16,400,000</td>
<td>$707</td>
<td></td>
</tr>
</tbody>
</table>

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 that you add, you can optionally associate a dimension and display 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 displayed in the same visualization, along with additional dimensions.
Design Considerations for Trellis Views and Microcharts

This concept provides ideas to be considered when designing content displayed in trellis views.

For all trellis views:

• For comparisons, select the Simple Trellis.

• For trend analysis, select the Advanced Trellis.

• Make the inner graphs that comprise a trellis readable and not too dense. A trellis view is not especially useful for displaying multiple series or multiple groups. If you cannot easily target a data point with the mouse (to display a tooltip), then the inner graph is likely too dense to be readable.

• For the Simple Trellis:
  – Designing a simple trellis is like designing a pivot table, except that the total number of cells that can be displayed 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. You add many fewer dimensions to the outer edge.
  – 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, then consider adding the dimensions to the graph prompt.
  – When determining which data to show in column headers and which to show in row headers, ensure that the column headers show one or two dimensions (each dimension with a small number of members).

• For the Advanced Trellis:
  – A common 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, include no dimensions in the column headers. Include the measure in the column headers.
  – The dimensionality typically associated with a spark graph is time. Because a spark graph includes no visible labels, it is important that the data visualized is intrinsically ordered. For example, a spark graph that visualizes regions is 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.

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

**Editing Treemap Views**

Treemaps organize hierarchical data by grouping the data into rectangles (known as tiles). Treemaps display tiles based on the size of one measure and the color of the second measure.

The following figure shows an example of a treemap view. The country names are grouped by region and area. This treemap shows the correlation of revenue for a country (based on average order size) across different regions for an area.

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.

To edit a treemap view:

1. Open the analysis for editing.
2. Click the Analysis Editor: Results tab.
3. Click **Edit Properties**. You can set properties such as the following ones:
   - The size of the treemap.
   - Whether a legend is to be displayed to show the continuous color variations or binning for the treemap tiles.
4. Click OK.

5. Click Edit View to display the treemap view editor.

6. In the Layout pane, select the Percentile Binning or Continuous Color Fill options to change the color palette of the view.

<table>
<thead>
<tr>
<th>Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentile Binning</td>
<td>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.</td>
</tr>
<tr>
<td>Continuous Color Fill</td>
<td>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.</td>
</tr>
</tbody>
</table>

7. Change the measures and attribute and hierarchal (excluding skip-level) columns to visualize the new data in more meaningful ways by using Group By, Size By, and Color By options.

8. Click Done.

**Editing Narrative Views**

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.

To edit a narrative view:
1. Open the analysis for editing.

2. Click the Analysis Editor: Results tab.

3. Click Edit View to display the narrative view editor.

4. In the Prefix field, enter the header for the narrative.
   This text is displayed at the beginning of the narrative.

5. In the Narrative box, enter the narrative text that is displayed for each row in the results.
   You can include both text and column values. Include a line break code at the end of this field to force each line of text and values onto its own line.
   To include column values, use an at sign (@), optionally followed by a number. Use an at sign by itself to indicate the first column. If you include multiple at signs, then the first occurrence of the sign corresponds to the first column, the second occurrence corresponds to the second column, and so on.
   Use @n to include the results from the designated column in the narrative. For example, @1 inserts the results from the first column in the analysis, and @3 inserts the results of the third column.
   For example, for an analysis that returns the region name in the second column, specify @2 to include the following values in the view: East Region and West Region.

6. In the Row separator field, enter a row separator for each line from the Narrative field that contains values. For example you might enter a string of plus signs (+) between each line.

7. In the Rows to display field, enter the number of rows from the column to return.
   For example, enter 5 to display values from the first 5 rows of the column. 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. A hierarchy level is considered a row.

8. In the Postfix field, enter the footer for the narrative. Ensure that the narrative ends in a line break, or that the footer begins with a line break.

9. Click Done

About Editing Non-Data Views

You often edit views that display data, such as tables, graphs, and gauges. You can also edit views that do not contain data.

You can include the following types of views in analyses and dashboards:

- About Column Selector Views
- About Filters Views
- About Selection Steps Views
- About Static Text Views
• About Title Views

• About View Selector Views

About Column Selector Views
A column selector view 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.

One drop-down list can be attached to each column in the analysis, and multiple columns can be attached to each drop-down list. 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.

About Filters Views
A filters view 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. For information, see Creating Filters for Columns.

About Selection Steps Views
A selection steps view displays the selection steps in effect for the analysis. Selection steps, like filters, enable you to obtain results that answer particular questions. Selection steps are applied after the query is aggregated.

You cannot modify selection steps from this view editor. To modify the selection steps, exit the Selection Steps editor and use the Selection Steps pane. For information, see Refining Selections of Data.

About Static Text Views
A static text view adds static text to be displayed with the analysis results.

You can include variables in a static text view, as shown in the following example. For information, see Advanced Techniques: Referencing Stored Values in Variables.

[u] Static Text View [/u][br/]
Region: @{variables.myFavoriteRegion} - Year: @{variables.myFavoriteYear}[br/]
System Time: @{system.currentTime}[dd,MM dd,yyyy][br/]
Product Version: @{system.productVersion}[br/][br/]

About Title Views
A title view displays a title, a subtitle, a logo, and timestamps to the results.

If you do not specify a title, then the name of the saved analysis is used as the title. For unsaved analyses, the Title text box is blank. You can reference variables in the text fields of the Title editor.
**About 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 that they want to display below the selector.

Generally, you 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.

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**Graphing Data in Analyses**

This topic identifies additional information for graphing data in analyses.

**Topics:**

- Editing Graph Views
- Zooming and Scrolling in Graphs
- Formatting the Visual Appearance of Graphs
- Limiting Data Displayed in Graphs and Gauges

**Editing Graph Views**

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

For example, in the Brand Revenue analysis, you can edit a bar graph to compare the product revenue for three different regions.

The following figure shows a bar graph view on a dashboard page:

![Bar Graph Example](image)

To edit a graph view:

1. Open the analysis for editing.
2. Click the Analysis Editor: Results tab.
3. Click **View Properties** to edit properties.

You can set the following kinds of properties:

- Related to the graph canvas, such as 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. On the Scale tab of the properties dialog, select **Click to edit Scale Markers** to display the Scale Markers dialog.

Define scale markers, which are accenting lines or shaded background ranges that mark key points, thresholds, ranges, and so on in a graph. The following table describes the two types of scale markers:

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line</td>
<td>A line that is drawn across the graph at a specified position on the scale</td>
</tr>
<tr>
<td>Range</td>
<td>A shaded background area that is displayed behind the graph.</td>
</tr>
</tbody>
</table>

You can apply line or range scale markers on one or more axes depending on the type of graph.

5. Click **OK**.

6. Click **Edit View** to display the Graph editor.

7. Use various toolbar buttons to affect the display of the graph, as described in the following table:

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Includes bar, line, and pie.</td>
</tr>
<tr>
<td>Subtype</td>
<td>Includes vertical or horizontal, depending on the graph type.</td>
</tr>
<tr>
<td>Style</td>
<td>Available choices for style depend on the graph type.</td>
</tr>
<tr>
<td>Effect</td>
<td>Either a 2D or 3D effect.</td>
</tr>
</tbody>
</table>

8. Define thresholds for a funnel graph, as described in **Setting Thresholds**.

9. To drill in data in the view, see **Drilling in Results**.

10. Click **Done**.

**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.

After you zoom in on an axis, you can scroll the axis. Enable zooming and scrolling with the General tab of the Graph Properties dialog.
For example, while viewing a graph in results of a Brand Revenue analysis, you can zoom in on the Product Type axis. Doing so enables you to scroll the axis and view more data by product type.

To zoom and scroll in a graph:

Hover the cursor over the graph to reveal the **Zoom** button and click **Zoom**. If only one axis is enabled, select **Zoom In** or **Zoom Out**.

![Graph with zoom and scroll features](image)

If both axes of the graph are enabled for zooming and scrolling:

- Select **Horizontal Axis**, then either **Zoom In** or **Zoom Out**.
  A zoom and scroll slider is displayed on the X axis.
  To unzoom the X axis, select **Actual Size**.

- Select **Vertical Axis**, then either **Zoom In** or **Zoom Out**.
  A zoom and scroll slider is displayed on the Y axis.
  To unzoom the Y axis, select **Actual Size**.

- To unzoom both the X and Y axes, select **Actual Size**.

Optionally, use other zoom features:

- Use **Zoom** to zoom in and out incrementally.
- Drag the scroll thumb on an axis to dynamically scroll the graph, revealing portions of the graph that are out of view.
- Click the scroll buttons on an axis to scroll left and right (on the X axis), or up and down (on the Y axis).
- Use the resize handles to zoom in and out on an axis.

**Formatting the Visual Appearance of Graphs**

You can format the visual appearance of graphs.
Formatting the visual appearance is 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 [Formatting Graphs Based on Position](#).

- Conditions applied to columns.
See Formatting Graphs Based on Columns.

**Formatting Graphs Based on Position**

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. For information on drop target areas, see About Drop Targets in the Layout Pane.

You can format the visual appearance of a graph based on position in terms of its color, line width, and line symbols. You cannot use positional formatting with waterfall graphs.

**Formatting Graphs Based on Columns**

Conditional formatting enables you to customize the appearance of a graph based on conditions applied to columns. The 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.
  
  You want to create a bar graph to compare sales between two beverages, Lemonade and Cola. When creating a bar graph, you specify 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 representatives across two sales bands. When creating a bar graph the sales manager specifies two conditions, one where the bar is red for all sales representatives with sales less than $250,000, and another where the bar is green for all sales representatives with sales greater than $250,000.

To format the appearance of a graph:

1. Click **Edit Graph Properties** on the toolbar of the graph editor.
2. Click the Style tab of the Graph Properties dialog.
3. Click **Style and Conditional Formatting**.
4. Click the Style Formatting tab to format the appearance of a graph based on the 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 **Add new position**. A new position entry is displayed in the Custom Formatted Positions table.
   c. Specify the formatting. 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. (Note that the formatting options depend on the element.)
Note:
If you specify 0 for the width of a line, then the legend marker changes from the default line marker to symbol markers for the line and for other lines in the graph. For example, the symbol markers are shown as the legend markers for all the lines in the graph.

5. Click the Conditional Formatting tab 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. Select the operator and enter a column value, or a range of column values for this condition.

   c. Click **OK**.

   d. 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 display the Color Selector dialog.

6. Click **OK**.

**Rules for Applying Conditional Formats in Graphs**

Follow these rules when building and using conditions in graphs.

- You can create conditions 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.

- 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

This reference lists the graph exceptions that apply to conditional formatting based on columns.

<table>
<thead>
<tr>
<th>Graph Type</th>
<th>Exception</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line</td>
<td>Only symbol formatting is allowed for the line.</td>
</tr>
<tr>
<td>Line-Bar</td>
<td></td>
</tr>
<tr>
<td>Radar</td>
<td></td>
</tr>
<tr>
<td>Time Series Line</td>
<td></td>
</tr>
<tr>
<td>Pareto</td>
<td>Formatting is applied only to the bars, not to the Pareto line.</td>
</tr>
</tbody>
</table>

Limiting Data Displayed in Graphs and Gauges

You can limit the data that is shown in graphs or gauges using section sliders. A section slider displays members of one or more attribute or hierarchical columns as values on a rectangular bar.

The slider also provides mechanisms to select a value for that column such as increase and decrease buttons. The play button sequentially moves through the slider values.

Topics:

- Defining Section Sliders in Graphs and Gauges
- Using Section Sliders in Graphs and Gauges

Defining Section Sliders in Graphs and Gauges

You can define a section slider to limit the data that is shown in a graph or gauge.

For example, you can limit the data that is shown in a graph to a specific quarter in the year 2013.

To define a section slider:

1. Open the analysis for editing.
2. Click the Analysis Editor: Results tab.
3. Create the graph or gauge.
4. Click Edit View on the graph or gauge view.
5. In the Layout pane, drag columns to the Sections drop target.
6. Select Display as Slider.
7. Click Section properties.
8. Specify the maximum number of values to display in the section slider, and then click OK.
9. To close the editor, click **Done**.

10. To save the changes, click **Save Analysis**.

### Using Section Sliders in Graphs and Gauges

You can use a section slider in a graph or gauge.

- Move the slider thumb to the desired value.
- Click the decrease button to move the slider thumb to the left.
- Click the increase button to move the slider thumb to the right.
- To sequentially move the slider through all the values, click the play button.

  The play button changes to a pause button that enables you to stop on a particular value.

The data in the graph or gauge is limited by the current value indicated by the slider thumb.

### Saving Views

You can save a view that you are working with at any time.

To save a view, you must save the new or existing **analysis**. For example, you can create a Brand Revenue analysis, edit its table view, and decide to save it for the first time.

To save a view:

Click **Save Analysis** or **Save As** in the toolbar of the Results tab in the Analysis editor.

### Rearranging Views

You can rearrange a view within a compound layout to be alongside the boundary of another view or to the outer boundary of the compound layout (where 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 that you want to rearrange.
2. Click and hold the left mouse button on the view.

   The view is displayed as a transparent, movable object.

3. Drag and drop the view to the position that you want.

   The view is displayed in a position marked by a blue bar (the drop target).
Refreshing the Results in Views

When you work with views that show results data, such as the table and pivot table, you can refresh the results of the current analysis.

For example, you can add a filter in the Brand Revenue analysis. After doing so, you might want to see the effects of your change.

To refresh results in a view:

On the toolbar of the Analysis Editor: Results tab, click **Refresh the results of the current analysis**.

Printing Views

You can print views using HTML or Adobe PDF (Portable Document Format).

For example, you can display and print the Brand Revenue analysis in a new browser window by selecting the **Printable HTML** option.

To print views:

1. Print one or more views.
• To print a single view, click Print this analysis on the toolbar of the view’s editor.

• To print a group of views that displayed in the Compound Layout, click Print this analysis on the toolbar of the Analysis Editor: Results tab.

2. Select Printable HTML or Printable PDF.

• For HTML, a new browser window displays the view or views to print. From the File menu of the new browser window, select Print.

• For PDF, an Adobe Acrobat window displays the view or views to print. Select the options in the window to save or print the file.

Changing Print Options for Views
You can specify settings for printing dashboard pages and views.

For example, when printing the Revenue Dashboard that contains many views side-by-side on each page, you can set the Orientation to Landscape.

Note:
The print selections that you specify apply to PDF output only. If you then print the PDF file on a local or network printer, then the print selections specified in the browser are in effect. For example, the selection for paper size for the browser is in effect.

To change print options for views:

1. On the toolbar of the Analysis Editor: Results tab, click Print & Export Options.
The Print & Export Options dialog is displayed.

2. Specify the appropriate options on the dialog. For example, specify the paper size and orientation and whether to include a header and footer.

3. Click OK.
Previewing How Views Are Displayed on Dashboards

You can preview views to see how they are displayed on a dashboard page.

For example, you can select **Show how results will look on a dashboard**. Doing so previews how results from a group of views are displayed in a dashboard.

To preview views:

1. If you want to preview a single view:
   - On the toolbar of the view’s editor, click **Show how results will look on a dashboard**.

2. If you want to preview a group of views that is displayed in the Compound Layout:
   - On the toolbar of the Analysis Editor: Results tab, click the **Show how results will look on a dashboard**.
   - The dashboard preview is displayed in a new window. Prompts are displayed and applied in the preview.

Removing Views

You can remove a view from a compound layout or analysis.

For example, you might find that the trellis view is not the best way to show the results of the Brand Revenue analysis. You can remove that trellis view.

- To remove a view from a compound layout, click **Remove View from Compound Layout** on the view’s toolbar. Removing a view from a compound layout does not remove it from the analysis.
- To remove a view from an analysis, select the view, then click **Remove View from Analysis** in the Views pane on the Results tab. Removing a view from an analysis removes it from the analysis and any compound layout to which it was added.

Sorting Values in Views

You can sort values in table, pivot table, graph, heat matrix, and trellis views. You can sort on members, measures, and rows (where you see sideways triangles). You cannot sort on page or section edges.

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, as described for **Clear Sort**.

For example, in a table in the Brand Revenue analysis, you can select an ascending sort on the Revenue column. Doing so sorts revenue values from the lowest to highest.

You can sort values in the following ways:

• Right-click in a view heading, click **Sort Column**, and select the appropriate option.

• Click the upwards and downward triangles that are found in column headings.

• Right-click a cell in a view and click **Sort** to display the Sort dialog. The interactions that are available in the Sort dialog depend on the type of data view (for example, graph or table) and the location in which you right-click within the view.

• From the Selected Columns pane of the Criteria tab, click **Options** beside a column, click **Sort**, and select the appropriate option.

### Clearing Sorts in Views

You can clear sorts that you have applied to columns in a view or analysis.

For example, you can clear all sorts in the Time column of the Brand Revenue analysis.
To clear sorts that you have applied in a pivot table, table, heat matrix, or trellis view, right-click in the view heading and click **Clear All Sorts in View**.

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**.

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.

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**Drilling in Results**

You can drill in results.

**Topics:**

- About Drilling
- Drilling in Tables and Other Views
- Drilling in Graphs
- Drilling in Map Views

**About 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. Drilling is a way to navigate through data in views quickly and easily.

- Drill down to display data in more detail, which displays more members.
- Drill up to display less data.

For example, in the results of the Brand Revenue analysis, you can drill for more data in the graph of Revenue by Product. To do this you can click on the MobilePhones data point. More data is displayed in the graph, such as the MobilePhones revenue per sales office for each of the last three years.

**Drilling in Tables and Other Views**

When you drill down in a table, pivot table, heat matrix, 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.

To drill in an attribute column in tables, pivot tables, and trellises:

1. Hover over a value in a view.
   
   The value is underlined.
2. Click the heading or member in which you want to drill.

More detail is added to the table or trellis.

To drill in a hierarchical column in tables, pivot tables, and trellises, click the **Expand** or **Collapse** icon beside a member.

You can also use the right-click menu to expand and collapse 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.

To drill in a graph:

- Click a label on any axis or in the legend.
• Click on a data point.

• More detail is shown in the graph.

**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:
• 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 closed. If action links are defined, then you see a popup window that shows additional links.

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.

Resizing Rows and Columns in Views

You can resize the row and column edges of table, pivot table, and advanced trellis views.

For example, you can resize the Time column in a table of results of the Brand Revenue analysis.

Note that the resizing of rows and columns:

• Is not persisted if you resize rows and columns interactively. If you leave a table, then display it again, the interactive resizing is lost. If you set columns widths using properties, those widths are persisted.

• Is ignored if you export the view to PDF.

Topics:

• Configuring for Resizing in Views

• Resizing in Views

Configuring for Resizing in Views

You must configure views to use scrolling as the method for browsing data before resizing can occur.

To configure a table, pivot table, or trellis view to use scrolling:

1. On the view’s toolbar, click View Properties.

2. Select Fixed headers with scrolling content in the properties dialog.
3. Click OK. The scroll bar is displayed on the view, and rows and columns can be resized.

**Resizing in Views**

You can resize a row or column edge in a table view, pivot table view, or advanced trellis.

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 required size.

4. Release the mouse button.
   The row or column is resized.

**Suppressing Null Values in Views**

You can select whether to include null values in an analysis when an entire row or column contains all null values. By default, null measure values are suppressed for all analyses.

For example, you might decide to display null values in the Revenue column of a Sales analysis.

To suppress null values in views:

1. Display the Results tab for the analysis that includes the view.

2. Click **View Properties**.

3. Select the appropriate **Include Null Values** options for the view.

For example, suppose that you want to turn off null suppression for both rows and columns in a pivot table. Select **Include rows with only Null values** and **Include columns with only Null values**.

This setting displays corresponding dimensions that have data, as well as null values. Note that if the view contains prompts or section edges, then they also inherit the null suppression value from either the row or column edge.
Assembling Views for Display

You use a compound layout to assemble different views for display on a dashboard. The views are displayed in separate containers within a compound layout.

- You can create additional compound layouts to vary presentation of analyses. You can use different compound layouts for different dashboards or for different devices. For example, a Brand Revenue dashboard might have one compound layout that shows a table and a graph, and another that shows a pie chart.

- You can duplicate a compound layout as a shortcut to creating a new compound layout. Views from the original compound layout are preserved. You can add views in addition to views that are already there, and delete views you do not want. For example, suppose you have a duplicate compound layout for the Brand Revenue analysis. You can keep the table, graph, pie chart, and gauge views, and add a performance tile view.

- You can rename a view so that the name is more meaningful to you. For example, for a Brand Revenue analysis, suppose a western region now consists only of California. You can rename the Western Region compound layout to California.

- You can delete compound layouts that are no longer useful for you. For example, for a Brand Revenue analysis, you might not need views for the Western region. You can delete the compound layout that contains those views.

To create, duplicate, rename, or delete a compound layout:

1. Open the analysis for editing.
2. Click the Results tab.
3. To create a compound layout, on the toolbar of the Analysis Editor: Results tab, click on **Create Compound Layout**.
   
   A compound layout tab is displayed with only a title view. You can add views as needed.
4. To duplicate a compound layout, on the toolbar of the Analysis Editor: Results tab, click on **Duplicate Compound Layout**.
   
   A compound layout tab that contains the same views as the selected compound layout is displayed. You can add or delete views as needed.
5. To rename a compound layout, on the toolbar of the Analysis Editor: Results tab, click **Rename Compound Layout**.
   
   On the Rename dialog, type a new name for the compound layout and click **OK**.
6. To delete a compound layout, on the toolbar of the Analysis Editor: Results tab, click on **Delete Compound Layout**.
The compound layout is removed.

**Linking Views in Master-Detail Relationships**

You can link views such that one view drives changes in one or more other views. For example, you can link two views so that when you click a particular Region in a table, your selection affects a graph. The Region on the section slider or prompt in a graph and the data in the graph changes to reflect the Region that you clicked on the table.

You must define the two types of views to link:

- **Master view** – Drives data changes in one or more detail views.
  
  The following types of views can be master views: funnel graph, gauge, graph, heat matrix, map, 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.

- **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, heat matrix, map, 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

**Topics**

- Defining Master Views
- Defining Detail Views

**Defining Master Views**

As part of the process of linking views in master-detail relationships, you define the master view that sends changes to the detail views.

To define a master view:

1. Open the analysis for editing.

2. For the column that is to be the master column, in the Criteria tab, click the Options button and select Column Properties.

3. On the Column Properties dialog, click the Interaction tab.
4. In the **Primary Interaction** box in the **Value** area, select **Send Master-Detail Events**.

5. In the **Specify channel** field, enter a name for the channel on which the master view sends master-detail events.

6. Click the Analysis editor: Results tab to view the default table or pivot table view.

7. Optionally, create a different view to be the master view.

8. Click **OK**.

---

**Defining Detail Views**

As part of the process of linking views in master-detail relationships, you define the detail views that receive changes from the master view.

To define a detail view:

1. Open the analysis for editing.

2. Click the Analysis editor: Results tab.

3. Create the view that you want to use as the detail view.

4. Edit the view.

5. Click the **Property** button on the toolbar of the view’s editor. The view’s property dialog is displayed.

6. Select **Listen to Master-Detail Events** on one of the following dialogs:
   - Gauge Properties dialog: General tab
   - Graph Properties dialog: General tab (for a graph or funnel graph)
   - Heat Matrix Properties dialog: General tab
   - Map Properties dialog: Interaction tab
   - Pivot Table Properties dialog: Style tab
   - Table Properties dialog: Style tab

---

**Note:** If the map view cannot find the detail feature with the master value, then a warning message, "No data to display for ID: nnn" is displayed.
7. In the **Event Channels** field, enter the name of the channel on which the detail view is to listen for master-detail events.

   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.

8. Click **OK**.

In the following example, a table view of a City Revenue analysis is linked to a bar graph through a master-detail relationship.

In the graph view, the City column is configured as the master view. The City column sends events to the graph view through the specified CityChoice channel.

The graph view has a prompt that enables users to choose a city. Data on the graph is displayed based on the city choice.

![Graph Example](image)

The graph is the detail view, with the City prompt listening for events from the table view on the specified CityChoice channel. Suppose the user clicks on a value in the City column in the table view. The prompt in the graph view is set to that city, and the graph is refreshed.

**Modifying the Layout of Data in Views**

To modify the way that data is arranged in a view, you use the Layout pane.

You perform tasks such as adding and rearranging columns and adding totals. For more information, see *About Drop Targets in the Layout Pane*.

**Topics:**

- Adding and Rearranging Columns in Views
- Setting Properties for Sections of Data in Views
- Adding Totals to Tables and Pivot Tables
- Displaying Running Sums and Relative Values in Pivot Tables
Adding and Rearranging Columns in Views

You can add and rearrange columns in views.

Topics

- Adding Columns to Views
- Removing Columns from Views
- Rearranging Columns in Views

Adding Columns to Views

This topic explains how to add a column to a view.

- Drag the column from the Subject Areas pane to the appropriate location in the view editor.

- Drag the column from the Subject Areas pane and drop it on a drop target on the Layout pane of the view’s editor.

For example, suppose you want to include the Office column in a table of the Brand Revenue analysis. You can drag the Office column from the Subject Areas pane to a drop target after the Product column.

Removing Columns from Views

You can remove columns from views.

Removing a column from a particular view does not remove it from the underlying analysis or remove it from other views. If you want to remove the column from the analysis and all views, remove it using the Criteria tab.

To remove a column from a view:

1. Open the view for editing.
2. In the Columns and Measures section of the Layout pane, click More Options.
3. Select Remove Column.

Rearranging Columns in Views

You can rearrange columns in views.

To rearrange table and pivot table columns in the view editor:

1. Open the view for editing.
2. Drag the column using the column handles and drop the column at a drop target.

To rearrange columns in the Layout pane:
1. Open the view for editing.

2. In the Layout pane, drag and drop the column to the required location.

Note:
This procedure provides the most basic steps for using the Layout pane to rearrange columns. Many options are available for arranging columns in the Layout pane, as described in About Drop Targets in the Layout Pane.

Setting Properties for Sections of Data in Views

You can specify properties for the view body (such as a pivot table) or drop target (such as a section).

For example, you can set the background color to light green and insert a page break in a long table of revenue values. For information, see About Drop Targets in the Layout Pane.

To set properties for view bodies and drop targets:

1. Open the view for editing.

2. In the view editor, display the Layout pane.

3. Click Properties next to the view body or drop target.

4. Set the appropriate properties. The following table describes some of the properties:
<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insert Page Break</td>
<td>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 outermost 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.</td>
</tr>
<tr>
<td>Show Blank Rows</td>
<td>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.</td>
</tr>
<tr>
<td>Maximum number of section slider values</td>
<td>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. For more information, see Defining Section Sliders in Graphs and Gauges.</td>
</tr>
</tbody>
</table>

5. Click OK.

**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.

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.

To add totals to a view:

1. Display the Layout pane for the view.
2. To add grand totals to the entire table, in the Columns and Measures drop target, click the **Totals** button, then click the location such as **Before**.

   For an entire pivot table, in the Rows or the Columns drop target, click **Totals**, then the location.

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.

   The following table describes the text to enter.

<table>
<thead>
<tr>
<th>Text</th>
<th>Description</th>
</tr>
</thead>
</table>
   | @    | 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. |
   | "\n" | 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!@$%^&*()-+=_{}[;:©|?<>.,Á ~" |
   |      | Is displayed as:  
   |      | 1234567890\abc\d"x"yz!@$%^&*()-+=_{}[;:©|?<>.,Á ~ |
   | "\\" | Displays the \ symbol. |
   | \   | Displays the \ symbol. |

### Displaying Running Sums and Relative Values in Pivot Tables

You can use the Layout pane to display running sums or the relative value of measure columns in pivot tables.

**Topics**

- Displaying Running Sums for Measure Columns in Pivot Tables
- Displaying Relative Values for 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. This option 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. For example, you can display a running sum and percentage, to view progress toward next year’s revenue target of $2 million. 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 are in effect for 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.

To display a running sum in a pivot table:

1. Open the pivot table view in the view editor.

2. In the Layout pane, in the Measures area, click More Options for the row or column to be summed.

3. 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.

This 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.

To display relative values for measure columns in pivot tables:

1. Open the pivot table in the view editor.

2. In the Layout pane, click More Options for the item that you want to show as a relative value.

3. Optionally, to duplicate the measure column, select Duplicate Layer.

   The item is displayed in the pivot table, with the same name.

4. Select Show Data As.
5. Select **Percent of** or **Index of**.

6. Select the appropriate value such as **Column**, **Row**, or **Section**.

   The column is displayed in the pivot table view.

   ![Pivot Table Example]

7. To rename the column, click **More Options** then **Format Headings**.

   In the Edit Format dialog, enter a value in the **Caption** field.

### About Drop Targets in the Layout Pane

Each editor for a data view contains the Layout pane. 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.

In the Layout pane, the columns in a data view are displayed in drop targets. Drop targets indicate where you can insert, move, or drop a column. They represent a valid position for a column. Each drop target has properties that you can set. 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.

### Concepts

- **About the Types of Drop Targets**
- **About the Excluded Drop Target**
- **About the Guidelines for Drop Targets for Various Views**

### About the Types of Drop Targets

This concept describes the types of drop targets.

A data view can contain one or more of the following drop targets, depending on the type of view:

<table>
<thead>
<tr>
<th>Target</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;view-type&gt;</code> Prompts</td>
<td>Provides an interactive result set that enables you to select the data 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.”</td>
</tr>
<tr>
<td>Sections</td>
<td>Populates the areas that divide the view into sections. If you select the <strong>Display as Slider</strong> 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.</td>
</tr>
<tr>
<td><code>&lt;view-type&gt; area</code></td>
<td>Simulates the plot area or the body of the view itself and assists you in seeing what the view looks like. You can drag and drop columns to and from this area.</td>
</tr>
</tbody>
</table>
In addition to the drop targets explained in the table, the Layout pane includes the Excluded drop target. (See About the Excluded Drop Target.) The Layout pane includes other drop targets that are specific to the type of view. For example, the Layout pane for the radar graph includes a Radar Sections drop target that shows the columns values as points on each line along a radius of a circle.

**About the Excluded Drop Target**

To modify the layout of data, you must understand 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 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.

If you want a column that is in the Excluded drop target to be displayed in a view, then you can easily move it. Simply 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.

You place a column in the Excluded drop target after views have been created for the analysis in various ways. For example, you can select **Exclude Column** from the right-click menu of a view. Suppose that you are editing a view in its editor and you add a column to that view from the Subject Areas pane. The column is placed in the Excluded drop target for all other views in the analysis.
About the Guidelines for Drop Targets for Various Views

As you modify the layout of views, there are guidelines that you need to bear in mind for drop targets in the Layout pane.

- **Drop Target Guidelines for Graphs and Funnel Graphs**
- **Drop Target Guidelines for Heat Matrices**
- **Drop Target Guidelines for Trellises**
- **Drop Target Guidelines for Treemaps**

**Drop Target Guidelines for Graphs and Funnel Graphs**

This reference describes the restrictions and guidelines that 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.
- 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.

**Drop Target Guidelines for Heat Matrices**

You use the Layout pane areas to visualize heat matrices. You can quickly spot anomalies in large quantities of data and study individual values.

The Layout pane for heat matrices is composed of various drop target areas:

<table>
<thead>
<tr>
<th>Area</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prompts</td>
<td>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.</td>
</tr>
<tr>
<td>Sections</td>
<td>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.</td>
</tr>
<tr>
<td>Rows</td>
<td>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, then the new column is added as a subordinate column to the Rows drop target.</td>
</tr>
<tr>
<td>Columns</td>
<td>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.</td>
</tr>
</tbody>
</table>
Details of the Color By Area

The Color By area 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 view and in the Color By drop target.

- If you remove the Color By measure column in the Criteria tab, then 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 the bins. If you select Continuous Color Fill, then the heat matrix tiles are displayed as a gradient color scheme.

- **Color:** Select the color palette for the heat matrix.

Drop Target Guidelines for Trellises

This reference describes the guidelines that apply to working with drop targets in trellises.

- 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. For information, see *Editing the Formula for a Column*. 
- 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 Treemaps**

You use the Layout pane areas to visualize treemaps, which are constrained, hierarchical data. You can quickly spot trends and anomalies in large quantities of data and study individual values.

The Layout pane for treemaps is composed of various drop-target areas:

<table>
<thead>
<tr>
<th>Area</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prompts</td>
<td>Select an attribute or hierarchical column (excluding ragged and skip-level) by which to filter the treemap.</td>
</tr>
<tr>
<td>Sections</td>
<td>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 might be the container to display a treemap that is sized by revenue and colored by year-ago revenue.</td>
</tr>
<tr>
<td>Group By</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>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, then a title bar is displayed for the grouping. For example, region that is grouped by year might be the container to display a treemap that is sized by revenue and colored by year-ago revenue. Region displays in the title bar.</td>
</tr>
<tr>
<td>Size By</td>
<td>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).</td>
</tr>
<tr>
<td>Color By</td>
<td>Represents a distribution of values across all of the tiles at the same level and adds additional scope to the analysis providing a &quot;qualitative&quot; perspective to the treemap.</td>
</tr>
</tbody>
</table>
Building Dashboards

This topic describes how to build dashboards to provide personalized views of corporate and external information in Oracle BI Cloud Service.

Video

Topics:

- Typical Workflow for Building Dashboards
- Creating Your First Dashboard
- Editing Dashboards
- Adding and Deleting Pages in Dashboards
- Printing Dashboards
- Organizing Dashboard Pages in Briefing Books
- Improving the Time to Display Dashboard Pages with Default Selections
- Recalling Personalized Settings
- Linking to Dashboard Pages

Typical Workflow for Building Dashboards

Here are the common tasks to start building dashboards.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create multiple analyses</td>
<td>Build analyses on which you can create views that you display on a dashboard.</td>
<td>Creating Your First Analysis</td>
</tr>
<tr>
<td>Create a dashboard</td>
<td>Create a dashboard to display data from analysis.</td>
<td>Creating Your First Dashboard</td>
</tr>
<tr>
<td>Add content to a dashboard page</td>
<td>Add content to dashboard pages to display items such as views and prompts.</td>
<td>Adding Content to Dashboard Pages</td>
</tr>
<tr>
<td>Add prompts to dashboard pages</td>
<td>Add prompts to dashboard pages to drive the content on the pages.</td>
<td>Adding Prompts to Dashboard Pages</td>
</tr>
<tr>
<td>Add pages to a dashboard</td>
<td>Optionally add one or more pages to the dashboard to display the data in various ways.</td>
<td>Adding Pages to Dashboards</td>
</tr>
</tbody>
</table>
### Task Description

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall personal settings for dashboards</td>
<td>Create customizations that enable you to view pages in their current state or with your favorite choices already selected.</td>
<td>Recalling Personalized Settings</td>
</tr>
</tbody>
</table>

### Creating Your First Dashboard

You can create dashboards to provide personalized views of corporate and external information. A dashboard consists of one or more pages that display results of an analysis.

**Video**

**Tutorial**

For example, you can create a Sales Performance dashboard and add content to track your team’s revenue. Suppose you create three views for an analysis: performance tile view, a table view, and treemap view. You can create a dashboard that displays these three views. You can include prompts on the dashboard to enable users to specify the values to display in the views.

To create a dashboard:

1. On the Home page, click **Create** and select **Dashboard**.
2. In the New Dashboard dialog, enter a name and description for the dashboard.

3. Select whether to share a dashboard with others or to save it for your personal use:

<table>
<thead>
<tr>
<th>Shared or Personal</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>To share with others</td>
<td>To share a dashboard with others and to not list the dashboard in the <strong>Dashboard</strong> menu in the global header, save the dashboard in any level (such as <em>/Company Shared/Sales/Eastern</em>).</td>
</tr>
<tr>
<td></td>
<td>To share a dashboard with others and to list the dashboard in the <strong>Dashboard</strong> menu in the global header, save the dashboard in the <em>/Company Shared/first level subfolder</em>.</td>
</tr>
<tr>
<td></td>
<td>If you specify a shared folder in which no dashboards have been saved, then a new Dashboards sub-folder is created automatically in the folder.</td>
</tr>
<tr>
<td></td>
<td>For example, if you select a folder named <em>/Company Shared/Sales</em> in which no dashboards have been saved, a new Dashboards folder is created. The Location entry changes to <em>/Company Shared/Sales/Dashboards</em>. (A new Dashboards folder is not automatically created if you choose a folder at any other level.)</td>
</tr>
<tr>
<td>To save for your personal use</td>
<td>Save the dashboard in the <em>/MyFolders</em> folder.</td>
</tr>
</tbody>
</table>

4. Specify that you want to add content to the new dashboard now.

5. Click **OK**.

The new dashboard, which contains one blank page, is displayed in the Dashboard builder for editing.
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.

To edit an existing dashboard:

1. Open the dashboard.

2. Click Page Options, then select Edit Dashboard, if you have appropriate permissions and privileges.

   The Dashboard builder is displayed.

3. Perform one or more of the following tasks, as described in the following table:

<table>
<thead>
<tr>
<th>Task</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add content to a dashboard page</td>
<td>Adding Content to Dashboard Pages</td>
</tr>
<tr>
<td>Add a dashboard page</td>
<td>Adding Pages to Dashboards</td>
</tr>
<tr>
<td>Delete a dashboard page</td>
<td>Deleting Dashboard Pages</td>
</tr>
</tbody>
</table>

4. Use the options on Tools in the toolbar of the Dashboard builder, as necessary, to perform the tasks that are described in the following table:

<table>
<thead>
<tr>
<th>Task</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change properties</td>
<td>Changing the Properties of a Dashboard and Its Pages</td>
</tr>
<tr>
<td>Print</td>
<td>Printing Dashboards</td>
</tr>
<tr>
<td>Add to briefing book</td>
<td>Adding Content to New or Existing Briefing Books</td>
</tr>
<tr>
<td>Customize a dashboard</td>
<td>Applying Saved Customizations</td>
</tr>
</tbody>
</table>

5. Perform one of the tasks that are described in the following table at any time:

<table>
<thead>
<tr>
<th>Task</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preview</td>
<td>View what the dashboard will look like when you save it.</td>
</tr>
<tr>
<td>Save</td>
<td>Save your changes.</td>
</tr>
<tr>
<td>Run</td>
<td>Exit the Dashboard builder and return to the Dashboard.</td>
</tr>
</tbody>
</table>

Tip:

You can find your current location within Oracle BI content and the path that you have used to navigate Oracle BI content. You use breadcrumbs to return to a previous location. For example, you can navigate from the Dashboard editor to the dashboard’s City Revenue tab in the Sales Performance dashboard. Then you can drill into revenue by postal code for each city.
Adding and Deleting Pages in Dashboards

You can add and delete pages in dashboards.

Topics:

- Adding Pages to Dashboards
- Adding Content to Dashboard Pages
- Changing the Properties of a Dashboard and Its Pages
- Changing the Properties of Objects Added to Dashboard Pages
- Deleting Objects on Dashboard Pages
- Deleting Dashboard Pages

Adding Pages to Dashboards

You can add new pages to organize content of a dashboard.

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.

To add a new page to a dashboard:

1. Open the dashboard for editing.
3. In the Add Dashboard Page dialog, enter a name and description for the page, and click OK.

The page is displayed as a new tab in the Dashboard builder.

4. Click Save.

After you add a new page, you can add content to it. See Adding Content to Dashboard Pages.
Adding Content to Dashboard Pages

You can add dashboard objects (any of the objects from the Dashboard objects pane) to dashboard pages. You can also add objects that you have saved in the catalog.

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.

To add content to a dashboard page:

1. Open the dashboard for editing.
2. Navigate to the page to which you want to add content.
3. In the Dashboard Builder, add each object that you want to include. To do so, select it in the Dashboard Objects pane or the Catalog pane and drag and drop it to the Page Layout area.

The following table describes some of the objects that you can add.

<table>
<thead>
<tr>
<th>Object</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Column</td>
<td>Add a column to align content on a dashboard. You can create as many columns on a dashboard page as you need. You can place columns horizontally or vertically.</td>
</tr>
<tr>
<td>Section</td>
<td>Add sections within columns to hold the content for the page, such as action links and analyses. You can include as many sections as you need for a column.</td>
</tr>
</tbody>
</table>

4. Set the properties of each object, as appropriate by clicking Properties.
5. To enable users to specify values to display in views on the dashboard page, include prompts as described in Adding Prompts to Dashboard Pages.
6. Click Save.

Changing the Properties of a Dashboard and Its Pages

You can change the style and description of the dashboard or specify links to include at the dashboard level by setting dashboard properties.

For example, you can specify the options that your team members have when they view the Brand Revenue analysis on a dashboard page. You might give them options to export, refresh, and print the analysis.

To change the properties of a dashboard and its pages:

1. Open the dashboard for editing.
2. Click Tools and select Dashboard Properties.
3. In the Dashboard Properties dialog, make the property changes that you want. The following table describes some of the properties.
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page Size</td>
<td>Specify whether you want the dashboard to fit content or fill the browser window.</td>
</tr>
<tr>
<td>Filters and Variables</td>
<td>Specify to embed dashboard prompts with default values.</td>
</tr>
<tr>
<td>Dashboard Report Links</td>
<td>Set the links to display with analyses on the dashboard: analyze, edit, refresh, print, export, or add to briefing book.</td>
</tr>
<tr>
<td>Prompts Apply Buttons</td>
<td>Specify whether to show or hide Reset buttons.</td>
</tr>
<tr>
<td>Dashboard Pages</td>
<td>Hide a dashboard page, show “Add to Briefing Book,” or display a prompt before opening the dashboard page.</td>
</tr>
</tbody>
</table>

4. Click **OK**, and then **Save**.

**Changing the Properties of Objects Added to Dashboard Pages**

You can change the properties of objects that have been added to a dashboard page.

For example, you can change the column properties of the Brand Revenue analysis to specify the heading display in 14-point bold Helvetica font.

To change the properties of an object on a dashboard page:

1. Open the dashboard for editing.
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 **Properties**.

   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.

   The following table describes some properties that you can set:

<table>
<thead>
<tr>
<th>Dialog</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Break</td>
<td>Add page and column breaks to the layout of a dashboard page.</td>
</tr>
<tr>
<td>Prompt Links</td>
<td>Specify whether to display the Edit link with a prompt. This link, which displays at runtime, enables users (with the proper privileges) to edit the prompt.</td>
</tr>
</tbody>
</table>

5. Click **Save**.

**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.

To delete an object on a dashboard page:
1. Open the dashboard for editing.
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 Delete.

**Deleting Dashboard Pages**

You can delete the current dashboard page, or one or more dashboard pages. For example, you can delete pages 2 and 3 from the Sales Performance dashboard. Doing so, you retain only the page with the most recent Brand Revenue analysis.

To delete the current dashboard page:

1. Open the dashboard for editing.
2. Navigate to the page to delete.
3. Click Delete Current Page.
4. Confirm the deletion.

To delete one or more dashboard pages:

1. Open the dashboard for editing.
2. Click Tools and select Dashboard Properties.
3. For each page to delete:
   a. In the Dashboard Pages area of the dialog, select the page.
   b. On the Dashboard Pages toolbar, click Delete.
   c. Confirm the deletion.
4. Click OK.

**Printing Dashboards**

You typically view dashboards in electronic form. You can easily print a dashboard if you want to see its pages in PDF or HTML format.

For example, you can print a Stock Control dashboard page so you can refer to it during a visit to a supplier's factory. At this location, no external computing devices are permitted.

To print a dashboard page:
Organizing Dashboard Pages in Briefing Books

You can organize dashboard pages in briefing books.

Topics:
- Adding Content to New or Existing Briefing Books
- Editing the Content of Briefing Books
- Downloading Briefing Books
- Adding a List of Briefing Books to a Dashboard Page

Adding Content to New or Existing Briefing Books

You can add the content of dashboard pages or individual analyses to new or existing briefing books. A briefing book is a collection of static or updatable snapshots of dashboard pages and individual analyses.

For example, you can add the contents of the Regional Revenue analysis to a briefing book each quarter. This process enables you to review quarterly snapshots of the data.

1. Open the dashboard.
2. Navigate to the page to add or that contains the analysis to add.
3. To add the contents of the dashboard page to a briefing book, click Page Options and select Add To Briefing Book.
4. To add the results of an individual analysis to a briefing book, edit the dashboard, select Tools, and select Page Report Links. Select the Customize option and click Add to Briefing Book.
5. In the Save Briefing Book Content dialog, click Browse.
6. In the Save As dialog, specify the appropriate location for the briefing book:

<table>
<thead>
<tr>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>New briefing book</td>
<td>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.</td>
</tr>
<tr>
<td>Existing briefing book</td>
<td>Select the briefing book and click OK.</td>
</tr>
</tbody>
</table>

7. In the Save Briefing Book Content dialog, complete the remaining fields as appropriate.
8. Click OK.

Editing the Content of Briefing Books

You can edit briefing books to reorder content, delete content, and change the content type, navigation link properties, and content description.

For example, you can edit a briefing book to change the content description to reflect the periods of Brand Revenue analysis data.

To edit a briefing book:

1. In the global header, click Catalog to display the Catalog page.

2. Navigate to the briefing book to edit and click Edit.

3. In the Edit Briefing Book dialog, to change content:
   a. Select the content.
   b. Click Edit Page to display the Page Properties dialog.
   c. 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 briefing books.

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 PDF version of a briefing book contains an automatically generated table of contents.

For example, you can download a briefing book that contains all the Brand Revenue analyses for the year. After downloading, you can view the briefing book in Adobe Reader and print it in preparation for a sales presentation.

To download 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 open or save the file.
   - To download the briefing book in MHTML format, click Web Archive (.mht) and 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.

For example, you can add a list of briefing books that contain Brand Revenue analyses to a Sales Performance dashboard page.

To add a list of briefing books to a dashboard page:

1. Open the dashboard for editing.
2. Navigate to the page to which 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 Properties.
5. In the Folder Properties dialog, in the **Folder** field, 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. Click **OK** and click **Save** to save the dashboard.

### Improving the Time to Display Dashboard Pages with Default Selections

You can improve the time that it takes to display dashboard pages.

Under certain circumstances, dashboard pages might take several moments to display in a browser. When the pages are displayed, they might not show the values that users had wanted to see in analyses based on the selection of prompts. You can enable users to specify prompt values (rather than using default prompt values) before analyses content is displayed on dashboard pages. This confirmation in displaying content initially improves the wait time for displaying the page with default prompt selections. The content of analyses is not displayed on the page until the user responds to prompts. Other objects (such as dashboard prompts, text, and so on) are displayed.

For example, you can prompt for which regions to include before displaying the Brand Revenue analysis on the Sales Performance dashboard page.

When you prompt users for values before displaying analyses, the following occurs:

- A message is displayed at the top of the page, which indicates that the page is not fully loaded. The message also instructs the user to select prompt values and click **Continue**. Clicking **Continue** displays the content on the page using the prompt values that the user specifies. If the user does not specify any prompt values, then the analysis is displayed with default prompt values.

- The page displays static information about the objects that have not yet been displayed. The information includes the object name, an icon that represents the object view, the view name, and the object description (if available).

- On the Page Options menu (displayed from **Page Options** on the Dashboard page toolbar), all options except **Edit Dashboard** are disabled.

- The **Apply** button on dashboard prompts is not displayed. Instead any prompt values are applied automatically when the user clicks **Continue**.

To improve the time to display a dashboard page:

1. Open the dashboard for editing.

2. Click **Tools** and select **Dashboard Properties**.

   The Dashboard Properties dialog is displayed.

3. Locate the page in the Dashboard Pages area and select **Prompt before Opening**.
4. Click OK.

5. Click Save.

Recalling Personalized Settings

You can recall personalized settings that you made for dashboard pages.

As you work with dashboard pages, you frequently make the following types of settings:

- Filters
- Prompts
- Column sorts
- Drills in analyses
- Section expansion and collapse

These personalized settings are not saved when you close the dashboard. To have the ability to recall these personalized settings, you save the settings as a customization. Saved customizations enable you to save and view later dashboard pages in their current state with the most frequently used choices for items. By saving customizations, you need not make these choices manually each time that you access the dashboard page.

Topics:

- Saving Customizations of Dashboard Pages
- Applying Saved Customizations
- Editing Saved Customizations
- Clearing the Current Customization

Saving Customizations of Dashboard Pages

You can save customization for use by you or by others who have author, but not a consumer, role. You can also specify whether the customization is to be the default customization for a dashboard page, for you or for others.

For example, you can save a customization of the Sales Performance dashboard. The customization enables sales managers with permission to see a customized view of the Brand Revenue analysis.

To save a customization:

1. Open the dashboard.

2. Navigate to the page on which you want to save a customization.

3. Make your personalized settings.

4. Click Page Options and select Save Current Customization.

5. Enter a descriptive name for the customization in the dialog.
6. Specify for whom the customization is to be saved.

<table>
<thead>
<tr>
<th>For Whom</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>For your personal use</td>
<td>Select ME.</td>
</tr>
<tr>
<td>For use by others</td>
<td>Select Others and click Set Permissions. Specify the author accounts that have permission to use the customization.</td>
</tr>
</tbody>
</table>

7. To assign a customization as default, 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. 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.

To apply a saved customization:

1. Open the dashboard for editing.
2. Navigate to the page that contains the customization to apply.
3. Click Page Options and select Apply Saved Customization.
   - Your personal saved customizations are shown, followed by shared saved customizations.
4. Click a saved customization in the list to apply it to the dashboard page.

Editing Saved Customizations

You can rename and delete customizations and change which customization to use as your default.

For example, you can change your default customization to one that you just saved for the Sales Performance dashboard.

To edit saved customizations:

1. Open the dashboard for editing.
2. Navigate to the page that contains the customization to edit.
3. Click Page Options and select Edit Saved Customizations.
4. Rename or delete customizations or change the default customization, as appropriate.
5. Click OK.
Clearing the Current Customization

You can clear the current customization if you decide that 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.

To clear the current customization, click Page Options and select Clear My Customization. The current customization is cleared.

Linking to Dashboard Pages

You can create links to dashboard pages so that you can easily enable other users to display those pages.

For example, you can create a link to the Sales Performance dashboard and send the link to team members in an email.

Topics:

• About Bookmark Links
• Creating Links to Dashboard Pages

About Bookmark Links

A bookmark link is a URL that captures the path to a dashboard page and all aspects of the page state.

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. They can do this 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. The default number of days to save the object is 30.

Creating Links to Dashboard Pages

You can create links to dashboard pages.

To create a link to a page in a dashboard:

1. Open the dashboard.

2. Navigate to the page for which you want to create the link.

3. From the Page Options menu, select Create Bookmark Link.
**Note:**

You can drill in an analysis that has been set to replace the dashboard with the new results. You can do the replacement rather than showing the new results directly in the dashboard. In this case, the **Create Bookmark Link** option is displayed as a link below the new results. The option is not displayed on the Page Options menu.

The link is displayed in the Address Bar of the browser. If the link is a bookmark link, then you can save it as a bookmark or copy and send it to other users.
Filtering and Selecting Data for Analyses

This topic describes how to filter and select data for analyses.

Topics:
- Typical Workflow for Filtering and Selecting Data
- About Filters and Selection Steps
- Creating Filters for Columns
- Editing Filters for Columns
- Reusing Filters
- Using a Saved Analysis as a Filter
- Advanced Techniques: How Dashboard Prompts and Analysis Prompts Interact
- Refining Selections of Data
- Manipulating Members Using Groups and Calculated Items

Typical Workflow for Filtering and Selecting Data

Here are the common tasks to start filtering and selecting data to display in analyses.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create an analysis</td>
<td>Select and arrange columns that you want to use in an analysis.</td>
<td>Creating Your First Analysis</td>
</tr>
<tr>
<td>Create a filter</td>
<td>Limit the results that are displayed when an analysis runs.</td>
<td>Creating Filters for Columns</td>
</tr>
<tr>
<td>Edit a filter</td>
<td>Change the operator and values in a filter.</td>
<td>Editing Filters for Columns</td>
</tr>
<tr>
<td>Save a filter</td>
<td>Save filters in the catalog or with the analysis.</td>
<td>Saving Filters</td>
</tr>
<tr>
<td>Create a selection step</td>
<td>Select members, new groups, existing groups, new calculated items and conditions for displaying data.</td>
<td>Creating Selection Steps</td>
</tr>
<tr>
<td>Create a group</td>
<td>Group column values for display in an analysis.</td>
<td>Creating Groups and Calculated Items</td>
</tr>
</tbody>
</table>
### About Filters and Selection Steps

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.

Another kind of filter, called a prompt, can apply to all items in a dashboard. Prompts can be used to complete selection steps and filters at runtime. For information, see Prompting in Analyses and Dashboards.

### About Prompted Filters

A prompted filter is a filter whose operator is set to **is prompted**. This operator is valid for a column that contains text, numbers, or dates.

When you select the **is prompted** operator for a filter’s column, you flag the column as ready to be filtered by a prompt. When a prompt is used, results include only records where the data in the column that is prompted matches the user’s choices.

The **is prompted** operator is required for columns that are included in prompts where no prefiltered values are wanted.

For more information, see Specifying Values for Filters and Advanced Techniques: How Dashboard Prompts and Analysis Prompts Interact.

### Creating Filters for Columns

You can create filters for columns.
Creating Inline and Named Filters

In most cases, you create and include a filter "inline" for use in only one analysis. You can also create a named filter to reuse the filter across all analyses and dashboards. Unless you want to reuse the filter, create an inline filter.

For example, as a sales consultant, you can filter the results that are shown in an existing Brand Revenue analysis. In this way, you can see revenue for only those brands for which you are responsible.

To create an inline filter from the Selected Columns pane on the Criteria tab:

1. Open the analysis for editing.

2. On the Selected Columns pane of the Criteria tab, click Options beside the column name and select Filter.

   The New Filter dialog is displayed. See Specifying Values for Filters.

To create an inline filter from the Filters pane on the Criteria tab:

1. Open the analysis for editing.

2. On the Filters pane of the Criteria tab, click Create a filter for the current Subject Area.

3. Select a column name from the menu.

   The New Filters dialog is displayed. See Specifying Values for Filters.

To create a named filter:

1. On the Home page, click Create and select Filter.
In the Subject Areas pane, double-click a column. 

The New Filter dialog is displayed. See Specifying Values for Filters.

**Specifying Values for Filters**

You can specify the values for a filter that displays in an analysis only those values in which you are interested.

For example, in the Brand Revenue analysis, a filter can limit the analysis results to only the first quarter values in three years. As a result, you can discover how revenue performed year-to-year in these quarters.

To specify values for a filter:

1. Complete one of the procedures as described in Creating Filters for Columns.

2. In the New Filter dialog, select the appropriate operator such as *is equal to / is in.*
See About Prompted Filters for information about the is prompted operator.

3. Select values from the list or click the Search icon to find more values from which to select.

4. Optionally, select Protect Filter to prevent prompts from overwriting the filter. For information, see Editing Filters for Columns.

5. Optionally, select Convert this Filter to SQL. For information, see Editing Filters for Columns.

6. Click OK.

For inline filters, the filter is displayed in the Filters pane on the Criteria tab.

For named filters, the filter is displayed in the Saved Filters pane.
After specifying values, save the filter as named or inline, as described in Saving Filters.

**Saving Filters**

You can save inline filters and named filters.

When you create an inline filter in the Filters pane, you can optionally save the inline filter as a named filter. When you save an inline filter as a named filter, other people on your team can use this filter in a new analysis. You can also create a named filter as a standalone object from the global header.

For example, you can save a filter for the Quarter column in a shared folder in the catalog. As a result, your manager has access to that filter. Suppose that you save the filter that limits quarters to 2011 Q1, 2012 Q1, and 2013 Q1. Your manager can use this filter in a Product Revenue analysis to find how products performed only during these quarters.

To save an inline filter as a named filter:

1. On the Filters pane on the Criteria tab, click More options and select **Save Filters**.
2. Specify a folder in the Oracle BI Presentation Catalog.
3. Click OK.

To save a named filter:

1. On the toolbar, click **Save As**.
2. Specify a folder in the catalog.
3. Click OK.

**Editing Filters for Columns**

You can edit an inline filter when you need to make changes to it. When you edit and save a named filter, the changes that you make to the filter propagate to wherever the filter is used.

For example, you can edit the filter for the Quarter column to include data for the "2010 Q1" quarter. This data is propagated to every analysis where the filter is applied.

To edit an inline filter:

1. Display the Edit Filter dialog.
   
   For example, on the Saved Filter pane or in the Filters pane of the Criteria tab, hover the cursor over the filter, then click **Edit Filter**.
2. In the Edit Filter dialog, change the selection for any of the options that are described in the following table:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operator</td>
<td>Select an operator to apply to the values that are specified in the Value field. The Operator list is populated based on the function that you are performing (such as creating a filter or creating a dashboard prompt). It is also populated based on the type of column that you selected. For example, you can choose is greater than to use only values greater than the value that you select in the Value list. If you select 100,000 from the Value list, then the filter uses values from the column that are greater than 100,000. You can use this information in an analysis to focus on products that are performing best.</td>
</tr>
<tr>
<td>Value</td>
<td>Specify a value or values from the list that contains members of the column that you select. You can also enter the value into the field manually or search. For example, suppose that you want to edit a filter that you have created for the Products column of an analysis. The Value field contains a list of products from the column. Depending on the operator that you chose, you can select one or more products to include in the analysis.</td>
</tr>
<tr>
<td>Protect Filter</td>
<td>Select this option to prevent prompts from overwriting the filter.</td>
</tr>
<tr>
<td>Convert this Filter to SQL</td>
<td>Select this option to convert the filter to a SQL WHERE clause that you can edit manually. After you convert a filter to SQL code, you can no longer view and edit the filter in the Edit Filter dialog.</td>
</tr>
</tbody>
</table>

3. Click OK.
Reusing Filters

You can reuse a filter that you have saved as a named filter in the catalog. You can apply a saved filter to an existing analysis.

For example, you can apply a filter for the Quarter column to the Brand Revenue analysis.

To reuse a named filter:

1. On the Catalog pane on the Criteria tab, select a named filter.
2. Click Add More Options.

The Apply Saved Filter dialog is displayed.

3. Optionally, add the named filter in both or either of the following ways:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear all existing filters before applying</td>
<td>Select this option to remove all existing filters from the analysis before adding the saved filter.</td>
</tr>
<tr>
<td>Apply contents of filter instead of a reference to the filter</td>
<td>Select this option to add the filter as an inline filter. The filter is added to the Filters pane on the Criteria tab, where you can edit it. Any changes that you make to the filter are saved with the analysis, but not with the catalog. Deselect this option to add the filter as a named filter. The filter is added to the Filters pane on the Criteria tab, where you can view it but not edit it.</td>
</tr>
</tbody>
</table>
4. Click OK.

**Using a Saved Analysis as a Filter**

You can create a filter based on the values that are returned by another analysis. You can use any saved analysis that returns a column of values to filter the matching column in an analysis.

For example, you can create a filter that is based on the results of the Brand Revenue analysis.

To create a filter based on the results of another saved analysis:

1. Create or open a named filter or analysis to which you want to apply an inline filter.

2. Find the filter.
   - If you are working with a named filter, then locate the Saved Filter pane. 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. From the Filters Pane toolbar, click **Create a filter for the current Subject Area**. Select the column for which you want to create the filter.

   The New Filter dialog is displayed.

3. In the **Operator** field of the New Filter dialog, select *is based on the results of another analysis*.

4. In the **Saved Analysis** field, enter the path to the analysis or click **Browse** to locate it.

5. Select a column name from the **Use Values in Column** menu.

6. In the **Relationship** field, select the appropriate relationship between the results and the column to be filtered.

7. Click **OK**.

**Advanced Techniques: How Dashboard Prompts and Analysis Prompts Interact**

You can combine and wire prompts in various ways to create dashboards that enable users to quickly and easily request precise, meaningful data. Most people don’t need to perform this task.

Combining and wiring prompts enables you to specify how dashboard prompts interact with analysis prompts. 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. 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. You can also create analysis C that contains information about city by region. You then create and save a dashboard prompt for Region. You create a dashboard and add analyses A, B, and C and the Region dashboard prompt. When you 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. This is because you set analysis A's
Region column filter value to is protected. 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, as described in the following table.

<table>
<thead>
<tr>
<th>Wiring Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto wiring</td>
<td>The auto wiring functionality assumes that you intended to create a functioning prompt for the column and, therefore, activates and applies the prompt. Oracle BI Cloud Service applies the auto wiring method when you create an analysis and add a column prompt. This auto wiring method does not require the is prompted filter operator. Any unprotected filter can be used. 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 “Filter operator is set to is prompted” row in this table.</td>
</tr>
<tr>
<td>Constrained prompts</td>
<td>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, suppose 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.</td>
</tr>
<tr>
<td>Filter operator is set to is Prompted.</td>
<td>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 apply to the embedded analysis. For information, see About Prompted Filters.</td>
</tr>
<tr>
<td>Selection Steps Override with Prompts Option</td>
<td>Use this method to use an analysis or dashboard column prompt to provide the data choices for a specific member selection step. Because 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. For more information about selections steps, see Refining Selections of Data. For more information about creating a prompt that works with selections, see Overriding a Selection Step with a Prompt.</td>
</tr>
</tbody>
</table>
### Wiring Method

<table>
<thead>
<tr>
<th>Protected versus Unprotected filters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>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 <strong>Is prompted</strong>. The unprotected and protected filter settings can be used when a dashboard prompt and inline prompt reside on the same dashboard. Also, both prompts must have been created for the same column. When the column’s filter value is unprotected, the dashboard prompt value determines the analysis’ results. Suppose the filter value is set to something other than <strong>Is prompted</strong> (for example, <strong>Is equal to/is in</strong>) and the filter is set to protected filter. Then, the dashboard prompt cannot determine the report results.</td>
<td></td>
</tr>
</tbody>
</table>

---

### Refining 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.

For more information, see [About Filters and Selection Steps](#).

**Topics:**

- Creating Selection Steps
- Editing Selection Steps
- Saving Selection Steps for Reuse
- Advanced Techniques: Creating Condition Steps

### Creating Selection Steps

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 selection step to specify criteria for the following members in an Office column: Baltimore, Austin, and Athens.

To create a selection step for an analysis:

1. Open the analysis for editing.
2. Select the Criteria tab.
3. Display the Selection Steps pane by clicking **Show Selection Steps Pane** on the toolbar.
4. Click **Then, New Step**, and select the kind of step to create. For example, you can specify a list of selected members for the step.

![Image of New Member Step](image)

Depending on your selection, the New Member Step, New Select Existing Groups and Calculated Items, New Group, New Calculated Item, or New Condition Step dialog is displayed.

5. For a member step, select **Add**, **Keep Only**, or **Remove** from the **Action** list.

The following table describes what you can do with these options:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add</td>
<td>Use this option to add the selected members to the selection.</td>
</tr>
<tr>
<td>Keep Only</td>
<td>Use this option to keep only the selected members and remove all others.</td>
</tr>
<tr>
<td></td>
<td>For example, you can keep only the sales that are generated by a selected Sales Associate.</td>
</tr>
<tr>
<td>Remove</td>
<td>Use this option to remove the selected members from the selection.</td>
</tr>
<tr>
<td></td>
<td>For example, you can remove the Eastern and Western regions from the selection.</td>
</tr>
</tbody>
</table>

6. If you are creating a member step, then move the members to include in the step from the **Available** area to the **Selected** area.

![Image of New Member Step - Geography.City](image)
7. For a step that involves a group or calculated item, select an existing group or calculated item or create a new one.

8. If you are creating a step that involves a condition, then select the appropriate condition type. For example, select $X \geq Y$ to correspond to something like Sales $\geq$ Costs.

For more information, see Advanced Techniques: Creating Condition Steps.

9. Specify the appropriate values for the condition such as the action, measure, and operator to use for the values of the column.

10. Click OK.

**Editing Selection Steps**

You can edit existing selection steps.

For example, you can edit a member step for the Offices column in the Brand Revenue analysis. You can add Augusta to the list of cities.

To edit a selection step for an analysis:

1. Open the analysis for editing.
2. Click on the Results tab.
3. On the Selection Steps pane, hover the mouse pointer over the selection step that you want to edit.
4. Click the pencil icon on the toolbar. A dialog is displayed to correspond to that type of selection step.
5. Perform the appropriate edits. For example, add one or more members from the column to the step.
6. Click OK.

To edit a selection step that has been saved as a group object:

1. In the Catalog pane, navigate to the location of the saved object.
2. On the Catalog pane toolbar, click **Edit**.
3. On the in the Edit Group dialog, perform the appropriate edits.
4. Click OK.

**Saving Selection Steps for Reuse**

If you have created a set of selection steps, then you can reuse them if you save them as a group in the catalog.

For example, you can reuse the selection steps for the Offices column as a group object. Doing this enables the set to be used inline with the Brand Revenue analysis.

---

**Note:**

You can save a set of selection steps only if the set includes more than just a single Start With step in the list for a column. You cannot save a set of steps if one of the steps includes a calculated item.

---

For more information about reusing groups, see Reusing a Group or Calculated Item in an Analysis.

To save selection steps as a group object:

1. Open the analysis for editing.
2. On the Results tab, display the Selection Steps pane.
3. Click **Save Selection Steps** to the far right of the column name.

   The Save Selection Steps dialog is displayed.

4. In the **Save In** field, specify a location where you want to save the selection steps.
   - If you want to keep the filter for your personal use, then save it in /My Folders/ subfolder. If you want to share the filter with others, save it in /Company Shared/ subfolder.
5. Enter a name for the saved selection steps.
6. Click **OK**.

The selection step is saved as an object in the catalog.

**Advanced Techniques: Creating Condition Steps**

One type of selection step that you can create is a condition step. Most people don’t need to perform this task.

You specify that members are selected from a column based on a condition. The condition can be one of various types including based on measures or on top/bottom values. This member list is dynamic and determined at runtime. For example, you can select the top 5% of members based on Brand Revenue. For the general procedure for creating selection steps, see Creating Selection Steps.

To create a condition step:

1. Open the analysis for editing.
2. Select the Criteria tab.

3. Display the Selection Steps pane by clicking **Show Selection Steps Pane** on the toolbar.

4. Click **Then, New Step**, then select **Apply a Condition**.

5. In the New Condition Step dialog, select the type of condition to create, as described in the following table.

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exception</td>
<td>Select members using comparison values for measure columns. A sample condition is “Sales &gt; Cost +10%.”</td>
</tr>
<tr>
<td>Top/Bottom</td>
<td>Select the specified number of members after ranking the members by the specified measure column. You can specify an exact number of members or a percentage of the total members. Sample conditions are “Top 10 based on Sales” and “Top 5% based on cost.”</td>
</tr>
<tr>
<td>Match</td>
<td>Select members based on matches with text strings and attribute values. A sample condition is “Name contains abc.” This type is available only for columns that have a data type of string.</td>
</tr>
<tr>
<td>Time/Ordinal</td>
<td>Select members based on ranges of time and on hierarchical levels. A sample condition is “From July 2012 to December 2012.” This type is available only for columns with a data type that relates to time.</td>
</tr>
</tbody>
</table>

6. In the **Action** box, select the type of action to create for the members. You can select to add the selected members to the selection, keep only the selected members and remove all others. Or, you can select to remove the selected members from the selection.

7. In the box beside the action type, select the column for whose members you are creating the condition step.

8. Enter the appropriate values for the various fields of the dialog.

For example, select the **Operator** based on the type of condition. For example, select **Within** for the Exception type.
9. Use the **Override with** box to specify whether an analysis prompt, a dashboard prompt, or a variable can override the values that you specify in this condition.

Depending on what you are overriding, you can override certain values with a prompt, a presentation variable, a session variable, or a repository variable.

If you select a variable type, then enter the name of the variable in the field. For example, suppose that you have a column called EMPLOYEE_ID. You can specify USER as the session variable with which to override the value of that column. When a user signs in, the column value is set to his user name. For more information on variables, see Advanced Techniques: Referencing Stored Values in Variables.

In a list of steps, specify that only one step in the list can be overridden by a prompt or presentation variable.

10. In the **For** area, qualify all of the dimensions of the analysis other than the dimension whose members you want to select.

Do this when creating condition steps of type Exception or Top/Bottom. For each dimension, you select which of its members to include. You can select specific members, or All, which specifies to aggregate the members when creating the condition. For example, suppose that you are qualifying the Region dimension. You can select a specific region, such as East, whose value is used in the New Condition Step dialog condition. If you select All, then the values of all regions are aggregated and used in the condition.

You can use the **For** area to create a qualified data reference (QDR). A QDR is a qualifier that limits one or more of the dimensions to retrieve a single value for a measure column. A QDR is useful when you want to temporarily reference a measure column value without affecting the current status of the dimensions. The following is an example of a QDR:

```
Add members of Total Products (Rgd Sk Lvl) where "A - Sample Sales"."Base Facts"."1- Revenue", For: Cust Segments Hier: 'Active Singles', 'Baby Boomers' is greater than "A - Sample Sales"."Base Facts"."1- Revenue", For: Cust Segments"
```

When you specify a QDR, you can specify multiple members for limiting the dimensions. When you specify multiple members, the measure column value is aggregated using the default aggregation. For example, suppose that you want to create a condition for displaying those Regions in which Units is greater than 100. Suppose that you create a QDR for the Year dimension that specifies 2010 and 2011 and that the default aggregation is Sum. If the values for 2010 and 2011 for the Central region are 50 and 60 respectively, then both those years are displayed. Their sum exceeds the 100 units that were indicated.

11. Click **OK**.

**Manipulating Members Using Groups and Calculated Items**

You can manipulate members using groups and calculated items.

**Topics:**

- About Groups and Calculated Items
- Creating Groups and Calculated Items
About Groups and Calculated Items

You can create a group or calculated item as a way to display data in a table, pivot table, trellis, heat matrix, or graph.

Groups and calculated items enable 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."

Use a **group** to define members of a column, as a list of members or a set of selection steps that generate a list of members. A group is represented as a member.

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. You can aggregate using Sum or Average or custom formula.

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.

To create a group or calculated item for an analysis:

1. Open the analysis for editing.

2. On the toolbar of the Results tab, click **New Group** or **New Calculated Item**.

3. Enter a value for **Display Label** for the group or calculated item when it is displayed in a view.

4. In the **Values From** list, select the column whose values you want to include in the group or calculated item.

5. If you are creating a calculated item, select the function for the calculated item.

6. Move the appropriate column values from the Available area to the Selected area.
7. For a calculated item with **Custom Formula** selected as the function, select mathematical operators to include in the function using the toolbar. You can also use these functions: Absolute, Ceiling, Floor, Round, and Sqrt.

A formula creates a dynamic custom grouping within the view. All measures referenced in a formula must be from the same column and must be present in the results. Formulas can be inserted into, or combined with, other calculated items.

Instead of specifying a named item for columns, you can specify $n or $-n. Here, \( n \) 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.
8. Optionally, if you are creating a calculated item, select **Remove calculated item members from view**.

   Use this box to suppress the display of members that you have included in the calculated item in the view.

9. Click **OK**.

   By default, the new group or calculated item is created for all views in the analysis.

**Editing Groups and Calculated Items**

You can edit groups and calculated items through the Selection Steps pane or from the catalog pane. You can also edit groups and calculated items in a table, pivot table, heat matrix, or trellis.

For example, you can edit a group to include the Game Station and Plasma Television members.

To edit a group or calculated item, use one of the following ways:

- In the Selection Steps pane, click the link to the group or calculated item, and then click **Edit**.
- In the Catalog pane (if you saved it in the Catalog), select the object, and click **Edit**.
- In a table, pivot table, heat matrix, or trellis (on an outside edge), right-click the group or calculated item and select **Edit Group** or **Edit Calculated Item**.

**Viewing Group Contents**

You can view the contents of a group to verify that it contains the members that you want.

For example, suppose you created a group of categories in a Product Category column. You can view the group contents to verify that it contains the appropriate categories.

To view the contents of a group:

1. Open the analysis for editing.
2. Click on the Analysis Editor: Results tab.
3. In the table view, right-click on the cell that contains the group.
4. Select **View Group Definition**.
   
   The View Group dialog is displayed.

5. Click **Close**.
Saving Groups and Calculated Items

You can save a group or calculated item as either an inline object (with an analysis) or as a named object (a standalone object).

For example, you can save the Mobile Devices group as a named object in the catalog, for reuse in the Brand Revenue analysis.

To save a group or calculated item as an inline object:

1. Create the group or calculated item, as described in Creating Groups and Calculated Items.

2. To save the analysis and the group or calculated item that it contains, click Save Analysis.

   The group or calculated item is saved as a part of the analysis.

To save a group or calculated item as a named object:

1. Create the group or calculated item, as described in Creating Groups and Calculated Items.

2. On the Analysis Editor: Results tab, display the Selection Steps pane.

3. Click the link for the group or calculated item.

4. Select Save Group As or Save Calculated Item As.

   The Save As dialog is displayed.

5. Enter a folder in the Save In field. If you want to save a group or calculated item for your own use, then save it in a /My Folders/subfolder. If you want to share the group or calculated item with others, then save it in a /Company Shared/subfolder.

6. Enter a group or calculated item name (required) and a description (optional).

7. Click OK.

   The group or calculated item is saved in the catalog as an object.
Reusing a Group or Calculated Item in an Analysis

You can add a group or calculated item to the same column on which it was created in another analysis. The group or calculated item can be either a list of members or a set of selection steps.

For example, you can display the Brand Revenue analysis and add the group members from the Mobile Devices group. The members of the Mobile Devices group are included as an "Add" step in the Selection Steps pane.

To reuse a group or calculated item from the Catalog pane:

1. On the Results tab, display an analysis containing the same column to which you want to apply the selections from a group or calculated item.
2. In the Catalog pane, select the group or calculated item.
3. On the toolbar of the Catalog pane, click Add More Options.
4. Select Add to add the group or calculated item itself. Select Add Members to add only the group or calculated item members.

To reuse a group or calculated item from the Edit Member Step dialog:

1. On the Results tab, display an analysis containing the same column to which you want to apply the selections from a group or calculated item.
2. Display the Selection Steps pane.
3. In the entry for the column you want, click the pencil icon.
   The Edit Member Step dialog is displayed.
4. From the Action menu, select Start with Group or Calculated Item.
5. Move the saved group or calculated item from the Available area to the Selected area.
6. Click OK.

To reuse a group or calculated item from the Selection Steps pane:

1. On the Results tab, display an analysis containing the same column to which you want to apply the selections from a group or calculated item.
2. On the Selection Steps pane select Then, New Step for the appropriate column.
3. Select Add Groups or Calculated Items.
4. Select Select Existing Groups and Calculated Items.

5. On the resulting dialog, select the group or calculated item from the Available area and move it to the Selected area.

6. Click OK.

Deleting Groups and Calculated Items

You can delete inline and named groups and calculated items.

For example, suppose you no longer need the combination of Flip Phones and Smart Phones in the analysis. You can delete the Mobile Devices group.

To delete an inline group or calculated item:

• On the Analysis Editor: Results tab, right-click on the cell that contains the group or calculated item that you want to delete.

• Click Remove.

To delete a named group or calculated item:

• On the global toolbar, click Catalog.

• Locate the group or calculated item in the Catalog page.

• Click More on the group or calculated item.

• Select Delete.
This topic describes how to create prompts for soliciting values to display in analyses and dashboards.

**Topics:**
- Typical Workflow for Prompting in Analyses and Dashboards
- Creating Prompts
- Editing Column Prompts
- Adding Prompts to Dashboard Pages

**Typical Workflow for Prompting in Analyses and Dashboards**
Here are the common tasks to start creating prompts for soliciting values to display in analyses and dashboards.

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Description</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create an analysis</td>
<td>Select and arrange columns that you want to use in an analysis.</td>
<td>Creating Your First Analysis</td>
</tr>
<tr>
<td>Create a column prompt</td>
<td>Create a prompt to filter the data that you see displayed.</td>
<td>Creating Column Prompts</td>
</tr>
<tr>
<td>Edit a prompt</td>
<td>Edit the prompt to change it in every place where it is used.</td>
<td>Editing Column Prompts</td>
</tr>
<tr>
<td>Add a column prompt to a dashboard page</td>
<td>Add a prompt to a new or existing dashboard.</td>
<td>Adding Prompts to Dashboard Pages</td>
</tr>
</tbody>
</table>

**Creating Prompts**
You can create column prompts and variable prompts. You can also override a selection step with a prompt.

**Topics:**
- Creating Column Prompts
- Creating Variable Prompts
- Overriding a Selection Step with a Prompt
Creating Column Prompts

A prompt enables you to filter the data that you see. A column prompt enables users viewing a dashboard to select a value for a column that affects what they see on the dashboard.

Use the following procedure to create:

- A named column prompt that you can apply to one or more dashboards. For information, see Adding Prompts to Dashboard Pages.

- An inline column prompt that is embedded in an analysis. For example, you can add a prompt to the Brand Revenue analysis so that the analysis can be reviewed for specific brands. You add a prompt directly to a column in the analysis (an inline prompt).

To create a column prompt:

1. Open the analysis for editing.

2. On the Definition pane of the Prompts tab, click New to access the prompt type selection list. Select Column Prompt and select the appropriate column.

3. Optionally, click Edit Formula to modify the column formula. For information, see Editing the Formula for a Column.

   Suppose that you added a SQL case statement to the analysis’ column instance and you want to use that CASE statement within the prompt. You must specify the same SQL CASE statement in the prompt’s column formula.

4. In the Label field, change the default label by entering a caption for the column filter prompt. The caption displays as the field label for the prompt.

   For example, "Select a currency."

5. In the Description field, enter a short description for the prompt.

   This description becomes 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, such as "is greater than." If you want the user to select the operator at runtime, then select the *Prompt User operator.

   If you are creating a prompt that includes a group in the prompt’s value selection list, then you must set the Operator to either is equal to/is in or is not equal to/is not in. For more information about groups, see About Groups and Calculated Items.

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. Depending on the type of user input that you specified, enter the appropriate values in the User Input field.

   For example, select Custom Values to indicate that users can select from a list of prompt values that you created rather than the values supplied by the column.

9. Within the Options section, select prompt options to specify the display of list values and user interaction with the prompt. The prompt options vary depending on the user input type and list values type that you selected.

10. In the Default selection field, select the prompt value or values that users see initially.

   If you select a default type, then a field is displayed where you can either select specific values, or specify how you want the default values to be determined. For example, if you select SQL Results, you must then supply a SQL statement to generate the list of values.

11. Click OK.

   The new prompt is displayed in the Definition pane.

12. Click Save Prompt in the editor or save the analysis.

13. 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.

14. Select the type of layout you want on the prompts page by clicking New Row or New Column in the Definition pane.
A row-based layout saves space because it organizes prompts horizontally. A column-based layout aligns prompts into neat columns. Click the boxes in the New Column or New Row column in the Definition table that correspond to where you want to add a new column or row to the prompts page.

15. Preview the prompt with sample data using the Display pane, or click Preview (if available) in the Definition pane toolbar to view the prompt with actual prompt values.

For information on using column prompts with dashboards, see Adding Prompts to Dashboard Pages.

Creating Variable Prompts

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. You can use variable prompts to enable 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.

To create a variable prompt:

1. Open the analysis for editing.
2. Display the Prompts tab.
3. On the Definition pane of the Prompts tab, click New then Variable Prompt to display the New Prompt dialog.
4. In the Prompt for field, select the variable type that you are creating and then enter the name of the variable.
   This variable name is the name that you add to the analysis or dashboard where you want the variable prompt's value specified by the user to display. Currently, you can create only presentation variables.
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.

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 enable 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. Click **OK** to display the prompt is displayed in the Definition pane.

12. Save your changes.

### Overriding a Selection Step with a Prompt

You can override a **selection step** with either a dashboard prompt or an inline prompt. For example, you can specify that the Products.Brand selection step be overridden with a column prompt specifying the BizTech and FunPod members.

To allow a selection step to be overridden by a column prompt:

1. Open the analysis for editing.

2. After you have specified the columns for the analysis, navigate to the Selection Steps pane by selecting **Show/Hide Selection Steps Pane**.

3. Specify the selection steps for the analysis.

4. Determine which selection step you want to override with a column prompt and click **Edit**.
The appropriate Edit Step dialog is displayed.

5. In the dialog, select **Override with prompt**, if it is available for that type of step.

6. Click **OK** and save the analysis.

**Editing Column 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.

To edit a prompt:

1. In the Definition pane on the Prompts tab, double-click to open the appropriate prompt.

2. Make the appropriate changes in the Edit Prompt window.

   For example, change the label for the prompt or change the user input to a choice list.

3. Click **OK**.

4. Click **Save Prompt**.

   The changes are propagated to wherever the prompt is used.

**Adding Prompts to Dashboard Pages**

You can add a prompt to a dashboard or dashboard page.

**Video**

For example, you can create a dashboard prompt for the Brand column. You add the prompt to the Sales Performance dashboard, to drive the content on the dashboard page. You add a filter for Brand that uses the "is prompted" operator to flag the column as ready to be filtered by a prompt. When the prompt is used, the results include only records where the data in the column that is prompted matches the user's choices.

For more information, see **About Prompted Filters**.
To add a dashboard prompt to a dashboard page:

1. Open the dashboard for editing.

2. In the Dashboard builder’s Catalog pane, locate and drag and drop an object such as an analysis onto a section in the dashboard page.

3. In the Dashboard builder’s Catalog pane, locate and drag and drop the dashboard prompt onto a section in the dashboard page.

   The dashboard prompt is added to the dashboard page.

4. To specify whether to include the prompt’s Apply and Reset buttons on the dashboard page, in the toolbar of the Dashboard builder, click Tools. Then select Prompts Buttons on Current Page and either Apply Buttons or Reset Buttons, and one of the following options:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Prompt Setting</td>
<td>Uses the buttons as specified in the Prompt definition in the Prompt editor.</td>
</tr>
<tr>
<td>Show All Apply Buttons or Show All Reset Buttons</td>
<td>Shows the buttons for the prompts.</td>
</tr>
<tr>
<td>Hide All Apply Buttons or Hide All Reset Buttons</td>
<td>Hides the buttons for the prompts.</td>
</tr>
</tbody>
</table>

   **Note:**

   These options apply to the dashboard page and override the settings for the Apply and Reset buttons for the prompt definition and dashboard properties with one exception. The settings are not overridden if the Prompts Apply Button and Prompts Reset Button fields on the Dashboard Properties dialog are set to Use page settings.

5. Click Save in the dashboard toolbar.

6. To preview the dashboard page, click Preview in the dashboard toolbar.
Making Analyses Interactive

This topic describes how you can make analyses and dashboards more interactive by linking to other content.

**Topics:**

- Typical Workflow for Making Analyses Interactive
- Creating Named Actions for Reuse
- Creating Inline Actions
- Adding Actions to Analyses
- Adding Actions to Dashboard Pages
- Editing Named Actions
- Editing and Deleting Actions and Action Links Added to Analyses
- Editing Actions Action Links and Action Link Menus Added to Dashboard Pages
- Saving Inline Actions in Analyses to the Catalog
- Saving Inline Actions in Dashboards to the Catalog

**Typical Workflow for Making Analyses Interactive**

Here are the common tasks to start making analyses more interactive.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create an analysis</td>
<td>Select and arrange columns that you want to use in an analysis.</td>
<td>Creating Analyses</td>
</tr>
<tr>
<td>Create a named action</td>
<td>Create an action and save it to the catalog.</td>
<td>Creating Named Actions for Reuse</td>
</tr>
<tr>
<td>Create an inline action</td>
<td>Create an action and save it with an analysis.</td>
<td>Creating Inline Actions</td>
</tr>
<tr>
<td>Add an action to an analysis</td>
<td>Add an action to a column value in an analysis.</td>
<td>Adding Actions to Analyses</td>
</tr>
<tr>
<td>Add an action to a dashboard</td>
<td>Add an action or an action menu to a dashboard.</td>
<td>Adding Actions to Dashboard Pages</td>
</tr>
</tbody>
</table>
Creating Named Actions for Reuse

You can create an action that enables end users to navigate to related content and to web pages.

You can include actions alongside data in an analysis and on dashboard pages so that you can easily link to other BI content and web pages. Users run an action by clicking an action link that is embedded within an analysis on column headings and column values. Users can also click links in views such as graphs, and on grand totals within tables and pivot tables. For more information, see Adding Actions to Analyses, Adding Actions to Dashboard Pages, and Adding Interactivity to Analyses.

You create a named action so that you can save it in the catalog and reuse it. For example, you can create a named action called Navigate to Company Home. This action displays your company’s home page. By saving this action in the catalog, you enable the action to be included on pages in multiple dashboards.

To create a named action:

1. On the Home page, click Create, then select Action.
2. Select the type of action to create.

You can navigate either to BI Content or to a web page using a URL. If you navigate to BI content, then the action that you create might display a graph of company revenue for selected brands. You can instead navigate to a web page, such as the home page of your company’s web site.

3. Specify the navigation content. To navigate to BI Content, select an analysis or dashboard. To navigate to a web page, specify the URL of the page in the URL field.

4. Optionally, to embed a parameter value within the URL, click Define Parameters to display the Define Parameters list.

5. Click Add Parameter.

6. Specify the column values for the parameter. For example, you can embed a parameter value anywhere within the URL for a Navigate to a Web Page action. Enter the @ (Name) value, where "Name" is the value specified in the Name column. You can embed any number of parameters.

7. Optionally, click Options to display the Action Options dialog where you customize the information that is displayed when the action runs.

8. Specify the customization that you want, for example:
9. Click OK.

10. Click Save Action.

11. Specify the information for saving the action.

12. Verify that the action runs properly with these steps:

   a. Navigate to the named action in the catalog.

   b. Click Execute.

   c. Respond to any request for more information or any confirmation prompt that is displayed.

Creating 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, you save the action as part of an analysis or dashboard page.

For example, in the Brand Revenue analysis, you can include an inline action that contains an action link to an Opportunity Detail web site.

You create an inline action when you:

• Create an analysis and add a new action to a column heading, column value, or hierarchy level value using an action link.
  
  For information, see Adding Actions to Analyses.

• Edit a dashboard page and add a new action to the page using an action link or an action link menu.
  
  For information, see Adding Actions to Dashboard Pages.

Adding Actions to Analyses

You can use an action link to add actions to a column heading, column value, or hierarchy level value in an analysis.

For example, you can edit the Brand Revenue analysis to add an action that features an action link. This link can enable sales consultants to navigate to an Opportunity Detail web site. The consultants can query the site for an opportunity by responding to a prompt for Opportunity Name or Opportunity ID.
To add an action to an analysis:

1. Open the analysis for editing.

2. On the Criteria tab, move the mouse pointer over the Options menu for a column and select Column Properties.

3. Click the Interaction tab in the Column Properties dialog.

4. In the Primary Interaction box in the Column Heading area or the Value area, select Action Links to display the Action Links area.

5. To add a new action:

   If actions have been saved as systemwide defaults for the column or level, then click Add Action Link and select New Action Link.

   If no actions have been saved as systemwide defaults for the column or level, then click Add Action Link.

   The New Action Link dialog is displayed.

6. In the Link Text field, enter the text to display as the link to run the associated action.

7. Create or add the action as follows:

   To create an inline action, click Create New Action, select the type of action, and specify the settings for the action.

   To add a named action, click Select existing action and complete the Select Action dialog. Specify any associated parameters in the Edit Parameter Mapping dialog.

8. Click OK in the New Action Link dialog to add the action link to the Action Links area in the Interaction tab.

9. For each additional action link, repeat the previous steps.

10. Optionally, select Do not display in a popup if only one action link is available at runtime. When only one action link is available at runtime, the action link is run immediately rather than being displayed in a menu for selection.
11. Select **Enable on Totals** when three things are true. The analysis contains a total or grand total. The associated column contains an action link. You want the action link to be applied to both the column and the total or grand total. This option does not apply to column heading action links and by default, this behavior is turned off.

12. Click **OK** to close the Column Properties dialog and save the analysis.

**Adding Actions to Dashboard Pages**

You can add actions to dashboard pages using action links and action link menus.

**Topics**

- **Adding Actions to Dashboard Pages Using Action Links**
- **Adding Actions to Dashboard Pages Using Action Link Menus**

**Adding Actions to Dashboard Pages Using Action Links**

You can add actions to dashboard pages by adding to a section on the dashboard page an Action Link object to which you add an action. For a dashboard page that contains one or more action links, users can click a link to run the associated action.

For example, you can edit the Sales Performance dashboard page to add an action that features an action link. This link navigates to an external Opportunity Detail web site. The consultants can query the site for an opportunity by responding to a prompt for Opportunity Name or Opportunity ID.

To add an action to a dashboard page using an action link:

1. Open the dashboard page for editing.

2. From the Dashboard Objects pane, drag and drop an Action Link object on the dashboard page.

3. Click **Properties** for the Action Link object to display the Action Link Properties dialog.

4. Complete the fields in the dialog, for example:
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Link in New Window</td>
<td>Select this option to open the link in a new browser window or tab. Deselect this option to open the link in the same browser window or tab. For a named action for this action link, the default value for this component is determined by the definition of the named action. That is, by the value specified for the Open In New Window component in the Action Options dialog: Invoke Action tab. You can override this default value. The value that you set here ultimately determines whether to open the link in a new window or new tab.</td>
</tr>
<tr>
<td>Add to Briefing Book</td>
<td>Select this option to enable the action that is associated with the action link to be run in a briefing book. The number of briefing book navigation links to be followed must be greater than 0. A briefing book icon is displayed to the left of the action link on the dashboard page and in the briefing book. The icon indicates that you can run the action. You can set the number of briefing book navigation links to be followed. Use the Save Briefing Book Content dialog or in the Page Properties dialog. Deselect this option to prevent the action from being run in a briefing book. See Organizing Dashboard Pages in Briefing Books.</td>
</tr>
</tbody>
</table>

5. Click **OK** in the Action Link Properties dialog.

6. Click **Save** on the Dashboard builder to save the dashboard page.

**Adding Actions to Dashboard Pages Using Action Link Menus**

You can add actions to dashboard pages by adding an action link menu object to a section on a page. You add action links to the action link menu object.

For a dashboard page that contains an action link menu, users can select from the action link menu to run the action.

For example, you can add an action link menu to a page in the Sales Performance dashboard. This menu can enable sales consultants to navigate to either an external Opportunity Detail web site or to an internal Brand Revenue dashboard page.

To add an action to a dashboard page using an action link menu:

1. Open the dashboard for editing,

2. From the Dashboard Objects pane, drag and drop an Action Link Menu object on the dashboard page.

3. Click **Properties** for the Action Link Menu object to display the Action Link Menu Properties dialog.
4. Add the action links to the menu:

<table>
<thead>
<tr>
<th>Goal</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add an action link that already exists on the page</td>
<td>Drag and drop the existing Action Link object onto the Action Link Menu object.</td>
</tr>
<tr>
<td>Add a new action link.</td>
<td>Click Add to display the Action Link Properties dialog and complete the dialog.</td>
</tr>
<tr>
<td>Reorder the list of action links and change the order of how they are displayed on the action link menu.</td>
<td>Use the arrows to the right of the list.</td>
</tr>
</tbody>
</table>

5. Click OK in the Action Link Menu Properties dialog.

6. On the Dashboard builder, click Save to save the dashboard page.

**Editing Named Actions**

You can edit an existing named action.

For example, you can edit the Navigate to Brand Revenue action in the Sales Performance dashboard to navigate to a newly created analysis.

To edit a named action:

1. Navigate to the action in the catalog.
2. Click Edit to display the Edit Action dialog.
3. Edit the action and click OK.
4. Click Save Action.
Note:
You delete a named action in the same way that you delete any object in the catalog. Navigate to the action in the catalog, click More and select Delete.

Editing and Deleting Actions and Action Links Added to Analyses
You use action links as hot links that run actions.

For example, you can create an action link called "Navigate to Brand Revenue." This link runs an action that navigates to an analysis that shows revenue figures in tables and graphs.

To edit an action and action link that have been added to an analysis:

1. Open the analysis for editing.
2. On the Criteria tab, move the mouse pointer over the Options menu for a column and select Column Properties.
3. Click the Interaction tab in the Column Properties dialog.
4. In the Action Links area, select the action to edit and click Edit Action Link to display the Edit Action Link dialog.
5. Make the appropriate changes to the action link.
6. Click More and select Edit Action.
7. Edit the action in the Edit Action dialog and click OK to close the dialogs.
8. Click Save Analysis in the Criteria tab of the Analysis editor.

You can delete an inline action. For example, you can delete an action link that navigates to an obsolete analysis that shows revenue figures in tables and graphs.

1. Open the analysis for editing.
2. On the Criteria tab, move the mouse pointer over the Options menu for a column and select Column Properties.
3. Click the Interaction tab in the Column Properties dialog.
4. In the Action Links area, select the action link that you want to delete.
5. Click Delete.
6. Click OK in the Column Properties dialog.
Editing Actions, Action Links, and Action Link Menus Added to Dashboard Pages

You can edit actions, action links, and action link menus that you have added to dashboard pages.

For example, you can edit an action in the Sales Performance dashboard that navigates to an updated URL for an Opportunity Detail site.

To edit an action, action link, or action link menu that has been added to a dashboard page:

1. Open the dashboard for editing.
2. If the action and action link are associated with an action link menu:
   a. Click **Properties** for the Action Link Menu object to display the properties dialog.
   b. 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 **Properties** for the Action Link object to which the action is associated. The properties dialog is displayed.
4. Make the appropriate changes to the action link.
5. Click **More** and select **Edit Action** to display the Edit Action dialog.
6. Edit the action and click **OK**.
7. Click **OK** in the Action Link Properties dialog, and in the Action Link Menu Properties dialog (if displayed).
8. Click **Save** to save the dashboard.

**Note:**
You can delete action links and action link menus that you have added to dashboard pages. Open the dashboard for editing and click **Delete** on the Action Link or Action Link Menu toolbar.

Saving Inline Actions in Analyses to the Catalog

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. Open the analysis for editing.
2. On the Criteria tab, move the mouse pointer over the **Options** menu for a column and 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 Edit Action Link. The Edit Action Link dialog is displayed.

5. Click More and select Save Action As to display the dialog to specify the save criteria.

6. Specify the save criteria and click OK.

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.

To save an inline action in a dashboard to the catalog:

1. Open the dashboard for editing.

2. If the action and action link are associated with an action link menu:
   a. Click Properties for the Action Link Menu object to display the properties dialog.
      
      ![Action Link Properties Dialog](image)

      b. 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 Properties for the Action Link object to which the action is associated. The properties dialog is displayed.

4. Click More and select Save Action As to display the dialog to specify the save criteria.
5. Specify the save criteria and click OK.

6. Click OK in the Action Link Properties dialog, and in the Action Link Menu Properties dialog (if displayed).

7. Click Save to save the dashboard.
This topic describes how to manage your content in the catalog.

**Topics:**
- Typical Workflow for Managing Content
- Renaming Objects
- Accessing Favorites Easily
- Accessing Properties
- Sharing Your Content with Others
- Assigning Ownership
- Taking Ownership

### Typical Workflow for Managing Content

Here are some common tasks that you perform to access and organize content in the catalog.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>For More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find and explore your content</td>
<td>Exploring your content, including searching for items that you need to edit.</td>
<td>Finding and Exploring Your Content</td>
</tr>
<tr>
<td>Rename content</td>
<td>Improve or update the naming of your content.</td>
<td>Renaming Content</td>
</tr>
<tr>
<td>View or set content properties</td>
<td>Display information about your content or change various content options and properties.</td>
<td>Accessing Properties</td>
</tr>
<tr>
<td>Share your content with others</td>
<td>Assign permissions so that you can share your content with others.</td>
<td>Sharing Your Content with Others</td>
</tr>
<tr>
<td>Change content ownership</td>
<td>Assign another user as the content owner.</td>
<td>Assigning Ownership</td>
</tr>
</tbody>
</table>

### Renaming Content

You can rename items and views to make their names more meaningful to you.

**Topics:**
- Renaming Items
• Renaming Views

Renaming Items
You can rename items to make their names more meaningful to you. For example, you can change the name of the "High Products" filter to "Top 3 Products."

To rename items:

1. Click Catalog on the Home page.
2. In the Catalog page, search for the item that you want to rename. For more information, see Finding and Exploring Your Content.
3. In the search results for the item, click More, and then Rename.
4. Give the item a new name.
5. Optionally, click Preserve references to the old name of the item, if the option is available for the item.
   Use this option to specify that existing references to the previous name of the item are maintained. This creates a shortcut with the old name that points to the renamed item in the catalog. If you do not select this option, then existing references break.
6. Click OK.

Renaming Views
You can rename views to make their names more meaningful to you. For example, you can change the name of a view from "Sales Forecast 2014" to "Forecast 2014."

To rename a view:

1. Open the analysis for editing.
2. On the Results tab, click Edit View.
3. In the view editor toolbar, click Rename View.
4. In the Rename View dialog, give the view a new name.
5. Click OK.

Accessing Favorites Easily
You can access favorites easily.

Video
Tutorial

Topics:
• Adding Favorites
• Removing Favorites
Adding Favorites

You can bookmark as favorites the content that you work with the most. Your favorites are displayed with a gold star in the catalog.

For example, you might regularly view the Loyal Customers analysis. You can flag the analysis as a favorite to help you quickly access it whenever you need it.

To add favorites:

1. Click Catalog on the Home page.

2. In the Catalog page, search for the content that you want to mark as a favorite. For more information, see Finding and Exploring Your Content.

3. In the search results for the item, click More, and then Add to Favorites.

Note:
You can also add content to your favorites list from other pages. For example, click Analyses on the Home page. Display the recently used analyses. From the Actions menu for an analysis, click Add to Favorites.

Removing Favorites

You can remove content from your favorites list that you no longer need to access as often. For example, you can remove the previous year’s Loyal Customers analysis from your favorites list because it is now out-of-date.

To remove favorites:

1. Click Catalog on the Home page.

2. In the Catalog page, search for the favorite to remove. For more information, see Finding and Exploring Your Content.

3. In the search results for the item, click More, and then Remove from Favorites.

Note:
You can also remove content to your favorites list from other pages. For example, click Analyses on the Home page. Display the favorite analyses. From the Actions menu for an analysis, click Remove from Favorites or click the gold start next to the name of the analysis.

Accessing Properties

Administrators can access the properties of any item or folder to perform tasks such as view system information or change access levels. All other users can access and modify the properties for only those items that they create or own.

For example, you might want to change the Brand Revenue analysis to be read-only so that other users can’t modify it.

To access properties:
1. Click Catalog on the Home page.

2. In the Catalog page, search for the content to which you want to access properties. For more information, see Finding and Exploring Your Content.

3. In the search results for the item, click More and Properties.

4. Review or change the settings in the Properties dialog. For example, you can set an item as read-only. For more information about taking ownership of an item, see Assuming Ownership.

5. Click OK.

Sharing Your Content with Others

You can give others access to items in the catalog and to dashboard sections. This helps you to control the content that users can view or edit.

Tutorial

Topics:

- Sharing Items
- Sharing Dashboard Sections

Sharing Items

To share content with other users, you must give them the appropriate permissions to access the items.

The permissions that you can assign to others vary depending on the type of content. To change permissions, you must have the Change Permission privilege. For example, you might want to grant the Change Permission privilege to another sales consultant. This enables the user to assign permissions to the Sales Forecast analysis.

To share content with another user:

1. Click Catalog on the Home page.
2. In the Catalog page, search for the content to which you want to assign permissions.

   For more information, see Finding and Exploring Your Content.

3. In the search results for the item, click More and Permissions.

   The Permissions dialog is displayed.

4. In the Permission dialog, click Add users/roles to access the Add Application Roles and Users dialog to add any required accounts.

   The roles and users inherit permissions from the roles of which they are members. For example, you can grant Full Control permission to the BIServiceAdministrator application role on the Sales Revenue analysis. This enables any user or application role with that role to have Full Control on the item. You can see the permissions that users and roles have on items (either granted directly or inherited). Click the Click to see effective permissions button in the Add Application Roles and Users dialog.

5. In the Permissions dialog, click the Permissions list. Most of the items in the list are parent permissions and contain several child permissions.

6. Optionally, to build a specific list of permissions, click Custom. This option gives the user authority to bypass any permissions set on the folder that prevent the user from accessing the item from the Catalog or a dashboard. This option does not change the folder permissions.

   For example, you can grant users the Traverse permission for the /Company Shared/Test folder. Then, they can access items embedded in dashboards stored in the /Company Shared/Test folder. Also, they can access embedded items in dashboards stored in sub-folders, such as /Company Shared/Test/Guest folder. However, users cannot access (meaning view, expand, or browse) the folder and sub-folders from the Catalog.

7. Click OK twice.
Sharing Dashboard Sections

You can give others access to dashboard sections, thereby controlling which users have access to those sections. To grant access, you assign permissions to users of the dashboard.

For example, you assign permissions for the Project Costs section of the dashboard to the BI administrator. You can restrict access to BI consumers to prevent unwanted changes.

To assign dashboard section permissions to another user:

1. Open a dashboard for editing.
2. Select Properties in the section toolbar.
3. Select Permissions.
4. In the Permissions dialog, click the Permissions list to select permissions.
5. Click OK.

Assigning Ownership of Items

When you create content in the catalog, you can grant ownership of the content to others. Also, a user who has been granted the proper privileges can take ownership of content.

For example, you can create a Brand Revenue analysis and grant ownership to a Regional Sales Analyst tasked with maintaining the analysis going forward.

To assign ownership to others:

1. Click Catalog on the Home page.
2. In the Catalog page, search for the content to which you want to assign ownership. For more information, see Finding and Exploring Your Content.
3. In the search results for the item, click More and Permissions.
4. In the Permissions table, click the Owner column to specify the new owner.
5. Click OK.
Assuming Ownership of Items

As a user or a member of a role, you can take ownership of shared folder content if you are assigned the BIServiceAdministrator role.

For example, if you are a user of the Sales group, you can assign properties to the Sales Forecast analysis to mark yourself as an owner.

To take ownership of shared folder content:

1. Click **Catalog** on the Home page.
2. In the Catalog page, search for the content that you want to own. For more information, see Finding and Exploring Your Content.
3. In the search results for the item, click **More** and **Properties**.
4. In the Ownership area, select whether to take ownership of just the item or of the item and its child items.
5. Click **OK**.
This part provides reference information for Oracle BI Cloud Service.

Appendices:

- Terminology
- Frequently Asked Questions for Oracle Business Intelligence Cloud Service
- Troubleshooting Oracle Business Intelligence Cloud Service
- Expression Editor Reference
- Accessibility
Here are some Oracle BI Cloud Service terms that are used in this book.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>action</td>
<td>An action enables you to navigate to related content or a web page. You can include actions in analyses and dashboard pages. For example, you can use an action in the Brand Revenue analysis to enable sales consultants to navigate to an Opportunity Detail web site.</td>
</tr>
<tr>
<td>action link</td>
<td>An action link enables you to embed a link to an action in an analysis or dashboard page, that, when clicked, runs an associated action. For example, you can embed an action link in the Brand Revenue analysis to enable sales consultants to navigate to an Opportunity Detail web site.</td>
</tr>
<tr>
<td>analysis</td>
<td>An analysis provides answers to business questions by querying against your organization's data. Analyses enable you to explore and interact with information by visually presenting data in tables, graphs, pivot tables, and to save, organize, and share the results of analyses. For example, you can create a Brand Revenue analysis that shows data in views on a Sales Performance dashboard. You can share this analysis with co-workers, clients, and business partners.</td>
</tr>
<tr>
<td>application role</td>
<td>An application role comprises a set of privileges that determine what users can see and do in Oracle BI Cloud Service. In Oracle BI Cloud Service, you associate users or roles configured in your identity domain with one or more application roles. The users and roles inherit their privileges in Oracle BI Cloud Service from these application roles.</td>
</tr>
<tr>
<td>attribute</td>
<td>Attributes are member-based data items that can be used as simple categories or arranged as hierarchies with levels. Contrast an attribute with a measure.</td>
</tr>
<tr>
<td>briefing book</td>
<td>You can store a static snapshot of dashboard pages or individual analyses in one or more briefing books. You can also configure a briefing book to refresh data when accessed. For example, as a sales representative, you can use a briefing book to collect a snapshot of a Sales Performance analysis each quarter.</td>
</tr>
<tr>
<td>calculated item</td>
<td>A calculated item shows you a calculation between members, which is represented as a single member. A calculated item is useful when you want to view and manipulate a set of members as a single entity. For example, as a sales analyst, you can create a member in the Fulfillment by Quarter analysis that shows the average revenue for the Game Station and Plasma Television members.</td>
</tr>
<tr>
<td>calculated measure</td>
<td>In the data model, calculated measures are columns in tables that are derived from other measures and based on expressions. For example, a calculated measure called Unit Price might be based on the expression Revenue / Billed Units.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>canvas</td>
<td>The location for visualizations in a Visual Analyzer project.</td>
</tr>
<tr>
<td>catalog</td>
<td>The catalog contains things that you or somebody else has defined and saved for future use (such as projects, analyses, and dashboards). You can search the catalog to find something that you want to work with or change. For example, you might want to edit an analysis in a shared folder in the catalog. Permissions control the access and sharing of items in the catalog.</td>
</tr>
<tr>
<td>Console</td>
<td>The Console provides various management options for Oracle BI Cloud Service. Administrative users can manage user permissions, backup, restore content, change the database connection, and perform other administrative duties from the Console. Business intelligence consumers can manage data files that they loaded for ad-hoc analysis.</td>
</tr>
<tr>
<td>column</td>
<td>Similar to database columns, Oracle BI Cloud Service has the concept of a column. In Oracle BI Cloud Service, columns are used in different contexts. A column in an analysis is based on a column, a derived attribute, or a calculated measure that was defined in Data Modeler. Columns in Data Modeler, in turn, are based on source columns in Oracle Database Cloud Service. In an analysis or project, columns indicate the pieces of data that you want to display. You can use columns, along with filters (and selection steps in analyses), to determine what analyses and projects contain. Columns have names that indicate to you the types of information that they contain. For example, you can use columns named Account and Contact to display information in a visualization. In visualizations, such as a pivot table and trellis, columns are vertical arrangements of data. For example, a pivot table can include a column of Revenue data.</td>
</tr>
<tr>
<td>dashboard</td>
<td>A dashboard shows information that is relevant to you and consists of one or more pages. Each page can present information in different ways, such as graphs, tables, and images. For example, as a sales representative, you can use a dashboard to see graphs of products sold in your territory.</td>
</tr>
<tr>
<td>Data Loader</td>
<td>A tool that enables you to upload data from files to Oracle Database Cloud - Database Schema Service packaged with Oracle BI Cloud Service. Your data can be uploaded from text files (TXT and CSV) or Microsoft Excel spreadsheets (XLS and XLSX). The data that you upload can be used in a data model that can then be exposed as a subject area in Oracle BI Cloud Service.</td>
</tr>
<tr>
<td>Data Modeler</td>
<td>Data Modeler is a component that enables you to model data in Oracle BI Cloud Service. The data model that you create is exposed as a subject area that you can use when building reports and dashboards. Use Data Modeler to add source tables and views to the model, specify joins, create hierarchies to support drilling, and perform other data modeling tasks.</td>
</tr>
<tr>
<td>derived attribute</td>
<td>In the data model, derived attributes are columns in dimension tables that are based on expressions. For example, a derived attribute called Full Address might combine information from the columns Street Address, City, State, and Postal Code.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>dimension table</td>
<td>In the data model, dimension tables contain values that represent the business entities that you measure. A dimension table contains the columns that represent your dimensional attributes, such as places, offices, people, and products. For example, you might want to report dimensions such as Sales by Product Category for the Current Month.</td>
</tr>
<tr>
<td>fact table</td>
<td>In the data model, fact tables contain the numeric data that you use to measure business performance. A fact table contains numeric values such as revenue, number of units sold, and number of people hired.</td>
</tr>
<tr>
<td>filter</td>
<td>Filters are the criteria that you apply to attribute and measure columns to limit the results that are displayed when an analysis is run. You can create inline or named filters. When you save a filter inside an individual content object, that object is saved &quot;inline.&quot; You can save filters, groups, and calculated items inline. In addition to saving these objects inline, you can create individual named filters in the catalog that you can reuse in any analysis, dashboard, or dashboard page. For example, as a sales consultant, you can filter the results that are shown in an existing analysis to see revenue for only those brands for which you are responsible.</td>
</tr>
<tr>
<td>group</td>
<td>A group (also known as a &quot;saved selection&quot; in certain products) enables you to define the members of a column, as a list of members or a set of selection steps that generate a list of members. For example, as a sales analyst, 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.</td>
</tr>
<tr>
<td>hierarchy</td>
<td>In the data model, hierarchies show relationships among groups of attribute columns in a dimension table. For example, days comprise months and months comprise quarters. Hierarchies enable drilling in analyses.</td>
</tr>
<tr>
<td>identity domain</td>
<td>The identity domain is the user information that provides authentication into Oracle BI Cloud Service. The identity domain also defines roles that groups of users can be members of.</td>
</tr>
<tr>
<td>join</td>
<td>In the data model, joins indicate relationships between one fact table and one dimension table. Every fact table must be joined to at least one dimension table, and the reverse.</td>
</tr>
<tr>
<td>level</td>
<td>In the data model, levels are components of hierarchies that either roll up or are rolled up from other levels. Hierarchies typically begin with a total level, then have child levels, working down to the lowest level. All levels, except the total level, must have at least one column.</td>
</tr>
<tr>
<td>measure</td>
<td>A measure is a column in a table that has an aggregation rule defined or is based on an expression that uses other measure columns. For example, you might want to measure business performance by Revenue and Units. Measures are calculated from data sources at query time. Contrast a measure with an attribute.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Oracle BI Cloud Service Data Sync</td>
<td>A wizard-driven utility that enables you to upload on-premises relational sources or CSV files to Oracle Database Cloud Service. This tool synchronizes on-premises data with Oracle Database Cloud Service using the REST API. You can use this tool for both initial and incremental data loads, as well as run, monitor, and schedule data loads.</td>
</tr>
<tr>
<td>Presentation Services</td>
<td>The collective term for features in Oracle BI Cloud Service that enable you to present business intelligence data. These features include analyses, dashboards and a catalog to present the content.</td>
</tr>
<tr>
<td>project</td>
<td>The container for Visual Analyzer data elements and visualizations.</td>
</tr>
<tr>
<td>prompt</td>
<td>Prompts are a type of filter that enable you to build and specify data values, or to choose specific data values to provide result sets for analyses included on a dashboard or dashboard page. A prompt expands or refines the existing dashboard and analysis filters. For example, you can use a prompt for Year to specify the year for which you want to see data in an analysis.</td>
</tr>
<tr>
<td>REST API</td>
<td>You can programmatically create, manage, and load schemas, tables, and data into Oracle BI Cloud Service using the Oracle BI Cloud Service REST API. You can also use the Oracle BI Cloud Service REST API if you want to define or customize your own data loading API. Oracle BI Cloud Service also provides a Data Modeler REST API so you can programmatically interact with the data model.</td>
</tr>
<tr>
<td>selection step</td>
<td>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, and consists of one or more steps. A step is where you specify an instruction that affects the selection, such as add Product members whose values contain the text &quot;ABC.&quot; The order in which steps are performed affects the selection of data. Each of your steps acts incrementally on the results from previous steps, rather than acting on all the members for that column. For example, you can create a step to specify criteria for a set of members in a Sales Office column, which contains the members &quot;Boston&quot;, &quot;New York&quot;, and &quot;San Francisco.&quot;</td>
</tr>
<tr>
<td>snapshot</td>
<td>Snapshots enable you to capture and later restore Oracle BI Cloud Service content at a point in time. A snapshot can include information about the data model, the catalog, and application roles.</td>
</tr>
<tr>
<td>source view</td>
<td>In the data model, source views are saved queries of the data in the database. You can define source views that combine columns from multiple source tables into a single virtual table. You can create source views to consolidate snowflake sources that have dimension attributes in multiple tables.</td>
</tr>
<tr>
<td>SQL Developer</td>
<td>Oracle SQL Developer is an integrated, transparent, and seamless bulk-data loading facility with full object browsing capabilities. This Java-based tool runs on a client machine and accesses your Oracle BI Cloud Service through a set of RESTful Web Service calls that allow you to access and load data and data structures into Oracle BI Cloud Service.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>--------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SQL Workshop</td>
<td>You can develop and deploy web applications for desktops and mobile devices using SQL Workshop, which is part of Oracle Application Express (Oracle APEX). You use a web browser to develop SQL or PL/SQL scripts that can then be used to execute queries against objects in Oracle Database Cloud Service, create and maintain indices, drop unneeded objects, and so on.</td>
</tr>
<tr>
<td>table</td>
<td>Similar to database tables, Oracle BI Cloud Service has the concept of a table and uses it in various contexts. When you model data, you create a dimension table or a fact table that includes source columns from one or more source tables in Oracle Database Cloud Service. When you build an analysis, you can create a user-defined table view to display the data.</td>
</tr>
<tr>
<td>time dimension</td>
<td>In the data model, time dimensions enable time-series functions. These functions enable comparisons with previous time periods, enabling you to analyze data that spans multiple time periods. A time dimension is a group of the following related model objects: • A time source table in the database that is populated with time data • A time dimension table in the data model that is based on the time source table • A time hierarchy that defines the relationships between different time periods</td>
</tr>
<tr>
<td>variable</td>
<td>In the data model, variables dynamically calculate and store values so that you can use those values in expressions. You can use variables in column expressions or in data filters.</td>
</tr>
<tr>
<td>view</td>
<td>A view is a visualization that helps communicate an outcome. A view enables you to 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 enable drilling down to more detailed information, explanatory text, a list of filters that were used to limit the results, and more. For example, you can analyze trends for the Sales Forecast analysis by creating a trellis view.</td>
</tr>
<tr>
<td>Visual Analyzer</td>
<td>A tool that enables you to explore analytics data visually and on an individual basis.</td>
</tr>
</tbody>
</table>
This reference provides answers to frequently asked questions for Oracle BI Cloud Service.

Topics:

- Top FAQs for Exploring and Reporting
  - When I want to save an object, where does the default location come from?
  - Can I enable other users to access my custom analyses, dashboards, and projects?
  - Can I make analyses and dashboards interact with prompts and other analyses?
  - I have interacted with a dashboard drilling and applying filters. How do I save the state of my dashboard and share the dashboard with others?
  - Can I migrate analyses between different Oracle BI Cloud Service environments?
  - Can I delete data files that I uploaded to Oracle BI Cloud Service?
  - Can I delete data files uploaded by a deleted user from Oracle BI Cloud Service?

Top FAQs for Exploring and Reporting

The top FAQs for exploring and reporting data are identified in this topic.

When I want to save an object, where does the default location come from?

You can save any object in any location. However, the Save In field in the Save dialog sometimes recommends the best location based on the object type that you are saving. For example, you should save filters, groups, and calculated items within a subject area folder so that these items are available when you build an analysis for the same subject area. If a subject area folder does not exist in your /My Folders or within /Shared Folders, then a subject area folder is created automatically. The Save In field defaults a save path to /My Folders/Subject Area Contents/</subject area>; however, the dialog’s Folders area displays all instances of the subject area folder in the catalog.

You can save other objects such as analyses and prompts in any folder. Bear in mind the distinctions between shared and personal folders, when deciding whether to share the object that you are saving with others.
Can I enable other users to access my custom analyses, dashboards, and projects?

Yes. You can enable other users to access your analyses, dashboards, and projects. You can give other users permissions to access the objects, as described in Assigning Permissions to Objects. You can also move the objects to the Company Shared folder.

Can I make analyses and dashboards interact with prompts and other analyses?

Yes, analyses and dashboards interact with prompts as described in Advanced Techniques: How Dashboard Prompts and Analysis Prompts Interact. You can link views such that one view drives changes in one or more other views. For information, see Linking Views in Master-Detail Relationships.

I have interacted with a dashboard drilling and applying filters. How do I save the state of my dashboard and share the dashboard with others?

You can save and get back the settings that you make on a dashboard, as described in Recalling Personalized Settings. You can share dashboard pages with other users by sharing links to those pages. For information, see Linking to Dashboard Pages.

Can I migrate analyses between different Oracle BI Cloud Service environments?

Yes. You can migrate analyses between service environments by copying and pasting the XML code for the analyses using the Advanced tab of the Analysis editor. For information, see Advanced Techniques: Examining the Logical SQL Statements for Analyses.

Can I delete data files that I uploaded to Oracle BI Cloud Service?

Yes. You can delete data files from the Data Sources page as described in Managing Data Files. You can also delete data files in projects and analyses as described in Deleting Data that You Added.

Can I delete data files uploaded by a deleted user from Oracle BI Cloud Service?

The deleted user must be reinstated and then the data set files can be deleted.
This topic describes common problems that you might encounter when using Oracle Business Intelligence Cloud Service and explains how to solve them.

Topics:

• Troubleshooting General Issues
  – I can’t sign in to Oracle BI Cloud Service
  – I’m having trouble resetting my password
  – I can’t access certain options from the Home page of Oracle BI Cloud Service
  – I see a performance decrease when using Mozilla Firefox
  – I’m having issues with the new look Oracle BI Cloud Service. Can I switch to the previous style?

• Troubleshooting Issues with Projects, Analyses, and Dashboards
  – I can’t see data in an analysis or project
  – I can’t access a particular analysis, dashboard, or project
  – I can’t find an analysis, dashboard, or project
  – The analysis or project is running very slowly
  – The analysis or project returned data that I did not expect
  – I don’t understand why my analysis or project shows a view display error
  – The matched Year columns for a subject area and external data source don’t work properly

Troubleshooting General Issues

This topic describes common problems that you might encounter when working with Oracle BI Cloud Service and explains how to solve them.

I can’t sign in to Oracle BI Cloud Service

You’re likely trying to sign in using the incorrect credentials. You must sign in to Oracle BI Cloud Service using the Oracle Cloud Identity Domain credentials that were mailed to you from Oracle or provided by your administrator. You can’t sign in to Oracle BI Cloud Service using your account credentials for Oracle.com.
I’m having trouble resetting my password

When you sign up to use Oracle BI Cloud Service, you get an e-mail with a temporary password. Be careful if you copy and paste this password. If you accidentally include a blank space at the start or end of it when copying, then the password won’t be recognized when you paste it in. Make sure that you paste only the password without any blank spaces.

I can’t access certain options from the Home page of Oracle BI Cloud Service

Check with your administrator to ensure that you have the correct permissions to access the options that you need.

I see a performance decrease when using Mozilla Firefox

If you use Mozilla Firefox and notice a decrease in the performance of the cloud service, then ensure that the **Remember History** option is enabled. When Firefox is set to not remember the history of visited pages, then web content caching is also disabled, which greatly affects the performance of the service. See Firefox documentation for details on setting this option.

I’m having issues with the new look Oracle BI Cloud Service. Can I switch to the previous style?

The new look and feel of Oracle BI Cloud Service provides a seamless and integrated experience. If you’re having trouble finding your way around, explore the Academy. Familiarize yourself with the new design through videos and tutorials and find answers to your questions on Oracle Help Center.

Contact your administrator if you want to temporarily switch back to the previous style of Oracle BI Cloud Service. Administrators can switch everyone back to the old style by clicking **Switch to old home page** in the Console. Everyone sees the old look the next time they sign in.

Administrators can switch on the new look at any time by clicking **Administration**, then **Try new home page** on the Home page.

Troubleshooting Issues with Projects, Analyses, and Dashboards

This topic describes common problems that you might encounter when using projects, analyses and dashboards, and explains how to solve them.

I can’t see data in an analysis or project

You open an analysis or project, but you do not see any data in it.

There might be some temporary issue with the database. Contact your administrator for assistance.

I can’t access a particular analysis, dashboard, or project

You attempt to display an analysis, dashboard, or project and find that you do not have access.

Typically you cannot access an analysis, dashboard, or project if you lack the appropriate permissions or application role for accessing it. Contact the owner of the analysis, dashboard, or project or your administrator for assistance in obtaining the proper permissions or application role.
I can’t find an analysis, dashboard, or project
Try searching the catalog. You can search for analyses, dashboards, or projects by name (full or partial) and by folder location. The search is not case-sensitive. Searches of the catalog return only those objects that you have permission to see. For more tips, see Finding and Exploring Your Content.
Contact your administrator if you still can’t find an analysis, dashboard, or project and you suspect that it was deleted by mistake. Your administrator can restore earlier versions of the catalog from recent snapshots, if required.

The analysis or project is running very slowly
You attempt to run an analysis or project and find that it takes a long time.
Various underlying circumstances can cause an analysis or project to run slowly. Contact your administrator and ask that he review log files associated with the analysis or project. After reviewing the log files with the administrator, make the appropriate adjustments in the analysis or project.

The analysis or project returned data that I did not expect
Various underlying circumstances can cause an analysis or project to return unexpected results. For an analysis, in the Subject Areas pane of the Criteria tab, click Refresh to ensure that you’re seeing the most recent information. For a project, refresh the source data as described in Refreshing Visualization Content.
Alternatively:
• Ask a data modeler or an administrator to reload underlying data to ensure that any recent changes to the data model are reflected in the analysis. For analyses, data modelers and administrators can access the Reload Server Metadata option when they click the Refresh icon in the Subject Areas pane of the Criteria tab.
• Ask your administrator to review log files for the analysis or project. After reviewing the log files with the administrator, make appropriate adjustments in the analysis or project.

I don’t understand why my analysis or project shows a view display error
When you display an analysis or project, you might see a message such as the following: “View Display Error. Exceed configured maximum number of allowed input records.” This message indicates that you’ve selected more data than can be displayed in a view of that type. Add one or more filters to the analysis or project to reduce the amount of data. For example, add a filter that specifies a date range of only a few years.

The matched Year columns for a subject area and external data source don’t work properly
This mismatch is generic to a column that contains numbers but that should be handled as if it contains characters. Microsoft Excel typically sets the data type of a column that contains only numbers to numeric. Numbers are then prefixed with a single quote that creates the problem of an added space at the start of the number. In the case of matches and filters, this leading space causes the match to fail.
To work around this issue, create a formula that concatenates a zero-length string (single quotes with nothing between them) to the column with the number. For example, if the column with numbers is in column A, you create a string equivalent by
adding a column for each cell with the formula =concatenate(A2,''),
=concatenate(A3,'').
This topic describes the expression elements that you can use in the Expression Editor in Data Modeler.

**Topics:**
- Data Model Objects
- SQL Operators
- Conditional Expressions
- Functions
- Constants
- Types
- Variables

### Data Model Objects
You can use data model objects in expressions, like time levels, dimension columns, and fact columns.

To reference a data model object, use the syntax:

"Fact/Dimension Table Name"."Column Name"

For example: "Order Metrics"."Booked Amount"-"Order Metrics"."Fulfilled Amount"

The Expression Elements section includes only items that are relevant for your task, so not all fact tables and dimension tables might be listed. Similarly, time hierarchies are included only if the Time fact table is joined to the current table.

### SQL Operators
SQL operators are used to specify comparisons between expressions.

You can use various types of SQL operators.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BETWEEN</td>
<td>Determines if a value is between two non-inclusive bounds. For example: &quot;COSTS&quot;.&quot;UNIT_COST&quot; BETWEEN 100.0 AND 5000.0 BETWEEN can be preceded with NOT to negate the condition.</td>
</tr>
<tr>
<td>IN</td>
<td>Determines if a value is present in a set of values. For example: &quot;COSTS&quot;.&quot;UNIT_COST&quot; IN(200, 600, 'A')</td>
</tr>
</tbody>
</table>
Conditional Expressions

You use conditional expressions to create expressions that convert values.

The conditional expressions described in this section are building blocks for creating expressions that convert a value from one form to another.

Note:

- In CASE statements, AND has precedence over OR
- Strings must be in single quotes

### Operator | Description
--- | ---
**IS NULL** | Determines if a value is null. For example:

```
"PRODUCTS"."PROD_NAME" IS NULL
```

**LIKE** | Determines if a value matches all or part of a string. Often used with wildcard characters to indicate any character string match of zero or more characters (%) or any single character match ( _ ). For example:

```
"PRODUCTS"."PROD_NAME" LIKE 'prod%'
```

### Conditional Expressions

<table>
<thead>
<tr>
<th>Expression</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
</table>
| **CASE (If)** | CASE  
WHEN score-par < 0 THEN 'Under Par'  
WHEN score-par = 0 THEN 'Par'  
WHEN score-par = 1 THEN 'Bogey'  
WHEN score-par = 2 THEN 'Double Bogey'  
ELSE 'Triple Bogey or Worse'  
END | Evaluates each WHEN condition and if satisfied, assigns the value in the corresponding THEN expression. If none of the WHEN conditions are satisfied, it assigns the default value specified in the ELSE expression. If no ELSE expression is specified, the system automatically adds an ELSE NULL. |

Also referred to as **CASE (Lookup)**. The value of the first expression is examined, then the WHEN expressions. If the first expression matches any WHEN expression, it assigns the value in the corresponding THEN expression. If none of the WHEN expressions match, it assigns the default value specified in the ELSE expression. If no ELSE expression is specified, the system automatically adds an ELSE NULL. If the first expression matches an expression in multiple WHEN clauses, only the expression following the first match is assigned.
**Functions**

There are various types of functions that you can use in expressions.

**Topics:**
- Aggregate Functions
- Calendar Functions
- Conversion Functions
- Display Functions
- Evaluate Functions
- Mathematical Functions
- String Functions
- System Functions
- Time Series Functions

### Aggregate Functions

Aggregate functions perform operations on multiple values to create summary results.

<table>
<thead>
<tr>
<th>Function</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg</td>
<td>Avg(Sales)</td>
<td>Calculates the average (mean) of a numeric set of values.</td>
</tr>
<tr>
<td>Count</td>
<td>Count(Products)</td>
<td>Determines the number of items with a non-null value.</td>
</tr>
<tr>
<td>First</td>
<td>First(Sales)</td>
<td>Selects the first non-null returned value of the expression argument. The First function operates at the most detailed level specified in your explicitly defined dimension.</td>
</tr>
<tr>
<td>Last</td>
<td>Last(Sales)</td>
<td>Selects the last non-null returned value of the expression.</td>
</tr>
<tr>
<td>Max</td>
<td>Max(Revenue)</td>
<td>Calculates the maximum value (highest numeric value) of the rows satisfying the numeric expression argument.</td>
</tr>
<tr>
<td>Median</td>
<td>Median(Sales)</td>
<td>Calculates the median (middle) value of the rows satisfying the numeric expression argument. When there are an even number of rows, the median is the mean of the two middle rows. This function always returns a double.</td>
</tr>
<tr>
<td>Min</td>
<td>Min(Revenue)</td>
<td>Calculates the minimum value (lowest numeric value) of the rows satisfying the numeric expression argument.</td>
</tr>
<tr>
<td>StdDev</td>
<td>StdDev(Sales)</td>
<td>Returns the standard deviation for a set of values. The return type is always a double.</td>
</tr>
<tr>
<td></td>
<td>StdDev(DISTINCT Sales)</td>
<td></td>
</tr>
<tr>
<td>StdDev_Pop</td>
<td>StdDev_Pop(Sales)</td>
<td>Returns the standard deviation for a set of values using the computational formula for population variance and standard deviation.</td>
</tr>
<tr>
<td></td>
<td>StdDev_Pop(DISTINCT Sales)</td>
<td></td>
</tr>
<tr>
<td>Sum</td>
<td>Sum(Revenue)</td>
<td>Calculates the sum obtained by adding up all values satisfying the numeric expression argument.</td>
</tr>
</tbody>
</table>
# Calendar Functions

Calendar functions manipulate data of the data types `DATE` and `DATETIME` based on a calendar year.

<table>
<thead>
<tr>
<th>Function</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current_Date</td>
<td><code>Current_Date</code></td>
<td>Returns the current date.</td>
</tr>
</tbody>
</table>
| Current_Time         | `Current_Time(3)`    | Returns the current time to the specified number of digits of precision, for example: HH:MM:SS.SSS
<p>|                      |                      | If no argument is specified, the function returns the default precision.    |
| Current_TimeStamp    | <code>Current_TimeStamp(3)</code> | Returns the current date/timestamp to the specified number of digits of precision. |
| DayName              | <code>DayName(Order_Date)</code> | Returns the name of the day of the week for a specified date expression.    |
| DayOfMonth           | <code>DayOfMonth(Order_Date)</code> | Returns the number corresponding to the day of the month for a specified date expression. |
| DayOfWeek            | <code>DayOfWeek(Order_Date)</code> | Returns a number between 1 and 7 corresponding to the day of the week for a specified date expression. For example, 1 always corresponds to Sunday, 2 corresponds to Monday, and so on through to Saturday which returns 7. |
| DayOfYear            | <code>DayOfYear(Order_Date)</code> | Returns the number (between 1 and 366) corresponding to the day of the year for a specified date expression. |
| Day_Of_Quarter       | <code>Day_Of_Quarter(Order_Date)</code> | Returns a number (between 1 and 92) corresponding to the day of the quarter for the specified date expression. |
| Hour                 | <code>Hour(Order_Time)</code>   | Returns a number (between 0 and 23) corresponding to the hour for a specified time expression. For example, 0 corresponds to 12 a.m. and 23 corresponds to 11 p.m. |
| Minute               | <code>Minute(Order_Time)</code> | Returns a number (between 0 and 59) corresponding to the minute for a specified time expression. |
| Month                | <code>Month(Order_Time)</code>  | Returns the number (between 1 and 12) corresponding to the month for a specified date expression. |
| MonthName            | <code>MonthName(Order_Time)</code> | Returns the name of the month for a specified date expression.            |
| Month_Of_Quarter     | <code>Month_Of_Quarter(Order_Date)</code> | Returns the number (between 1 and 3) corresponding to the month in the quarter for a specified date expression. |
| Now                  | <code>Now()</code>              | Returns the current timestamp. The <code>Now</code> function is equivalent to the <code>Current_TimeStamp</code> function. |</p>
<table>
<thead>
<tr>
<th>Function</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quarter_Of_Year</td>
<td>Quarter_Of_Year(Order_Date)</td>
<td>Returns the number (between 1 and 4) corresponding to the quarter of the year for a specified date expression.</td>
</tr>
<tr>
<td>Second</td>
<td>Second(Order_Time)</td>
<td>Returns the number (between 0 and 59) corresponding to the seconds for a specified time expression.</td>
</tr>
<tr>
<td>TimeStampAdd</td>
<td>TimeStampAdd(SQL_TSI_MONTH, 12, Time.&quot;Order Date&quot;)</td>
<td>Adds a specified number of intervals to a timestamp, and returns a single timestamp. Interval options are: SQL_TSI_SECOND, SQL_TSI_MINUTE, SQL_TSI_HOUR, SQL_TSI_DAY, SQL_TSI_WEEK, SQL_TSI_MONTH, SQL_TSI_QUARTER, SQL_TSI_YEAR</td>
</tr>
<tr>
<td>TimeStampDiff</td>
<td>TimeStampDiff(SQL_TSI_MONTH, Time.&quot;Order Date&quot;, CURRENT_DATE)</td>
<td>Returns the total number of specified intervals between two timestamps. Use the same intervals as TimeStampAdd.</td>
</tr>
<tr>
<td>Week_Of_Quarter</td>
<td>Week_Of_Quarter(Order_Date)</td>
<td>Returns a number (between 1 and 13) corresponding to the week of the quarter for the specified date expression.</td>
</tr>
<tr>
<td>Week_Of_Year</td>
<td>Week_Of_Year(Order_Date)</td>
<td>Returns a number (between 1 and 53) corresponding to the week of the year for the specified date expression.</td>
</tr>
<tr>
<td>Year</td>
<td>Year(Order_Date)</td>
<td>Returns the year for the specified date expression.</td>
</tr>
</tbody>
</table>

**Conversion Functions**

Conversion functions convert a value from one form to another.

<table>
<thead>
<tr>
<th>Function</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cast</td>
<td>Cast(hiredate AS CHAR(40)) FROM employee</td>
<td>Changes the data type of an expression or a null literal to another data type. For example, you can cast a customer_name (a data type of Char or Varchar) or birthdate (a datetime literal). Use Cast to change to a Date data type. Do not use ToDate.</td>
</tr>
<tr>
<td>IfNull</td>
<td>IfNull(Sales, 0)</td>
<td>Tests if an expression evaluates to a null value, and if it does, assigns the specified value to the expression.</td>
</tr>
<tr>
<td>IndexCol</td>
<td>SELECT IndexCol(VALUEOF (NQ_SESSION.GEOGRAPHY_LEVEL), Country, State, City), Revenue FROM Sales</td>
<td>Uses external information to return the appropriate column for the signed-in user to see.</td>
</tr>
</tbody>
</table>
### Functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NullIf</td>
<td>SELECT e.last_name, NULLIF(e.job_id, j.job_id) &quot;Old Job ID&quot; FROM employees e, job_history j WHERE e.employee_id = j.employee_id ORDER BY last_name, &quot;Old Job ID&quot;;</td>
<td>Compares two expressions. If they are equal, then the function returns null. If they are not equal, then the function returns the first expression. You cannot specify the literal NULL for the first expression.</td>
</tr>
<tr>
<td>To_DateTime</td>
<td>SELECT To_DateTime ('2009-03-03:01:00', 'yyyy-mm-dd hh:mi:ss') FROM sales</td>
<td>Converts string literals of dateTime format to a DateTime data type.</td>
</tr>
</tbody>
</table>

### Display Functions

Display functions operate on the result set of a query.

<table>
<thead>
<tr>
<th>Function</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BottomN</td>
<td>BottomN(Sales, 10)</td>
<td>Returns the (n) lowest values of expression, ranked from lowest to highest.</td>
</tr>
<tr>
<td>Filter</td>
<td>Filter(Sales USING Product = 'widgit')</td>
<td>Computes the expression using the given preaggregate filter.</td>
</tr>
<tr>
<td>Mavg</td>
<td>Mavg(Sales, 10)</td>
<td>Calculates a moving average (mean) for the last (n) rows of data in the result set, inclusive of the current row.</td>
</tr>
<tr>
<td>Msum</td>
<td>SELECT Month, Revenue, Msum(Revenue, 3) as 3_MO_SUM FROM Sales</td>
<td>Calculates a moving sum for the last (n) rows of data, inclusive of the current row. The sum for the first row is equal to the numeric expression for the first row. The sum for the second row is calculated by taking the sum of the first two rows of data, and so on. When the (n)th row is reached, the sum is calculated based on the last (n) rows of data.</td>
</tr>
<tr>
<td>NTile</td>
<td>Ntile(Sales, 100)</td>
<td>Determines the rank of a value in terms of a user-specified range. It returns integers to represent any range of ranks. The example shows a range from 1 to 100, with the lowest sale = 1 and the highest sale = 100.</td>
</tr>
<tr>
<td>Percentile</td>
<td>Percentile(Sales)</td>
<td>Calculates a percent rank for each value satisfying the numeric expression argument. The percentile rank ranges are from 0 (1st percentile) to 1 (100th percentile), inclusive.</td>
</tr>
<tr>
<td>Rank</td>
<td>Rank(Sales)</td>
<td>Calculates the rank for each value satisfying the numeric expression argument. The highest number is assigned a rank of 1, and each successive rank is assigned the next consecutive integer (2, 3, 4,...). If certain values are equal, they are assigned the same rank (for example, 1, 1, 1, 4, 5, 5, 7,...).</td>
</tr>
<tr>
<td>Rcount</td>
<td>SELECT month, profit, Rcount(profit) FROM sales WHERE profit &gt; 200</td>
<td>Takes a set of records as input and counts the number of records encountered so far.</td>
</tr>
</tbody>
</table>
### Functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rmax</td>
<td><code>SELECT month, profit, Rmax(profit) FROM sales</code></td>
<td>Takes a set of records as input and shows the maximum value based on records encountered so far. The specified data type must be one that can be ordered.</td>
</tr>
<tr>
<td>Rmin</td>
<td><code>SELECT month, profit, Rmin(profit) FROM sales</code></td>
<td>Takes a set of records as input and shows the minimum value based on records encountered so far. The specified data type must be one that can be ordered.</td>
</tr>
<tr>
<td>Rsum</td>
<td><code>SELECT month, revenue, Rsum(revenue) as RUNNING_SUM FROM sales</code></td>
<td>Calculates a running sum based on records encountered so far. The sum for the first row is equal to the numeric expression for the first row. The sum for the second row is calculated by taking the sum of the first two rows of data, and so on.</td>
</tr>
<tr>
<td>TopN</td>
<td><code>TopN(Sales, 10)</code></td>
<td>Returns the ( n ) highest values of expression, ranked from highest to lowest.</td>
</tr>
</tbody>
</table>

### Evaluate Functions

Evaluate functions are database functions that can be used to pass through expressions to get advanced calculations.

Embedded database functions can require one or more columns. These columns are referenced by \( %1 \ ... \ %N \) within the function. The actual columns must be listed after the function.

<table>
<thead>
<tr>
<th>Function</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluate</td>
<td><code>SELECT EVALUATE('instr(%1, %2)', address, 'Foster City') FROM employees</code></td>
<td>Passes the specified database function with optional referenced columns as parameters to the database for evaluation.</td>
</tr>
<tr>
<td>Evaluate_Aggr</td>
<td><code>EVALUATE_AGGR('REGR_SLOPE(%1, %2)', sales.quantity, market.marketkey)</code></td>
<td>Passes the specified database function with optional referenced columns as parameters to the database for evaluation. This function is intended for aggregate functions with a <code>GROUP BY</code> clause.</td>
</tr>
</tbody>
</table>

### Mathematical Functions

The mathematical functions described in this section perform mathematical operations.

<table>
<thead>
<tr>
<th>Function</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abs</td>
<td><code>Abs(Profit)</code></td>
<td>Calculates the absolute value of a numeric expression.</td>
</tr>
<tr>
<td>Acos</td>
<td><code>Acos(1)</code></td>
<td>Calculates the arc cosine of a numeric expression.</td>
</tr>
<tr>
<td>Asin</td>
<td><code>Asin(1)</code></td>
<td>Calculates the arc sine of a numeric expression.</td>
</tr>
<tr>
<td>Atan</td>
<td><code>Atan(1)</code></td>
<td>Calculates the arc tangent of a numeric expression.</td>
</tr>
<tr>
<td>Atan2</td>
<td><code>Atan2(1, 2)</code></td>
<td>Calculates the arc tangent of ( y/x ), where ( y ) is the first numeric expression and ( x ) is the second numeric expression.</td>
</tr>
<tr>
<td>Function</td>
<td>Example</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>Ceiling</td>
<td>Ceiling(Profit)</td>
<td>Rounds a noninteger numeric expression to the next highest integer. If the numeric expression evaluates to an integer, the CEILING function returns that integer.</td>
</tr>
<tr>
<td>Cos</td>
<td>Cos(1)</td>
<td>Calculates the cosine of a numeric expression.</td>
</tr>
<tr>
<td>Cot</td>
<td>Cot(1)</td>
<td>Calculates the cotangent of a numeric expression.</td>
</tr>
<tr>
<td>Degrees</td>
<td>Degrees(1)</td>
<td>Converts an expression from radians to degrees.</td>
</tr>
<tr>
<td>Exp</td>
<td>Exp(4)</td>
<td>Sends the value to the power specified.</td>
</tr>
<tr>
<td>ExtractBit</td>
<td>Int ExtractBit(1, 5)</td>
<td>Retrieves a bit at a particular position in an integer. It returns an integer of either 0 or 1 corresponding to the position of the bit.</td>
</tr>
<tr>
<td>Floor</td>
<td>Floor(Profit)</td>
<td>Rounds a noninteger numeric expression to the next lowest integer. If the numeric expression evaluates to an integer, the FLOOR function returns that integer.</td>
</tr>
<tr>
<td>Log</td>
<td>Log(1)</td>
<td>Calculates the natural logarithm of an expression.</td>
</tr>
<tr>
<td>Log10</td>
<td>Log10(1)</td>
<td>Calculates the base 10 logarithm of an expression.</td>
</tr>
<tr>
<td>Mod</td>
<td>Mod(10, 3)</td>
<td>Divides the first numeric expression by the second numeric expression and returns the remainder portion of the quotient.</td>
</tr>
<tr>
<td>Pi</td>
<td>Pi()</td>
<td>Returns the constant value of pi.</td>
</tr>
<tr>
<td>Power</td>
<td>Power(Profit, 2)</td>
<td>Takes the first numeric expression and raises it to the power specified in the second numeric expression.</td>
</tr>
<tr>
<td>Radians</td>
<td>Radians(30)</td>
<td>Converts an expression from degrees to radians.</td>
</tr>
<tr>
<td>Rand</td>
<td>Rand()</td>
<td>Returns a pseudo-random number between 0 and 1.</td>
</tr>
<tr>
<td>RandFromSeed</td>
<td>Rand(2)</td>
<td>Returns a pseudo-random number based on a seed value. For a given seed value, the same set of random numbers are generated.</td>
</tr>
<tr>
<td>Round</td>
<td>Round(2.166000, 2)</td>
<td>Rounds a numeric expression to n digits of precision.</td>
</tr>
<tr>
<td>Sign</td>
<td>Sign(Profit)</td>
<td>This function returns the following: • 1 if the numeric expression evaluates to a positive number • -1 if the numeric expression evaluates to a negative number • 0 if the numeric expression evaluates to zero</td>
</tr>
<tr>
<td>Sin</td>
<td>Sin(1)</td>
<td>Calculates the sine of a numeric expression.</td>
</tr>
<tr>
<td>Sqrt</td>
<td>Sqrt(7)</td>
<td>Calculates the square root of the numeric expression argument. The numeric expression must evaluate to a nonnegative number.</td>
</tr>
<tr>
<td>Tan</td>
<td>Tan(1)</td>
<td>Calculates the tangent of a numeric expression.</td>
</tr>
<tr>
<td>Truncate</td>
<td>Truncate(45.12345, 2)</td>
<td>Truncates a decimal number to return a specified number of places from the decimal point.</td>
</tr>
</tbody>
</table>
### String Functions

String functions perform various character manipulations. They operate on character strings.

<table>
<thead>
<tr>
<th>Function</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ascii</td>
<td>Ascii('a')</td>
<td>Converts a single character string to its corresponding ASCII code, between 0 and 255. If the character expression evaluates to multiple characters, the ASCII code corresponding to the first character in the expression is returned.</td>
</tr>
<tr>
<td>Bit_Length</td>
<td>Bit_Length('abcdef')</td>
<td>Returns the length, in bits, of a specified string. Each Unicode character is 2 bytes in length (equal to 16 bits).</td>
</tr>
<tr>
<td>Char</td>
<td>Char(35)</td>
<td>Converts a numeric value between 0 and 255 to the character value corresponding to the ASCII code.</td>
</tr>
<tr>
<td>Char_Length</td>
<td>Char_Length(Customer_Name)</td>
<td>Returns the length, in number of characters, of a specified string. Leading and trailing blanks are not counted in the length of the string.</td>
</tr>
<tr>
<td>Concat</td>
<td>SELECT DISTINCT Concat ('abc', 'def') FROM employee</td>
<td>Concatenates two character strings.</td>
</tr>
<tr>
<td>Insert</td>
<td>SELECT Insert('123456', 2, 3, 'abcd') FROM table</td>
<td>Inserts a specified character string into a specified location in another character string.</td>
</tr>
<tr>
<td>Left</td>
<td>SELECT Left('123456', 3) FROM table</td>
<td>Returns a specified number of characters from the left of a string.</td>
</tr>
<tr>
<td>Length</td>
<td>Length(Customer_Name)</td>
<td>Returns the length, in number of characters, of a specified string. The length is returned excluding any trailing blank characters.</td>
</tr>
<tr>
<td>Locate</td>
<td>Locate('d', 'abcdef')</td>
<td>Returns the numeric position of a character string in another character string. If the character string is not found in the string being searched, the function returns a value of 0.</td>
</tr>
<tr>
<td>LocateN</td>
<td>Locate('d', 'abcdef', 3)</td>
<td>Like Locate, returns the numeric position of a character string in another character string. LocateN includes an integer argument that enables you to specify a starting position to begin the search.</td>
</tr>
<tr>
<td>Lower</td>
<td>Lower(Customer_Name)</td>
<td>Converts a character string to lowercase.</td>
</tr>
<tr>
<td>Octet_Length</td>
<td>Octet_Length('abcdef')</td>
<td>Returns the number of bytes of a specified string.</td>
</tr>
<tr>
<td>Position</td>
<td>Position('d', 'abcdef')</td>
<td>Returns the numeric position of strExpr1 in a character expression. If strExpr1 is not found, the function returns 0.</td>
</tr>
<tr>
<td>Repeat</td>
<td>Repeat('abc', 4)</td>
<td>Repeats a specified expression n times.</td>
</tr>
<tr>
<td>Replace</td>
<td>Replace('abcd1234', '123', 'zz')</td>
<td>Replaces one or more characters from a specified character expression with one or more other characters.</td>
</tr>
<tr>
<td>Right</td>
<td>SELECT Right('123456', 3) FROM table</td>
<td>Returns a specified number of characters from the right of a string.</td>
</tr>
<tr>
<td>Function</td>
<td>Example</td>
<td>Description</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Space</td>
<td>Space(2)</td>
<td>Inserts blank spaces.</td>
</tr>
<tr>
<td>Substring</td>
<td>Substring('abcdef' FROM 2)</td>
<td>Creates a new string starting from a fixed number of characters into the original string.</td>
</tr>
<tr>
<td>SubstringN</td>
<td>Substring('abcdef' FROM 2 FOR 3)</td>
<td>Like Substring, creates a new string starting from a fixed number of characters into the original string. SubstringN includes an integer argument that enables you to specify the length of the new string, in number of characters.</td>
</tr>
<tr>
<td>TrimBoth</td>
<td>Trim(BOTH '_' FROM '<em>abcdef</em>')</td>
<td>Strips specified leading and trailing characters from a character string.</td>
</tr>
<tr>
<td>TrimLeading</td>
<td>Trim(LEADING '_' FROM '_abcdef')</td>
<td>Strips specified leading characters from a character string.</td>
</tr>
<tr>
<td>TrimTrailing</td>
<td>Trim(TRAILING '<em>' FROM 'abcdef</em>')</td>
<td>Strips specified trailing characters from a character string.</td>
</tr>
<tr>
<td>Upper</td>
<td>Upper(Customer_Name)</td>
<td>Converts a character string to uppercase.</td>
</tr>
</tbody>
</table>

**System Functions**

The **USER** system function returns values relating to the session.

It returns the user name you signed in with.

**Time Series Functions**

Time series functions are aggregate functions that operate on time dimensions.

Time dimension members must be at or below the level of the function. Because of this, one or more columns that uniquely identify members at or below the given level must be projected in the query.

<table>
<thead>
<tr>
<th>Function</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ago</td>
<td>SELECT Year_ID, Ago(sales, year, 1)</td>
<td>Calculates the aggregated value of a measure from the current time to a specified time period in the past. For example, AGO can produce sales for every month of the current quarter and the corresponding quarter-ago sales.</td>
</tr>
<tr>
<td>Periodrolling</td>
<td>SELECT Month_ID, Periodrolling (monthly_sales, -1, 1)</td>
<td>Computes the aggregate of a measure over the period starting $x$ units of time and ending $y$ units of time from the current time. For example, PERIODROLLING can compute sales for a period that starts at a quarter before and ends at a quarter after the current quarter.</td>
</tr>
<tr>
<td>ToDate</td>
<td>SELECT Year_ID, Month_ID, ToDate (sales, year)</td>
<td>Aggregates a measure from the beginning of a specified time period to the currently displayed time. For example, this function can calculate Year to Date sales.</td>
</tr>
</tbody>
</table>

**Constants**

You can use constants in expressions.

Available constants include Date, Time, and Timestamp. See also **Current_Date**, **Current_Time**, and **Current_TimeStamp**.
### Types

You can use data types, such as CHAR, INT, and NUMERIC in expressions.

For example, you use types when creating CAST expressions that change the data type of an expression or a null literal to another data type.

### Variables

Variables are used in expressions.

You can use a variable in an expression. See Defining Variables for details.
This section provides information on accessibility features for Oracle BI Cloud Service.

**Topics:**
- About Accessibility Features
- Changing to Accessibility Mode

**About Accessibility Features**

The accessibility features in Oracle BI Cloud Service aim to make navigating and using the service 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).

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 easily interpreted by third-party assistive technology products.
- Accessibility mode, as described in Changing to Accessibility Mode.
- Content design capabilities that make it possible for content creators to create content that supports users with accessibility needs. While Oracle BI Cloud Service provides an accessibility mode that offers many features automatically, you as the designer must create content that meets the accessibility requirements of your user community.

**Changing to Accessibility Mode**

Accessibility mode makes the user interface more compatible with screen readers. Only features supported for users with disabilities are visible.

To enable accessibility mode:

1. Select My Account from the drop down list next to your user name.
2. Press Tab to select the Preferences tab.
3. Press Tab to navigate through the fields on the tab until you read the Accessibility Mode options near the bottom of the dialog.
4. Use the arrow keys to select the On option.
5. Press Enter to save your changes and close the dialog.
6. Refresh the page to see it in accessibility mode.
Note:
The **Accessibility Mode** setting on the Preferences tab applies to Presentation Services, Data Loader, Data Modeler, and the Console.

In accessibility mode:

- The Home page does not contain links for performing most editing functions, such as editing dashboards.

- Graphs and map views are not displayed. They are converted to one or more annotated tables.

- Tables and pivot tables are displayed with internal annotations that enable screen readers to describe the contents of cells. Refer to your assistive-technology documentation for table navigation shortcuts.

- You cannot use a mouse to modify the layout of a table or pivot table.

- Performance tiles, heat matrices, and treemaps are displayed as pivot tables.

- The upper-left corner of each section on a dashboard page contains a collapse icon. This is true even if the section is marked as not collapsible in the Dashboard builder. The icon is the first element that receives focus when using a keyboard to navigate on a dashboard page.

- The **Page Options** button on a dashboard page is not available.

- If a dashboard page is refreshed, then the location of the focus is not preserved. You must press Tab to navigate through the focussable items.

- Trellis views displayed on dashboards are converted to pivot table views. Attribute columns of the inner graph are not included. Measure values are aggregated to the new grain of the pivot table views.