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SAP BusinessObjects Business Intelligence Suite

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Reporting in SAP BusinessObjects Web Intelligence

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Content

1 Reporting data

1.1 Introduction to reporting

Now that you have built and run your query, you have to organize your data before you can start performing analysis operations.

Organizing your data helps you make your report understandable and avoid information overload. As a best practice, try to keep it simple and remove all irrelevant data that would get in the way of what you are trying to demonstrate.

Use the chart library and tables to design the report. Other tools are available so that you can perform formatting operations. You can for instance sort, rank, or merge data so that information is displayed according to your business requirements and questions.

The following sections provide you with information on how to choose the correct visualizations according to your data to build and format impactful reports, how to link them to other reports and how to export them to the correct format.

1.2 Creating reports

The following sections provide you with details regarding report management.

	For more information about	Read
Create Report 	Hierarchical data	Working with hierarchical data [page 15]
	Highlighting data	Highlighting data using conditional formatting [page 46]
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1.2.1 Working with reports

You can create and update ad hoc reports based on your business requirements.

In reports you can add charts, free-standing cells, formulas, and much more.

1.2.1.1 Web Intelligence features that are supported in reports for mobile devices

You can use several Web Intelligence query and report features in reports for mobile devices.

In the following table are the major features of Web Intelligence and if they are supported on mobile devices. This is not a complete list; the features listed below have been tested for viability on mobile devices. For more information on designing Web Intelligence reports for mobile devices, see the *Mobile BI Report Designer's Guide*.

Feature	Purpose and how it helps	Supported on Mobile
Hierarchies	You can use hierarchies to navigate through data that uses parent-child relationships.	Yes
Free-standing blank cells	You can use free-standing cells display text or formulas. For example, you can use these cells for report titles and images. You can put in them basic formulas, for example a conditional status indicator.	Yes
Pre-defined cells	You can use free-standing cells with defined formulas that show information like drill filters, the last refresh date, and the document name.	Yes
Tables	You can use tables to show data in a list format that is easy to scroll through.	Yes **! Restriction** There is a limit to the maximum number of rows and columns that can be displayed on the screens of mobile devices. For more information, see the *Mobile BI Report Designer's Guide*.
Table breaks	To save space by removing repetitive data in a table, you can use table breaks.	Yes
Sections	You can use sections to split information into smaller parts. For example, in a table with City, Quarter, and Sales Revenue, the city and quarter content can be repetitive. You can create section based on Quarter, which gives you quarterly tables on Sales Revenue by City.	Yes

Feature	Purpose and how it helps	Supported on Mobile
Sorts	In tables, you can use sorts to organize the order in which values are displayed in a table. For example, you sort the revenue values in Descending order.	Yes
Ranking	You can use ranking in a table to show only top or bottom items based on certain criteria. This helps readers to focus on the top or bottom items in a data set.	Yes **! Restriction** Supported only the following Mobile server versions: • BI 4.1 SP03 Patch 01 and higher • BI 4.0 SP09 Patch 01 and higher
Charts	You can use charts to show data in a visual way that adds impact to the results.	Yes **! Restriction** There is a limit to the maximum number of rows and columns that can be displayed on the screens of mobile devices. For more information, see the *Mobile BI Report Designer's Guide*.
Prompts	You can use prompts in reports to allow users refine the data that is shown on the mobile device. You can also control the type or amount of data the user can access and that appears on the mobile device.	Yes
Query filters	You can use query filters to limit the amount of data retrieved from the data source, reducing the data retrieval time.	Yes
Report filters	You can use report filters to limit the retrieved data displayed in a report.	Yes
Input controls and groups of input controls	You can use input controls as report element-specific filter controls.	Yes
Folding and unfolding data	You can fold and unfold report data to see only the amount of data you want at a given time.	No
Drilling	You can use drilling to move through the data levels. For example, you can drill down from region to city to store.	Yes
Conditional formatting	You can use rules in reports to have table cell or section format change based on rules. You can highlight in a visual fashion important results by, for example, text, cell border and background display color and size changes, and even via images or web pages.	Yes

Feature	Purpose and how it helps	Supported on Mobile
Data tracking	You can display data changes in a report in a document, for when the changes in data is the focus of a report.	No

1.2.1.2 To organize reports

You can organize reports *Design* mode using the toolbar.

Context

You use the down arrow next to a report name to organize reports and execute multiple actions.

Procedure

1. In *Design* mode, make sure nothing is selected on the canvas, and click ⌄ next to a report name.
2. In the contextual menu, select whether you want to add, duplicate, delete, hide, show, rename, move or copy a report link.
3. If you want hide the report, click *Hide*, and select whether you want to simply hide it, or hide it conditionally using a formula:
   - If the seconday panel ins't open already, click 🔧 and check *Hide always* to hide the report.
   - To hide the report conditionally, check *Hide when formula is true*, add a formula in the dedicated entry field and click ✓ to validate it.

   Reports that you hide in *Design* mode are still visible in *Design* mode, but hidden in *Reading* mode.

1.2.1.3 Adjusting the report size

You can zoom in and out in reports using the zoom feature in the toolbar.

You can decrease and enlarge the report size from 10% to 200% in *Design* mode, by clicking the magnifying glass 🔍 in the *Display* section of the toolbar, and adjusting the zoom slider.

1.2.1.4 Viewing modes

Depending on how you want to work with data and how you want the data to appear, you can switch between three viewing modes.

Regardless of whether you're working in *Design* or *Reading* mode, you can switch between the quick display mode, print layout mode and presentation mode.

By default, the document opens in quick display mode. This mode displays tables, reports, and free standing cells in reports and a maximum number of vertical and horizontal records, depending on the settings. It also specifies the minimum page width and height and the amount of padding around the edges of the report. We recommending using the quick display mode when you want to focus on analyzing results, add calculations or formulas, or add breaks or sorts to tables to organize results. Note that the *Avoid page break* option has no effect in quick display mode.

The print layout mode simulates a printout or generated .PDF file, with headers, footers and margins. It's a pagination mode based on standard formats, such as A4, A3, ... We recommend using the print layout when you want to fine-tune the formatting of tables and charts, and the layout of report pages.

In *Design* mode, you can switch between viewing modes using the toggle in the toolbar. If you're in *Reading* mode, the icon is in the vanishing toolbar at the bottom of the report canvas. When off, the report is in quick display mode. When on, the report is displayed in print layout.

In *Design* mode, there are multiple settings you can edit in the *Format* panel for the quick display and print layout modes.

> → Tip
>
> Make sure no element is selected on the canvas, or you won't see these settings.

Parameter	Description
Rows	Number of horizontal records. Table headers, footers, free standing cells, charts, and section cells when the section isn't empty, don't count as rows. Section cells count as vertical rows when the section is empty. This applies to quick display mode only.
Columns	Number of vertical records. This applies to quick display mode only.
Size	The page size of the report. This applies to print layout only.
Orientation	The orientation of the report. This applies to print layout only.
Margins	Sets the margins of the page. This applies to print layout only.
Adjust to	Sets the report size using a specific percentage, and calculates the height and width automatically. Applies to print layout only.
Fit to	Sets the report size using a specific number of page, both for height and width. Applies to print layout only.

The *Presentation Mode* is combined with the advanced refresh feature and was designed for documents intended as dashboards. It allows you to refresh documents regularly so you can monitor data while the application automatically refreshes the document. While in the presentation mode, the controls are locked and you can't work on the document being refreshed. You can still cycle through reports if necessary. You can set up other options to fine-tune the mode's overall behaviour.

Parameter	Description
Auto-refresh every	Specify the frequency of refreshes.
Switch reports after	Specify how long a report should be displayed.
Display in fullscreen	Specify whether you'd like to see the report in full screen.
Show reports tabs	Specify whether you'd like reports tabs to be visible or hidden in the toolbar.
Show refresh bar	Specify whether you'd like the refresh bar to be visible or hidden in the toolbar. The refresh bar display the exact date and time of the last refresh.
All reports	Specify which reports you'd like to refresh.

In *Design* mode, you can access the *Presentation Mode* via the toolbar. In the *Display* section of the toolbar, click ••• and select *Presentation Mode*. In *Reading* mode, click directly in the *Display* section of the toolbar.

1.2.1.5 Viewing document properties

The document properties recaps the properties and options enabled in a document.

You can check the document properties in the main panel by clicking > .

Property	Description
Title	The name of the document in the BI launch pad. This is displayed above the general properties and cannot be edited.
Type	The type of document.
Author	The creator of the document.
Creation date	The date the document was created.
Locale	Formatting locale of the document.
Content Alignment	Alignment is set to left to right (LTR) by default. The alignment of the application interface is from right to left (RTL) when you select Arabic or Hebrew. The alignment of the document content may be RTL, depending on the system settings selected by the BI administrator.
Description	Optional information that describes the document.
Keywords	Optional keywords that can be used to search for the document in the BI launch pad.
Last refresh date	The date of the last data refresh.
Last modified	The date of the last modification made to the document.

Property	Description
Last modified by	The last person who modified the document.
Duration of the previous refresh	The duration of the last refresh.
Refresh on open	Automatically refreshes the document with the latest data from the database each time you open the document. When *Refresh on open* is on, data tracking doesn't display the difference between the data prior to the refresh and the data after the refresh. Data after the refresh is treated as new data because the refresh purges the document. **Note** The *Refresh on open* option depends on several settings configured by your BI administrator in the Central Management Console (CMC): • In the CMC, click *Applications* > *Web Intelligence*. In the *Automatic Document Refresh on Open Security Right Setting* section, the property *Automatic Refresh* security setting is enabled. • In the CMC, click *Applications* > *Web Intelligence* > *User Security*. When you select a user profile and click *View Security*, check that the *Document - disable automatic refresh on open* security right is disabled.
Apply security filtering on open	Automatically applies the security on data when opening the document, without any need to refresh the document. This option is only available for a document created on a relational unx universe with Business Security Profiles. **Note** • When the option *Apply security filtering on open* is selected, the option *Refresh on open* is greyed out. • When the option *Refresh on open* is selected, the option *Apply security filtering on open* is greyed out.
Chart animations	Turns on/off chart animations.
Permanent regional formatting	Formats the document according to the format locale with which it was saved.
Use query drill	Allows drilling in query drill mode.
Allow query stripping	Generates queries that only use objects that contribute to the reports in which they are used. Each time a query is refreshed, non-contributing objects are ignored. Only relevant data is retrieved from the data provider. This feature enhances performance. **Note** Query stripping is enabled by default for BEx queries.
Hide refresh warning messages	Hides refresh warning messages when only partial data is loaded or no data has been retrieved.

Property	Description
Hide warning icons in chart	Hides general warning icons to enhance readability.
Change Default Style	You can change the default style for the document. You can import a new style or export the current style.
Data tracking reference mode	Indicates whether data tracking is turned on or off.
Data tracking	Tracks data changes such as insertions, deletions, edits, and increased or decreased values.
Auto-merge dimensions	Automatically merges dimensions with the same name and from the same universe. You see the merged dimension in the list of available objects with the dimensions merged within it below. Merged dimensions are the mechanism for synchronizing data from different data providers.
Extend merged dimension values	When selected extends values of merged dimensions. Merged dimensions are the mechanism for synchronizing data from different data providers. This controls the results when a table contains synchronized data. If a table contains a dimension used in a merge, this dimension returns the value of its query plus the values of the other dimensions merged from other data providers for which there is an object in the table. When this option is disabled and a table contains a dimension used in a merge, this dimension returns the value of its query. **! Restriction** We recommend activating the *Extend merged dimension values* option only when you want to reproduce the merged dimension behavior of SAP BusinessObjects Desktop Intelligence.

Property	Description
Auto-refresh	Refreshes the document automatically at regular intervals. The *Auto-refresh* option applies to the use of delegated measures. Block elements that are affected by this include adding/deleting a column, inserting a break, including a footer, filter bar, input control. When this option is enabled, and an object is added to or removed from the query, or when a different value is selected from a list in the filter bar (all values, simple values), for example, the document is refreshed automatically. The `#TOREFRESH` message will not appear in the report because the refresh is automatic. This option only applies to aggregated delegated measures. For example when you add a total to a table in a report. Using this option can slow down the performance. If the drop in performance is a problem, consider deselecting this option. In this case `#TOREFRESH` will display when the report is modified. **i Note** This option can only be modified if the BI administrator has enabled it in the Web Intelligence application properties in the Central Management Console (CMC).
Default Style	You can change the default style that is used for the document: • Import a `.css` style sheet to replace the existing style sheet. • Export the current style sheet to save or use elsewhere. • Reset the document to use the original style sheet installed with the product. This option is only available when the current document style sheet is different from the original style sheet.
Merge prompts (BEx variables)	Select this option if you want to merge prompts that are created in Web Intelligence from BEx variables in the original BEx query. Only BEx variables that have the same technical name are merged. When this option is unselected, any previously merged BEx variables are unmerged and treated as separate prompts.
Prompts	Indicates prompt values entered for the current view of the document. **i Note** Keydates, if there are any, are retrieved together with prompts.

Related Information

Merging data from dimensions and hierarchies [page 59]
Data tracking and Refresh on Open [page 45]

1.2.1.5.1 To configure document properties

You can configure the document properties.

Procedure

1. In *Design* mode, in the toolbar, click > .
2. Browse the different sections and toggle the properties on or off.
3. Click *Apply* to save your changes.

Related Information

Viewing document properties [page 8]

1.2.1.5.2 Query stripping

Query stripping optimizes performance by removing objects from a query if they aren't used in a report.

When query stripping is enabled, the query is rewritten to reference only objects that are used in the report. Let's take a query that has three result objects: **`Country`**, **`City`**, and **`Revenue`**. A report based on this query may contain only **`City`** and **`Revenue`**. If query stripping is enabled, when you refresh the report, the query only retrieves data for **`City`** and **`Revenue`**.

In relational universes, a report with query stripping enabled may return different data than when query stripping is disabled, depending on the schema of the data foundation. Let's look again at the example of a query that contains **`Country`**, **`City`**, and **`Sales Revenue`**. In the data foundation, a self-restricting join on the **`Country`** table restricts the country to the US. With query stripping disabled, the report on **`City`** and **`Revenue`** returns revenue only for cities in the US. With query stripping enabled, the report returns revenue for cities in every country, because the **`Country`** table was stripped out of the query.

> ⚠ Caution
>
> Web Intelligence can't strip every object if there's no report element in the document: the report must contain at least one object.

For relational universes, query stripping is only enabled if:

- In the information design tool, the *Allow query stripping* option is on in the business layer properties in the information design tool.
- In Web Intelligence, the *Allow query stripping* option is on for the data provider in the query properties.
- In Web Intelligence, the *Allow query stripping* option is on in the document properties.

For OLAP universes, query stripping is enabled by default. Query stripping is supported by:

- UNV BAPI Universes (i.e UNV BW Universes)
- Relational and OLAP UNX universes
- BW Direct Access from BW BICS connections
- HANA Direct Access from HANA Relational connections
- HANA Direct Access from HANA HTTP connections

For more information on query stripping, see the *Information Design Tool User Guide*.

Related Information

Viewing document properties [page 8]

1.2.1.6 Applying security filtering when opening a document

When creating a document on a relational .unx universe, you can specify that security on data is applied when opening the document without any need to perform a refresh.

This saves time for all users of the document, especially for those who receive a document through the scheduling process.

Data security is also applied when you export the data of a document.

Applies to which universes?

This feature is available for documents created on relational .unx universes only, not for OLAP .unx universes.

Which security settings are applied?

When the option *Apply security filtering on open* is selected:

- The Business Security Profiles, which are defined by universe, are applied. Data Security Profiles are not applied.
- Within Business Security Profiles, Display Data and Filters are applied. Member Sets are not applied, as they are defined for OLAP unx universes.

In which cases do errors appear in a document?

Even when the option *Apply security filtering on open* is selected, security on data is not applied in the following situations:

- If the universe can't be accessed.
- If the Business Security Filters refer to objects that are not included in the query.
- If the Business Security Filters contain filter types not included in the folllowing list:
  - Comparison filters with operators =, <>, >=,>, <=,<, INLIST, NOT_INLIST, BETWEEN, NOT_BETWEEN
  - Comparison filters based on @variable syntax on system variables such as BOUSER, UNVNAME, etc.
  - Comparison filters based on @variable syntax on CMS User Attributes.
- If Business Security Display Data is applied on queries containing delegated measures.

When there is an error in a document, the data of the document is automatically purged.

1.2.1.6.1 To apply security filtering when opening a document

Procedure

In *Design* mode, enable the *Apply security filtering on open* option in the *Document Properties* (>) pane, under *Data Options*, using the dedicated toggle. See To configure document properties [page 12].

> **i Note**
>
> - This option isn't enabled by default. When this option is enabled, the *Refresh on open* option is greyed out. And when the *Refresh on open* option is enabled, the *Apply security filtering on open* option is greyed out.
> - If you disable the *Apply security filtering on open* option, it means that the security on data won't be applied when a user opens the document. Then, as soon as the user refreshes the opened document, both data and security are applied. When you deselect the option, a message appears indicating that data will be purged.

Results

Data security is also applied when you export the data of a document.

1.2.1.7 Hierarchical and non-hierarchical data

Depending on the data source for your reports, they can contain non-hierarchical or hierarchical data.

Non-hierarchical data behaves differently from hierarchical data and you work with them in different ways.

1.2.1.7.1 Working with non-hierarchical data

Non-hierarchical data has no parent-child relationships. A dimension is an example of a non-hierarchical object.

For example, the [Country] and [City] dimensions displayed in a table, show the following values:

Country	City
Canada	Aurora
Canada	Barrie
Canada	Brampton
Canada	Brossard
Canada	Burnaby
Canada	Calgary
Canada	Chalk Riber
Canada	Cliffside
Canada	Dorval
Canada	Edmonton

Because the application relies on the data strucutre and navigation paths created by the universe designer, it knows that Brosssard and Calgary for instance are in Canada, even though both dimensions are different objects and have no relationship.

You can analyze non-hierarchical data in many ways in your reports, for example by sorting or filtering it.

1.2.1.7.2 Working with hierarchical data

When your report includes hierarchical data, the measures are aggregated at each level in the hierarchy. You can navigate the hierarchical data to analyze the level of detail that interest you.

For example, in a [Customer Geography] hierarchy, you can navigate to and analyze the [Sales Amount per State/Province] figures for [Australia] or [Canada] and their different provinces thanks to other levels in the hierarchy. In a hierarchy, each level is contained within a single column.

Customer Geography	Sales Amount per State/Province	Internet Sales Amount
All Customers		29,358,677.22
Australia		9,061,000.58
New South Wales	3,934,485.73	3,934,485.73
Queensland	1,988,415.03	1,988,415.03
South Australia	618,255.86	618,255.86
Tasmania	239,937.9	239,937.9
Victoria	2,279,906.06	2,279,906.06
Canada		1,977,844.86
Alberta	22,467.8	22,467.8
British Columbia	1,955,340.1	1,955,340.1
Ontario	36.96	36.96
France		2,644,017.71
Germany		2,894,312.34

The appearance and behavior of hierarchical data depends on the report element where you place the data, the hierarchy order that you define, and how you organize the other data in the report element.

Related Information

Working with non-hierarchical data [page 15]
Restrictions concerning reporting with hierarchical data [page 16]
Hierarchical data in tables [page 19]
Hierarchical data in cross tables [page 21]
Reversing the order of hierarchical data [page 22]
Exploring hierarchies [page 25]

1.2.1.7.2.1 Restrictions concerning reporting with hierarchical data

Some restrictions can apply when you are using hierarchical data.

These restrictions are repeated in the appropriate sections in this guide.

Restrictions when reporting with hierarchies

The restriction concerns...	Description
BEx query measures	Measures which aggregate with the SUM function in Web Intelligence, and not in the BEx query. The other types of measure aggregation are delegated.
Break on measure or detail	A break is always associated with the sort on the object where it is applied. For this reason, any hierarchy in the table the where break applies, the hierarchy becomes flat. The user can remove the break on the underlying object to restore the hierarchy.
Delegated measure aggregation	This restriction applies whenever delegated measures are used, and is not specific to reporting on hierarchical data. Delegated measure aggregation returns `#TOREFRESH`, when the required aggregation is not available in the query. The user has to refresh the document to get the new level of aggregation. This occurs, for example, when using the filter bar, and the user selects a value before "all value" and vice verse when selecting "all value" before a selected value. Delegated measure aggregation returns the `#UNAVAILABLE` message if the delegated measure is in a formula on a dimension, or if it is in a multi-valued filter (for example, an input control) on a dimension that is not in the context of the aggregation of the measure. This occurs for example when defining a URL on top of a dimension in a table where there is a delegated measure. In that case, we recommend that you create a variable on top of the URL formula as a detail of the original dimension and include, but hide, the original dimension in the block. In the formula: If (condition) then [dimension1] else [dimension2] , any delegated measure that is given against this formula will still return `#UNAVAILABLE`.
Drilling	There is no drill-replace capability on objects from a BEx query (there is no navigation path). There is no query drill on OLAP `.UNV` sources.

The restriction concerns...	Description
Filtering on hierarchies	A report/table filter where there is a hierarchy may remove rows without respecting the hierarchy structure. For this reason, a filter can remove a parent node currently expanded but keep leaves or nodes collapsed. To avoid returning an empty table, the system automatically expands the hierarchy in the block to show the resulting members. A filter can remove an intermediary node of a hierarchy. In that case, the user cannot access the next level of member from the parent node with a simple expand action. To see the descendant of the parent node, the user can do an expand all. It's not possible to filter on a merge object based on a hierarchy. Filter bar (drill bar): when filtering through the filter bar on a hierarchy, selecting a node that is not shown in the table because it is collapsed, the table is shown empty. The user can do an expand all to see all the value. To filter from the filter bar is to filter on the caption, even for OLAP business objects that have a key.
Report filters	When the user changes any report filter, the system proceeds with an "expand all" on any hierarchy in the report.
Flattening hierarchies	When a hierarchy becomes flat, the system shows all the members of the hierarchy at the same level, like for a dimension, without using + or - to navigate and without contextual menu "collapse/expand".
Merged objects	A merged object based on a hierarchy cannot be directly used in the report. This is because where the original hierarchy has a conflicting hierarchy structure (a member A is descendant of another member B, whereas in the other hierarchy the member A is ancestor of member B), the system cannot build a merge hierarchy. The system prevents you from dragging the merged object. If the user builds a formula using the merged object, the system returns `#SYNTAX`. The user can use directly the original hierarchy instead in the report. A merge on a key for a OLAP business object is a data synchronization of the same object from the same source (cube or BEx query), and is based on the internal key of the value of these objects. It can also be based on the caption. It's not possible to filter on a merged object based on a hierarchy.
OLAP	The order of an OLAP dimension member in a report LOV (filter bar, input control) is ascending in lexicographical order. Filtering on an OLAP object from the filter UI filter is based on the key of the given object. Filtering from an input control on an OLAP dimension is filtering on the caption. Filtering on a hierarchy is filtering on a key.

The restriction concerns...	Description
Query stripping	Query stripping is available for: • OLAP `.UNV` universes • OLAP and relational `.UNX` universes • SAP BW and SAP HANA Direct Access
Refreshing documents	When you refresh a document, the system proceeds with a "collapse all" for any hierarchy whose root value has changed.
Refresh on open document property	When a document has the refresh on open property, all query objects are purged and Web Intelligence cannot check which hierarchies have had their root value changed. Consequently, all document hierarchies are collapsed.
Ranking on hierarchical data in a table	A ranking on a table where there is a hierarchy does not take into account the hierarchy structure of the data. For this reason, any hierarchy in a table where the user defines a ranking becomes flat.
Sorting	Sorting a hierarchy and, in the case of OLAP sources, a dimension is based on the order of the member in the underlying system. It is based on the source ordinal called natural order, but not lexicographical order like for other type of business object. The sort on a hierarchy respects the structure of the hierarchy; it is sorting sibling members at a given level. Sorting on a measure does not preserve the order of member within a hierarchy in the same table. For this reason the system is showing the hierarchy flat in a table, where the user applied a sort on measure.
Variables	Variable (formula) on hierarchy: a formula based on a hierarchy is always resulting in flat value list (no hierarchical data).

1.2.1.7.2.2 Hierarchical data in tables

Hierarchies appear in tables as hierarchical columns.

A hierarchical column displays the hierarchy levels. You can explore the hierarchy by expanding and collapsing its values.

Example: A hierarchical column in a table

The following table displays the [Product Model Categories] hierarchy and the [Order Quantity] measure:

Product Model Categories	Order Quantity
All Products	24,096
Accessories	1,825
Bikes	15,282
Mountain Bikes	4,951
Mountain-100	4,951
Road Bikes	10,331
Road-150	2,652
Road-450	2,144
Road-650	5,535
Clothing	4,084
Components	2,905

The measure displays the total revenue for the corresponding value in the hierarchy. For example, the total number or order for Bikes products is 15,282.

You can find more information about clothing by expanding the [Clothing] member:

Product Model Categories	Order Quantity
All Products	24,096
Accessories	1,825
Bikes	15,282
Clothing	4,084
Caps	985
Cycling Cap	985
Jerseys	1,902
Long-Sleeve Logo Jersey	1,902
Socks	1,197
Mountain Bike Socks	1,197
Components	2,905

When you expand the member, the Order Quantity column also displays the measure values associated with different clothing items.

Related Information

Hierarchical data in cross tables [page 21]

1.2.1.7.2.3 Hierarchical data in cross tables

Hierarchical data behaves similarly in cross tables to how it behaves in tables.

If an axis of the crosstab is based on a hierarchy, you can click a data item to expand it.

Example: Hierarchical data in a cross table

The following crosstab has the [Time] hierarchy on the vertical axis and the [Product] hierarchy on the horizontal axis.

Time	Grocery
2008	203,110
2009	321,400
2010	350,444

If you click the [Grocery] item, it expands to display its child items and displays the corresponding measure values.

	Grocery		
Time	Baking Goods	Beverages	Bread
2008	54,570	67,000	81,540
2009	101,000	98,990	121,410
2010	124,000	133,000	93,444

Related Information

Hierarchical data in tables [page 19]

1.2.1.7.2.4 Reversing the order of hierarchical data

For hierarchical data in tables or sections, you can define the order in which the hierarchy levels display when the hierarchy is fully extended – either the top or the bottom level first.

Choose the hierarchy order that best meets your business needs:

- Use parents first to display the top level of the hierarchy first. This is the hierarchy order by default.
  For example, the [Geography] hierarchy, displays [Country], [Region], and finally, [City].
- Use children first to reverse the default order and display the bottom or most detailed level of the hierarchy first.
  For example, the [Geography] hierarchy displays [City], [Region], and finally, [Country].

When the hierarchical data is in a table column, the order displays from the top to the bottom of the table. When the hierarchical data is in a row, the order displays from left to right or right to left, as appropriate for the language settings.

The hierarchy order applies to all hierarchical data in the block.

When you turn a table into a chart, the chart does not retain the hierarchy order.

Example

For a sales report, use the default parents first order to show the sales revenue for the hierarchy levels [Country], [State], and [City].

Parents first hierarchy order

Geography			Revenue
USA			$36 397 203
	California		$7 479 569
		Los Angeles	$4 220 929
		San Francisco	$3 258 641
	Colorado		$2 060 275
		Colorado Springs	$2 060 275
	Florida		$2 961 950

For a profit and loss statement, use the children first order to show how the detailed [Sales Revenue], [Cost of Sales] and [Operating Expenses] contribute to the overall net profit. For example, show the detailed expenses, roll them up into total costs for each company area, and then, the total operating expenses.

Children first hierarchy order

Operating Expenses			Cost
		Sales Salaries	$4 200 000
		Warranty Expenses	$730 000
		Depreciation, Store Equipment	$120 000
		Other Expenses	$729 000
	Total Sales		$5 779 000
		Administration Salaries	$1 229 000
		Rent and Utilities	$210 000
		Equipment	$379 000
	Total General and Administration		$1 818 000
Total Operating Costs			$7 597 000

Related Information

To reverse the order of hierarchical data [page 23]
Applying sorts and hierarchy orders to hierarchical data [page 24]

1.2.1.7.2.5 To reverse the order of hierarchical data

Reverse the order of hierarchical data in reports: from aggregated values down to detailed values or from detailed values up to aggregated values.

Context

You can reverse the order of hierarchical data in tables and sections. The order you define applies to all hierarchies in the data block.

Procedure

1. In *Design* mode, right-click the table or section that contains hierarchical data.
2. Click *Data* > *Add Sort*.
3. In the *Data* panel, click the *Add a sort* dropdown and select the hierarchy you want to sort to add an ascending sort.
4. To change the sort to a descending sort, click .

1.2.1.7.2.6 Applying sorts and hierarchy orders to hierarchical data

You can apply both a sort order and a hierarchy order to hierarchical data to make your reports easier to read.

> **i** Note
>
> - The order of the data hierarchy and the sort order of the values at each level of the data hierarchy can be controlled independently.
> - Using the *Remove all sorts* button has no impact on the hierarchy order.

Example

Columns one and two both show the parents first hierarchy order so the [Geography] hierarchy displays [WORLD], [Global Region], and finally, [Country Code]. However, each column uses a different sort order:

- Column one shows the ascending sort order so the text appears in alphabetical order and the numbers appear in ascending order.
- Column two shows the descending sort order so the text appears in reverse alphabetical order and the numbers appear in descending order.

Columns three and four show the children first hierarchy order so the [Geography] hierarchy displays [Country Code], [Global Region], and finally, [WORLD]. The [Country Code] values display before their [Global Region]. However, each column uses a different sort order:

- Column three shows the ascending sort order so the text appears in alphabetical order and the numbers appear in ascending order.
- Column four shows the descending sort order so the text appears in reverse alphabetical order and the numbers appear in descending order.

Hierarchy order and sort order combinations

Column 1	Column 2	Column 3	Column 4
Hierarchy Order: Parents First **Sort Order: Ascending**	**Hierarchy Order: Parents First** **Sort Order: Descending**	**Hierarchy Order: Children First** **Sort Order: Ascending**	**Hierarchy Order: Children First** **Sort Order: Descending**
WORLD	WORLD	1	Middle East
Americas	Middle East	54	47
1	Europe	57	33
54	47	Americas	Europe
57	33	Asia Pacific	Asia Pacific
Asia Pacific	Asia Pacific	47	57
Europe	Americas	33	54
33	57	Europe	1
47	54	Middle East	Americas
Middle East	1	WORLD	WORLD

1.2.1.7.2.7 Exploring hierarchies

The way you explore hierarchical data depends on how you organize the hierarchical and non-hierarchical data in your report.

When the hierarchical data is in a table, next to a non-hierarchical dimension, and you collapse or expand one of its members, your action is symmetric. It applies to all the values of the other dimensions for the selected hierarchy member and all those values collapse or display.

On the other hand, when two hierarchies are next to each other in a table, and you collapse or expand one member of one hierarchy, your action is asymmetric. It applies only to the current values of the other hierarchical data or dimensions for the selected member.

To perform a collapse or expand action symmetrically so that all the values of the other hierarchies or dimensions in the table collapse or expand, you specifically select a symmetric action.

Related Information

To expand and collapse all the hierarchies in a table [page 26]
Exploring a hierarchy asymmetrically [page 26]

To explore a hierarchy asymmetrically [page 27]
Exploring a hierarchy symmetrically [page 28]
To explore a hierarchy symmetrically [page 29]

1.2.1.7.2.8 To expand and collapse all the hierarchies in a table

In a table with hierarchical values, you can expand all the hierarchies to show all possible combinations of hierarchy members.

Procedure

1. To expand all the hierarchies in a table, right-click one of them and select *Hierarchy* > *Expand Children*.
2. To collapse all the hierarchies in a table, right-click one of them and select *Hierarchy* > *Collapse Children*.

1.2.1.7.2.9 Exploring a hierarchy asymmetrically

Asymmetric exploration is the way you explore a hierarchy by default when you select members to expand or contract them.

When you explore a hierarchy asymmetrically, your expand and collapse actions are applied only to the current value of the other dimensions that appear next to the explored hierarchy.

Example: Asymmetric exploration

A table contains the [Product] dimension and the [Geography] hierarchy.

Product	Geography	Revenue
Grocery	California	540,000
Beverages	California	453,300

If you expand the [California] member to display cities in California in the first row of the table, the expansion applies only to the currrent value (Grocery) of the [Product] dimension.

Product	Geography	Revenue
Grocery	California	540,000

Product	Geography		Revenue
		Los Angeles	320,000
		San Diego	100,000
		San Francisco	120,000
Beverages	California		453,300

Related Information

To explore a hierarchy asymmetrically [page 27]
To expand and collapse all the hierarchies in a table [page 26]

1.2.1.7.2.9.1 To explore a hierarchy asymmetrically

You can expand a hierarchy for only the current values of a dimension or hierarchy.

Procedure

1. Open a Web Intelligence document based on a hierarchical data source in any mode.
2. To expand the child members of a member, click the member, or right-click and select *Expand Children* from the menu.
   The hierarchy expands only for the current value of the dimensions or hierarchies next to the expanded hierarchy in the table.
3. To expand all descendant members of a member, click the member, or right-click and select *Expand Descendants*.
   The hierarchy collapses only for the current value of the dimensions or hierarchies next to the expanded hierarchy in the table.
4. To collapse the child members of a member, click the expanded member, or right-click and select *Collapse Children*
   The hierarchy collapses only for the current value of the dimensions or hierarchies next to the collapsed hierarchy in the table.

1.2.1.7.2.10 Exploring a hierarchy symmetrically

When you explore a hierarchy symmetrically, your expand and collapse actions are applied in relation to all values of the other hierarchies or dimensions that appear next to the explored hierarchy in the table.

Example: Symmetric exploration

A table contains the [Product] dimension and the [Geography] hierarchy.

Product	Geography	Revenue
Grocery	California	540,000
Beverages	California	453,300

If you expand the [California] member on the first row to display cities in California, the expansion applies to both values of the [Product] dimension.

Product	Geography		Revenue
Grocery	California		540,000
		Los Angeles	320,000
		San Diego	100,000
		San Francisco	120,000
Beverages	California		453,300
		Los Angeles	120,000
		San Diego	200,000
		San Francisco	133,300

Related Information

To expand and collapse all the hierarchies in a table [page 26]
To explore a hierarchy symmetrically [page 29]

1.2.1.7.2.10.1 To explore a hierarchy symmetrically

You can expand a hierarchy for all values of a dimension or hierarchy.

Procedure

1. Open a Web Intelligence document based on a hierarchical data source in any mode.
2. To expand the child items of a member, right-click the member and select *Hierarchical Navigation* > *Symmetric* > *Expand Children*.
   The hierarchy expands for all values of the dimensions or hierarchies next to the expanded hierarchy in the table.
3. To expand all descendant items of a member, right-click the member and select *Hierarchical Navigation* > *Symmetric* > *Expand Descendants*.
   The hierarchy expands for all values of the dimensions or hierarchies next to the expanded hierarchy in the table.
4. To collapse the child members of a member, right-click the member and select *Hierarchical Navigation* > *Symmetric* > *Collapse Children*
   The hierarchy collapses for all values of the dimensions or hierarchies next to the collapsed hierarchy in the table.

1.2.1.7.2.11 Changing the drill focus of a hierarchy

You can change the drill focus when exploring hierarchies.

When you change the drill focus you filter out the parent member and all members at and above its level when expanding it.

Changing the drill focus is useful when creating charts on hierarchical data. Because measure values associated with parent members are more aggregated than their child members, it is difficult to display them on the same chart axis using the same scale. By removing the parent member, it is possible to display the values for the child members using the same scale.

Example: Drilling down on a hierarchy

You have the following data in a table:

Time	Revenue
2008	29,358,677.22
2009	30,242,323

Time	Revenue
2010	45,320,243

When you drill down on the [2010] member, you see the following display:

Time	Revenue
Q1	12,500,650
Q2	14,353,231
Q3	8,342,231
Q4	10,124,131

The year members, with values that are much larger than the measure values of the quarter members, do not appear in the display.

1.2.1.7.2.11.1 To change the drill focus of a hierarchy

You can drill up and down in a table hierarchy.

Procedure

1. In *Design* mode, in the *Analyze* section of the toolbar, click ••• and check *Drill*.
2. Select the column on the table and click ⩔ to drill down.
3. To drill up on a table hierarchy, select any child member of a member you previously drilled down on and click ⩓.

1.2.1.7.2.12 Aggregating hierarchical data

Hierarchical measure data is aggregated differently depending on whether the method of aggregation is default or explicit.

The aggregation logic is based on the following rules:

- Data sets used for aggregation:
  1. When there is a hierarchy in a measure context the measure values for the root members of the hierarchy are aggregated - this is by default (the `Aggregate()` mechanism is not explicitly declared).
  2. For explicit types (SUM, MAX, MIN), the hierarchical nature of the data is ignored. All the visible data is aggregated, including data that has already been aggregated (parent members already aggregated).
- Sensitivity to the collapse/expand status.
  1. Explicit aggregation only aggregates visible data, except when the set expression is used for a specific hierarchy, then an aggregation is performed on the objects defined in the set expression.

2. Default aggregation including the aggregate() function is not sensitive to the state of the collapse/expand.

1.2.1.7.2.12.1 Default aggregation

In a default aggregation, the collapsed or expanded state of a hierarchy's item is not taken into account.

A measure in a report block is always aggregated with the context of that block. For example, if the block contains only one [Year] dimension, the measure will be aggregated for each value of the dimension: 2004, 2005, 2006 and so on. Also, if you aggregate every value of the measure for each quarter of each [Year] value using the Sum() function by default, Web Intelligence returns the sum of the measure for every quarter of each [Year] value.

This method of aggregation is called default aggregation, where it uses the default universe aggregation function specified by the universe designer at the universe creation. The default aggregation function is usually specified in the universe, although not always. For Excel data sources for instance, it is specified in the *Query Panel*. The aggregation is processed by Web Intelligence's calculator. The calculator can run aggregations using functions such as Sum(), Average(), Count(), Min() or Max().

A default aggregation uses the rolled-up values returned by the database. In other words, it is compatible with the aggregated values returned by the database. Default values are calculated by applying the default aggregation function to all the root values in the hierarchy. This means that a default aggregation does not count values more than once except in situations where the same value appears beneath different root items in a hierarchy.

Delegated aggregation

You can declare a function for a measure, which, by default, is delegated to the database. This means that when you use this measure in a report block, a query is sent to the database to retrieve the result of the aggregation depending on the context.

Delegated aggregations are mainly used for measures associated with hierarchical objects coming from SAP Business Explorer (BEx). That is because Web Intelligence cannot aggregate the values of a hierarchy that depends on the nodes and leaves retrieved by the query. Only the database knows the content of the hierarchical object in its entirety and is therefore able to aggregate a measure depending on that content.

Related Information

Examples of default and explicit aggregation [page 32]

1.2.1.7.2.12.2 Explicit aggregation

In an explicit aggregation, you declare an aggregation function for the measure you want to aggregate.

In an explicit aggregation, Web Intelligence references the visual state of the hierarchy and uses the collapsed or expanded state of the members of the hierarchy to run calculations. As a result, values can be counted more than once, and the result of calculations can change depending on whether an item is collapsed or expanded.

For example, if an item is expanded and an explicit aggregation references both the item and one if its child items, depending on the rollup calculation, the value of the child may be counted twice: once for itself and once with the value of its parent. That is because Web Intelligence is adding the child and parent value.

Restriction concerning set-based explicit aggregation

When a measure is aggregated along hierarchies that are not part of the set expression declared in the aggregation function, the aggregation is not implicit.

For example, when hierarchies are present in a table and aggregation using set is in the table footer and the hierarchies in the table are not specified in the set expression, if there is a filter somewhere in the report which removes the initial roots of the hierarchy in the table, the system will not aggregate values for these roots, but along the original unfiltered roots (the original query result).

Related Information

Examples of default and explicit aggregation [page 32]

1.2.1.7.2.12.3 Examples of default and explicit aggregation

If you include a measure in a cell without specifiying an aggregation function, or if you use the `Aggregate` function, the measure is calculated using the default aggregation function.

Example: Default and explicit aggregation

You have a hierarchy with the following data and the hierarchy appears fully expanded in a report:

Product	Unit Sales
Drink	24,597
Alcoholic Beverages	6,838

Product		Unit Sales
	Beverages	13,573
Food		19,194
	Baked Goods	7,870

- Placed in the table footer, `[Unit Sales]` returns 43,791. This default aggregation returns the total aggregated value of the measure (24,597 + 19,194).
- Placed in a table footer, `Sum([Unit Sales])` returns 72.072. This explicit aggregation counts every visible value in the hierarchy (24,597 + 6,838 + 13,573 + 19,194 + 7,870).
- The explicit aggregation `Sum([Unit Sales];[Product]&[Drink].children)` returns 20,411 (6,838 + 13,573) because `[Drink]` is expanded.
- The explicit aggregation `Sum([Unit Sales];{[Product]&[Drink];[Product]&[Beverages]})` returns 38.170 (24,597 + 13,573). The value for `[Beverages]` appears twice in the calculation because `[Drinks]` is expanded.
- The default aggregation `Aggregate([Unit Sales];{[Product]&[Drink];[Product].[Beverages]})` returns 24,597. The value for `[Beverages]` does not appear twice in the calculation.

If you collapse the `[Drink]` node in the report, the calculations are as follows:

- `[Unit Sales]` returns 43,791. The default aggregation is not affected by the change in display.
- `Sum([Unit Sales])` returns 51,661 (24,597 + 19,194 + 7,870). The explicit aggregation uses all the visible values to return the value.
- `Sum([Unit Sales];[Product].&[Drink].children)` returns a non-NULL value even though the child members of `[Drink]` are not visible.
- `Sum([Unit Sales];{[Product].&[Drink];[Product].&[Beverages]})` returns 38,170 because [Beverages] is not visible. The explicit aggregation uses visible values only.
- `Aggregate([Unit Sales];{[Product].&[Drink];[Product].&[Beverages]})` returns 24,597. The default aggregation is not affected by the change in display.

1.2.1.7.2.13 Setting default hierarchy levels in a report table

Using the *Hierarchy* option, you can set the default hierarchy member levels that are visible in a hierarchy table so that they will remain visible to the preferred level or fixed at the root level, even after refresh and data purge actions.

> **i Note**
>
> If you set a default level, and then add a quick filter, all hierarchical levels are exposed for selection in the filter. If you select a level that is lower than the level set for hierarchy expansion, then you receive no values.

This option is available from the right-click contextual menu for a report table. If the filter is searching for hierarchy members that are on levels lower that those specified for the *Hierarchy*, then the table will appear empty.

Normally, the hierarchy in a table is automatically collapsed to the root hierarchy member in the following cases:

- You have just opened the document.
- You have changed the root members of the hierarchy.
- You have purged or refreshed a document.

If you don't use this option, then when a document is refreshed and the root members of the hierarchy are changed, or when the document has been purged and refreshed, the hierarchy in the table is automatically collapsed to the root hierarchy member.

Impact of a document refresh on hierarchies

Refreshing a document that contains hierarchies can impact the way they appear in a report. A collapsed hierarchy for example might expand after your refresh the document.

If the *Refresh on open* option is activated, the data is purged when you open the document. As a consequence, hierarchies are reset and collapsed to avoid having missing nodes after a refresh that could corrupt the document. However, if the document contains filters that apply to hierarchies, they are expanded to prevent the creation of empty blocks caused by a negative filter on the roots of a hierarchy that could potentially be filtered out.

This behavior doesn't apply when you do a standard refresh in a document because there's no data purge. Therefore, the application has a reference to compare with and doesn't need to reset the hierarchies.

1.2.1.7.2.13.1 Using the Default Level Expansion setting

To avoid expanding all levels of a hierarchy, you can use the *Default Level Expansion* setting to specify which levels of the hierarchy should be expanded.

In Web Intelligence, hierarchies support up to 99 levels. If you set the *Default Level Expansion* to *None* in a hierarchy that has four levels for instance, the setting does not apply to the hierarchy. In this instance, all levels will be collapsed in the report after a refresh with data purge or a refresh on open. However, if a filter is applied to that hierarchy, the four levels will be expanded.

> ⚠ Caution
>
> Setting the *Default Level Expansion* setting to *None* in a hierarchy does not mean that it will be collapsed. It means that you do not apply any default expansion level.

Related Information

Setting default hierarchy levels in a report table [page 33]
To set the default hierarchy level in a report table [page 35]

1.2.1.7.2.13.2 To set the default hierarchy level in a report table

You can set the default number of hierarchy levels on a hierarchy member that are visible in a report table.

Procedure

1. In *Design* mode, select the report that contains the table you want to configure.
2. Right-click in the table the hierarchy whose level you want to set, and select *Hierarchy* > *Set Default Level*.
3. In the *Set Default Level* contextual list, do one of the following:
   - Set the default level expansion from *None* to *4*.
   - Select *More* to select or enter in the *Set Default Level* dialog box any level between *1* and *99*.

1.2.1.8 Folding and unfolding report data

You can hide and display report data by folding and unfolding report elements.

You can fold and unfold sections, breaks and tables if they have a header or a footer. Data is concealed and displayed in different ways depending on the report element.

Report element	Result
Section	When a section is folded, section details are hidden and free cells only are displayed. In *Reading* mode, you can fold and unfold sections.
Table or break	When a table or break is folded, the rows are concealed, and only headers and footers are displayed. Tables must have headers and footers to be folded and unfolded. Vertical tables, horizontal tables and cross tables can be folded and unfolded. In *Reading* mode, you can fold and unfold sections.

1.2.1.8.1 To fold and unfold report data

You can fold and unfold data in *Reading* and *Design*.

Context

Only report elements that have a header or a footer can be folded or unfolded.

Procedure

1. In the *Analyze* section of the toolbar, click .
2. Check *Fold/Unfold*.
3. Click  and  to fold and unfold tables, breaks, and sections, and  for cross tables. If you're folding/unfolding a cross-table, after you've clicked  , select whether you want to fold/unfold rows or columns in the dedicated contextual menu.

1.2.1.8.2 To redisplay all hidden content in a report

You can hide tables, cells and sections in reports.

Procedure

1. Right-click the report containing hidden content.
2. Click *Hide* > *Show All Hidden Content*.

1.2.1.9 Tracking changes in data

To make informed and effective business intelligence decisions, you need to understand how the data on which you base those decisions changes over time.

You can track and display data changes to help you focus your analysis on key areas and avoid wasting time exploring irrelevant data.

When you track data changes, you select a particular data refresh as a reference point. This data is known as the reference data. When you activate data tracking, you see your data in relation to the reference data.

Here are some examples of data tracking:

- If an outlet no longer appears in a list of the top outlets by sales, it would be interpreted as deleted from the list. You can use this information to investigate why the outlet is no longer a top performer.
- If sales have decreased in a region, data tracking displays the decrease. You can then drill down into the data for the region to understand why revenue is falling.

In both these cases, data tracking makes the current data more meaningful by placing it in context with older data. Without this context it's much more difficult to identify trends.

> **i** Note
>
> Status “changes” of tracking data changes is only for a detail value when displayed with its associated dimension in the table. When the detail is given without it is associated dimension it is considered as a dimension and does not show the status changes (but only shows when the detail is inserted/deleted).

Related Information

Types of data change [page 37]
Automatic update tracking mode [page 38]
Absolute reference data tracking mode [page 38]
To activate data tracking [page 38]
To display changed data [page 40]
Configuring the appearance of changed data [page 39]
To configure the appearance of changed data [page 39]
How changed data is displayed in blocks [page 40]
How changed data is displayed in blocks with breaks [page 44]
How changed data is displayed in sections [page 42]
How changed data is displayed in reports with merged dimensions [page 41]
How changed data is displayed in charts [page 44]

1.2.1.9.1 Types of data change

You configure the display of data changes through the interface or formula language.

You can track the following types of data change:

- Inserted data
- Deleted data
- Changed data
- Increased values
- Decreased values

The formula language provides advanced users with additional power and flexibility in displaying and formatting changed data.

1.2.1.9.2 Automatic update tracking mode

In the *Auto-update* data tracking mode, you always compare the current data with the data before the last refresh.

This is achieved by automatically setting the current data as the reference data just before each refresh. The reference data is always one refresh behind the current data.

Automatic data tracking is appropriate for scheduled documents when you want to compare the current data with the data before the last refresh.

> **!** Restriction
>
> This applies only to documents scheduled to the *Web Intelligence* output format.

1.2.1.9.3 Absolute reference data tracking mode

In the *Fixed data* tracking mode, you manually select the reference data in the *Data Tracking* dialog box.

You continue to use this data as a reference point until you update the reference point.

1.2.1.9.4 To activate data tracking

Track and display data changes to help you focus your analysis on key areas.

Procedure

1. In the *Analyze* section of the toolbar, click ⋯.
2. Click *Track Data Changes*.
3. Select one the options below for the reference data:
   - *Compare with last data refresh*
     The current data becomes the reference data after each refresh. The report always shows the difference between the most recent data and the data before the last refresh.
   - *Compare with data refresh from*
     The data refresh you choose becomes the reference data. The report always shows the difference between the most recent data and the data refresh you chose.
4. Select the report(s) for which you want to enable data tracking.
5. **Optional:** Check *Refresh data now* to refresh the data right after the dialog box closes.
6. **Optional:** In the *Tacking options* tab, select the events you want to be displayed.
7. **Optional:** Click *OK*.

1.2.1.9.5 Configuring the appearance of changed data

You can configure the appearance (font style, size and color) of changed data in your document.

You can seperately configure the appearance of the following changes:

- Inserted, deleted dimensions and changed detail values
- Increased or decreased measure values

Measure values can also adopt the formatting of inserted or deleted dimension values. For example, if a dimension value disappears from a list of values in a block, and the block also shows a measure value for the dimension, both the dimension and measure values appear as deleted data.

The BI administrator defines the default appearance of changed data in the Central Management Console (CMC). When you configure the appearance of changed data locally, you override the CMC defaults. For more information on the configuration in the CMC, refer to To modify display settings for Web Intelligence in the *Business Intelligence Platform CMC Help*.

1.2.1.9.5.1 To configure the appearance of changed data

You can configure the appearance of changed data in the *Data Tracking* dialog.

Procedure

1. In the *Analyze* section of the toolbar, click ••• > *Track Data Changes*.
2. **Optional:** By default, data tracking applies to the whole document. Select the reports to which you want to apply data tracking using the dedicated checkboxes next to the reports' name in the *Report* section of the dialog.
3. In the *Tracking Options* tab, select the changes you want to display and click *Format* to specify how you want them to appear.
4. Click *OK*.

Related Information

Highlighting data using conditional formatting [page 46]

1.2.1.9.5.2 To display changed data

You can choose whether to display changed data when data tracking is activated.

Procedure

1. Activate data tracking.
2. In the *Analyze* section of the toolbar, click ⋯.
3. Check *Show Changes*. To hide the changes, uncheck the option.

Related Information

Configuring the appearance of changed data [page 39]
To activate data tracking [page 38]

1.2.1.9.5.3 How changed data is displayed in blocks

This example uses a document with a block showing [Country], [Year] and [Revenue].

Example: Changed data in a simple block

The original data is as follows:

Country	Year	Revenue
France	2003	1000
France	2004	2000
Japan	2002	1000
Poland	2002	1200

After a refresh, the data is as follows:

Country	Year	Revenue
France	2004	3000
Japan	2003	900

Country	Year	Revenue
Poland	2002	800
UK	2004	900

When data tracking is activated and data changes displayed, the block appears as follows:

Country	Year	Revenue	Formatting
France	2003	1000	[deleted data formatting on all cells]
France	2004	3000	[increased data formatting on Revenue cell]
Japan	2002	1000	[deleted data formatting on all cells]
Japan	2003	900	[inserted data formatting on all cells]
Poland	2002	800	[decreased data formatting on Revenue cell]
UK	2004	900	[inserted data formatting on all cells]

- The rows showing revenue for France in 2003 and Japan in 2002 represent data that no longers exist after the refresh.
- The revenue for France in 2004 has increased.
- The revenue for Poland in 2002 has decreased.
- The rows showing revenue for Japan in 2003 and the UK in 2004 appeared after the refresh.

1.2.1.9.5.4 How changed data is displayed in reports with merged dimensions

A dimension appears as changed only if all the dimensions that participate in the merge are changed.

Example: Changed data and merged dimensions

In this example, Country is a merged dimension containing the Country dimensions from two data providers. Before data refresh, the data is as follows:

Country (DP1)	Revenue (DP1)	Country (DP2)	Sales (DP2)
US	10000	US	5000
France	4000		
UK	5000	UK	3000
Germany	1000	Germany	1000

After a data refresh, the data becomes:

Country (DP1)	Revenue (DP1)	Country (DP2)	Sales (DP2)
US	10000	US	4000
France	4000	France	3000
UK	6000	UK	4000
Poland	2000		

When displayed in a block with the merged Country dimension and data changes displayed, the data appears as follows:

Country	Revenue	Sales	Formatting
US	10000	4000	[decreased data formatting on Sales cell]
France	4000	3000	[inserted data formatting on Revenue cell]
UK	6000	4000	[increased data formatting on Revenue and Sales cells]
Germany	1000	1000	[deleted data formatting on all cells]
Poland	2000		[inserted data formatting on Country and Revenue cells]

In the France row, France does not appear as inserted because a France row was not inserted in both data providers. Revenue appears as inserted because it is a new measure value after the data refresh.

In the Poland row, Poland appears as inserted because it is a new dimension value after the data refresh.

1.2.1.9.5.5 How changed data is displayed in sections

In this example you have a document with a block showing [Country], [Year] and [Revenue].

Example: Changed data in a report with sections

The original data is as follows:

Country	Year	Revenue
France	2003	1000
France	2004	2000
Japan	2002	1000
Poland	2002	1200

Country	Year	Revenue
US	2003	
US	2004	

After a refresh, the data is as follows:

Country	Year	Revenue
France	2004	3000
Japan	2003	900
Poland	2002	800
UK	2004	900

If you create a section on [Country] and display data changes, the report appears as follows:

France [no formatting]

Year	Revenue	Formatting
2003	1000	[deleted data formatting on all cells]
2004	3000	[increased data formatting on Revenue cell]

Japan [no formatting]

Year	Revenue	Formatting
2002	1000	[deleted data formatting on all cells]
2003	900	[inserted data formatting on all cells]

Poland [no formatting]

Year	Revenue	Formatting
2002	800	[decreased data formatting on Revenue cell]

UK [inserted data formatting]

Year	Revenue	Formatting
2004	900	[inserted data formatting on all cells]

The data appears in the section cell in either of two ways, depending on the changes in the data in the section:

- If all the rows in the block in the section have changed in the same way, the section cell is displayed with the same formatting as the rows.
- If the rows have changed in different ways, or only some rows have changed, the section cell retains its default format.

1.2.1.9.5.6 How changed data is displayed in blocks with breaks

When a block contains a break and the *Merge* block property is set, the display of the centered value follows rules similar to those for section cells.

- If all the rows in the break have changed in the same way, the centered value is displayed with the same formatting as the rows.
- If the rows have changed in different ways, or only some rows have changed, the centered value retains the default formatting.

1.2.1.9.5.7 How changed data is displayed in charts

When the data in a chart has changed, a changed data icon appears above the chart.

When you click the icon, the chart changes to a table to allow you to see the details of the changes.

1.2.1.9.6 Data tracking restrictions

If you change or purge a data provider, the report no longer displays changed data.

If the data provider is changed, the current version of the document is no longer compatible with the reference version. If the data is cleared, the old data no longer exists for comparison.

As a result, the following actions are incompatible with data tracking:

- Drill out of scope
- Query drill
- Deleting a query
- Any modification (including modifications to security rights) that changes the SQL generated by a data provider
- Purging the document

When you perform any of these actions, the data history of the document is cleared because the actions are incompatible with the display of changed data. For example, if you modify a query, the data in the document changes because of the modification. Any comparison between this data and old data generated from a different query is misleading.

> **i** Note
>
> When you use query drill or drill out of scope, the data history is cleared because these actions change the data provider. This should not affect you because, when you start to drill, you have already identified the data that requires further analysis. Data tracking has served its purpose and you can now continue with your data analysis.

1.2.1.9.6.1 Data tracking and Refresh on Open

When a document is set to refresh its data on opening (when the *Refresh on open* document property is selected), data tracking does not display the difference between the data prior to the refresh and the data after the refresh.

The data after the refresh is considered to be new data because the refresh purges the document.

> **i** Note
>
> When you enable the *Refresh on open* document property, the document displays the latest information each time you open the document. The *Refresh on open* option is dependent on the following settings in the CMC (configured by the BI administrator):
>
> - In *Applications* > *Web Intelligence*, from the *Manage* list, select *Properties*. In the *Automatic Document Refresh on Open Security Right Setting* section, the property *Automatic Refresh* security setting is enabled.
> - In *Applications* > *Web Intelligence*, from the *Manage* list, select *User Security*. When you select a user profile and click *View Security*, check that the *Document - disable automatic refresh on open* security right is disabled.

In the settings are set as listed above, then even if the document is not set as being *Refresh on open*, the data will still be refreshed when the document is opened.

Related Information

To save a document in the corporate repository [page 221]

1.2.1.9.7 Using formulas to track changed data

You can use formulas to create alerters that let you know when data has changed in a document.

These custom alerters do not appear in the list of standard alerters.

You use the RefValue, RefValueDate, and RefValueUserResponse functions in cell formulas to build these custom alerters. You can also use formulas with special calculations based on data changes. For example, you can include a calculation to show the difference between the previous value and the current value of a measure.

For more information on the functions, see the *Using Functions, Formulas and Calculations in Web Intelligence* guide or the related section in the Web Intelligence online help.

1.2.1.9.8 Changed data and the calculation context

When data tracking is activated, data only appears as changed when the calculation context remains the same.

For example, if a measure value changes because you have changed the calculation context of a block, the new value is not flagged as changed.

Example: Changing the calculation context

In this example you have a block showing [City], [Customer] and [Revenue] as follows:

City	Customer	Revenue
San Francisco	Smith	1000
San Francisco	Jones	2000
Los Angeles	Wilson	3000
Los Angeles	Harris	4000

If you remove [Customer] from the block, revenue is aggregated by city:

City	Customer
San Francisco	3000
Los Angeles	7000

The revenues do not appear as increased because the amount of revenue has not changed. Only the calculation context has changed. Revenues are now aggregated by city only, giving higher figures.

If, after a data refresh, Jones' revenue falls to 1000 and Wilson's revenue rises to 4000, the data appears as follows:

City	Customer
San Francisco	2000
Los Angeles	8000

The data appears as changed because, independently of the change of calculation context, the total revenue for San Francisco has decreased and the total revenue for Los Angeles has increased.

1.2.1.10 Highlighting data using conditional formatting

Conditional formatting enables you to highlight results or change formatting based on data.

You can, for example, conditionally format results to highlight particularly high or low results with specific colors or with text comments, such as **High Performer** or **Low Performer**.

Although the conditional formatting can only be defined in *Design* mode, the effects can be seen in both modes.

You can apply conditional formatting to:

- Columns in a vertical table
- Rows in a horizontal table
- Cells in forms and crosstables
- Section cells
- Free-standing cells

You can apply up to 30 conditional formatting rules in a document. You can apply these rules to a maximum of 20 table columns or rows, free-standing cells, or section cells on the reports. You can apply up to 10 different rules on a single table column or row, free-standing cell, or section cell.

You can define conditional formatting rules to activate the following formatting changes:

- Text color, size and style
- Cell border colors and style
- Cell background display – specific colors, images, or hyperlinks to web pages

You can also define rules that display text or a formula, an image, or a hyperlink. In this case, the results that meet the condition defined in the rule will be replaced by the text or formula.

> **i** Note
>
> Hyperlinks display as active only when your system administrator has authorized them in Web Intelligence.

Conditional formatting is dynamic. When you refresh reports with the latest data from the database, the rules highlight the new results accordingly.

If you apply conditional formatting to a table row or column with a break, the rule is only activated when the value that meets the conditional rule appears on the first row of that break.

1.2.1.10.1 Conditions in conditional formatting

Conditional formatting rules contain multiple conditions, allowing you to apply multiple formats depending on the data.

A conditional formatting rule operates as follows:

```
If <Main Condition> is true, Apply <Main Format>
ElseIf <Second Condition> is true,  Apply <Second Format>
ElseIf <Third Condition> is true,  Apply <Third Format>
ElseIf...
Else Apply <Default Format>
```

In the above example, if `<Main Condition>` is `Sales Revenue > 100,000` and `<Main Format>` formats the text in blue, the conditional formatting displays the measure in blue whenever the Sales Revenue measure is greater than 100,000.

If `<Second Condition>` is `Sales Revenue < 10,000` and `<Second Format>` formats the text in red, the conditional formatting also displays the measure in red whenever its value is less than 10,000.

Each condition can contain multiple tests, and all tests must return True for the conditional formatting to be applied. For example, a condition can test the values of the [Country] and [Resort] objects. Both objects must return the value specified in the test for the formatting to be applied.

1.2.1.10.2 To build a conditional formatting rule

Procedure

1. In *Design* mode, click ••• in the *Analyze* section of the toolbar.
2. Click *Formatting Rules*.
3. Click +.
4. Add a name and a description.
5. Click ... next to the *Filter* field.

   You can't define a rule on a cell containing a date or numeric type data (for example, a date or a calculation) because the application considers any value you type into the *Value* text box as a character string.
6. Select whether you want to filter the cell contents only, or an object or variable.
7. Select an operator.
8. Select an operand, either by typing it in, or by using the dedicated menu.

   When typing the value directly, a placeholder lets you know how to fill the value field if the operand you select requires a particular format.
9. **Optional:** To add an additional test within the condition, click + by the existing conditions to add one, and repeat the steps above. To delete a condition, click ×.
10. To trigger the condition using a formula, click *Condition* > *Formula Editor*.
    - If you want your formula to return a text string, don't include quote marks before or after the text. For example, if you want the alerter to display OVERDUE, simply type: OVERDUE.
    - The formula must return True or False. True triggers the condition; False doesn't. For example, if the formula is `RowIndex()=3`, the conditional formatting appears on the fourth row of the table.
11. **Optional:** To add a condition to the rule, click *Add* and define the condition or build a formula as described above.
12. After you've defined a condition, click *Format* and edit the styling options as you see fit. The format you create applies automatically to the data whenever the rule applies.
13. Click *OK* to save the formatting options, then *OK* to set the rule format in the report.

1.2.1.10.3 To set the format displayed by a conditional formatting rule

Context

For your content to be read as HTML or a hyperlink, your system administrator must authorize HTML or hyperlinks.

Procedure

1. In *Design* mode, click ••• in the *Analyze* section of the toolbar.
2. Click *Formatting Rules*.
3. Select a rule from the list and click  .
4. Click *Format* under the condition you want to edit.
5. To display text or a formula, click the *Display* tab and build the formula. In the *Display* tab, build a formula and using the *Read content as* field, decide whether you want to be read as HTML, a hyperlink and a URL to an image. You can also change the number format using predefined formats, and create a custom format.

   > **i** Note
   >
   > If you read the content as HTML, the *Autofit Width* and *Autofit Height* properties don't work because the size of the HTML data in a cell can't be decoded by the browser properly. The browser render the HTML content you provide. The application doesn't modify your HTML code to set the width and height.

6. Browse through the different tabs to edit the text, background and border properties.

Related Information

To build a conditional formatting rule [page 48]

1.2.1.10.4 To apply conditional formatting

You can apply conditional formatting rules to report elements.

Context

You can format:

- Columns in a vertical table
- Rows in a horizontal table
- Cells in forms and crosstables
- Section cells
- Free-standing cells

Procedure

1. In *Design* mode, select a report element.
2. Click ooo in the *Analyze* section of the toolbar.
3. Click *Formatting Rules* and select a rule from the list.

   You can also apply several exisiting rules to table columns and rows using the contextual menu. Right-click a column or row, select *Formatting Rules*, and uses the checkboxes to select the rules.

1.2.1.10.5 To manage conditional formats

Procedure

1. In *Design* mode, click ooo in the *Analyze* section of the toolbar.
2. Click *Formatting Rules*.
3. Use the icons at the bottom of the dialog box to add, edit, remove or duplicate rules.

1.2.1.10.6 Using formulas to create advanced conditional formatting rules

You can build advanced conditional formatting rules using the formula language.

Example: Highlighting three ranges of quarterly sales revenue results calculated as percentages of the average sales revenue

In this example, you build three rules to color-code sales revenues, depending on their relationship to the average sales revenue. The table includes results for three years, and this is the average to which you want to compare each sales revenue result calculated per quarter per product line.

Using the formula option, create a rule with three conditions:

Condition:

```
[Sales revenue] < ((Average([Sales revenue]) In Block) * 0.8)
```

Else Condition:

```
=[Sales revenue] < ((Average([Sales revenue]) In Block) * 1.2)
```

Else Condition:

```
=[Sales revenue] > ((Average([Sales revenue]) In Block) * 1.2)
```

The formula you specify for each condition works as follows:

- The first condition applies when sales revenues are are < 0.8, or 80%, of the average.
- The second condition applies when sales revenues are < 1.2, or less than 120%, of the average.
- The third applies when sales revenue are > 1.2, or greater than 120%, of the average.

You can then format the data differently for each conditions:

- With the first condition, report cells containing sales revenue that's less than 80% of the average revenue display the revenue in red.
- With the second condition, report cells containing sales revenue that's less than 20% above the average revenue display the revenue in blue.

  > **i Note**
  >
  > This condition covers values also covered by the first condition. For example, if the average is 100, 79 is less than 80% below the average and less than 20% above the average. In this case, the first condition takes precedence.

- With the third condition, report cells containing sales revenue that is greater than 20% above the average revenue display the revenue in green.

This formatting enables you to see at a glance which product lines are generating above average, below average, or close to average sales revenue.

1.2.1.11 Ranking report data

Ranking allows you to isolate the top and/or bottom records in a set based on a variety of criteria.

For example, if you have a block showing countries and associated revenues, ranking allows you to rank the data in the block to show the top 3 countries only, based on the revenue they generate.

Ranking allows you to answer business questions such as:

- Which 3 regions generate the most revenue?
- Which are the bottom 10% of stores in terms of revenue generation?
- What is the group of the best-performing stores that generates a combined revenue of up to $10,000,000?

You can rank data in many ways to answer these kinds of business questions. You can:

- Rank the top and/or bottom n records by dimension (for example Country) based on the sum of a related measure (for example Revenue).
- Rank the top and/or bottom n% of the total number of records by dimension. based on the value of a related measure as a percentage of the total value of the measure.
- Rank the top and/or bottom n records by dimension based on the cumulative sum of a related measure.
- Rank the top and/or bottom n records by dimension based on the value of a related measure as a cumulative percentage of the total value of the measure.

1.2.1.11.1 Rankings and sorts

When you rank data, the data will be sorted according to the dimensions by which it is ranked.

For example, using the following table:

Dimension A	Dimension B	Measure
A1	B1	1
A1	B2	4
A2	B1	5
A2	B2	2
A3	B1	3
A3	B2	6

If you rank the top 2 measure values and no ranked-by dimension has been defined, then the data is sorted according to that measure, across all dimensions:

Dimension A	Dimension B	Measure
A3	B2	6
A2	B1	5

If you rank the top 2 measure values by a specific dimension, for example [Dimension A], the data is sorted according to the aggregated value of that measure, in the chosen dimension [Dimension A]:

Dimension A	Dimension B	Measure
A3	B1	3
A3	B2	6
A2	B1	5
A2	B2	2

Sorts applied to display rankings take precedence over sorts that you previously applied to data. For example, if you previously sorted the list of stores in alphabetical order, the ranking sort overrides the alphabetical sort.

Sorts applied to display rankings can be managed like any other sort, using the dedicated Web Intelligence menus.

Removing the ranking on a measure will also remove the sort applied to the data.

> **i** Note
>
> - If the dimension used to rank by is not present in the table, then the ranking can't sort the data.
> - Null measure values are not taken into account when a ranking is applied to that measure.

Tied rankings

Tied rankings are assigned equal ranking values and subsequent ranking values are pushed back to compensate. This means that a top or bottom n ranking can return more than n records.

The following table shows a tied top 3 ranking and a tied bottom 3 ranking.

Dimension	Measure	Top 3 Ranking	Bottom 3 Ranking
A	10	4	1
B	20	3	2
C	30	1	3
D	30	1	3

Each ranking includes records up to and including rank 3. This results in the following result for a top 3 ranking:

Dimension	Measure
C	30
D	30
B	20

It results in the following for a bottom 3 ranking:

Dimension	Measure
A	10
B	20
C	30
D	30

Because the 2 largest measure values are identical, a top 1 or 2 ranking in the same table will result in the same table content.

Dimension	Measure
C	30
D	30

Related Information

Using sorts to organize data in reports [page 128]

1.2.1.11.2 Ranking and data order

You cannot rank on an object whose values depend on the data order because the ranking changes the data order.

If the data order is changed, the object data is changed and results in a recalculation of the ranking. The result is a circular dependency between the ranking and the object that cannot be resolved.

If you create a rank on a measure whose values depend on the data order, for example a measure that uses the `Previous` function, the `#RANK` error code appears in all cells in the block.

For similar reasons, ranking on a measure using a running aggregation function such as `RunningSum` will not give any meaningful result, however no error code will be displayed in the block cells. The ranking cannot be meaningful because running calculations depend on the data context, which will be modified by the ranking operation.

For more information on the functions, see the *Using Functions, Formulas and Calculations in Web Intelligence* guide or the Web Intelligence online help.

1.2.1.11.3 Ranking in sections

You can apply ranking on blocks located within sections.

However, ranking on a measure using a context modifier such as `ForEach` or `ForAll` is not supported. If you use a context modifier, you will encounter unexpected results, because of the interaction of the implicit filter defined by the section instance with the calculation context modifier that is used in the ranked measure.

For more information on the functions, see the *Using Functions, Formulas and Calculations in Web Intelligence* guide or the Web Intelligence online help.

1.2.1.11.4 Ranking parameters

The following parameters can be configured in the *Ranking* dialog box.

Parameter	Description
Top/Bottom	When the calculation mode is *Count*, the ranking returns the top/bottom n records based on the measure specified as the *Based on* parameter. For example, the top 3 countries by revenue generated, the bottom 3 year/quarter combinations by revenue generated. When the calculation mode is *Percentage*, the ranking returns the top/bottom n% of the total number of records based on the measure specified as the *Based on* parameter. For example, if there are 100 records and you rank the top 10%, the ranking returns the top 10 records. When the calculation mode is *Cumulative Sum*, the ranking returns the top/bottom records, for which the cumulative sum of the measure specified as the *Based on* parameter doesn't exceed the value specified in the top/bottom. When the calculation mode is *Cumulative Percentage*, the ranking returns the top/bottom records, for which the cumulative sum of the measure specified as the *Based on* parameter doesn't exceed n% of the total of the measure, specified in the top/bottom.
Based on	The measure on which the ranking is based.
Ranked By	The ranking dimension. If you specify a ranking dimension, the aggregated values of the *Based on* parameter, calculated for the dimension, determine the ranking. If you don't specify this dimension, the values of the *Based on* parameter calculated for all dimensions in the block determine the ranking. In other words, the ranking returns the top/bottom X rows in the block based on the measure. The ranked by dimension doesn't need to be part of the block where the ranking is applied. However, in this case, the ranked data can't be sorted.
Calculation mode	The type of calculation used to create the ranking: *Count*, *Percentage*, *Cumulative Sum*, or *Culmulative Percentage*. See the description of the *Top/Bottom* parameters in this table for more information.

Related Information

To create a ranking [page 56]

1.2.1.11.5 To create a ranking

You can configure ranking filters.

Procedure

1. In *Design* mode, right-click the element for which you want to create a top/bottom n.
2. Click *Data* > *Add Rank*.
3. Click *Add a rank*.
4. Check *Top* or *Bottom* to rank the highest or lowest records in the block, and select the number of records you want to rank with the - and + signs.
5. In the *Based on* list, select the measure on which the ranking is based.
6. If you want to rank by a specific dimension in the block, select it in the *Ranked by* list.
7. Select a calculation mode.
8. Click *OK*.

Related Information

Ranking parameters [page 55]

1.2.1.11.6 Ranking examples

In the following examples, you have a dimension, Region, and a measure, Revenue.

Region	Revenue	% of Total Revenue
South East	1000000	7%
South West	2000000	13%
North East	3000000	20%
North West	4000000	24%
Central	5000000	33%

Example: Rank the top 3 regions by revenue generated

To perform this ranking you set the following parameters:

Parameter	Value
Top	3
Ranked by	Region (or unspecified because region is the only dimension in the block and therefore the default ranking dimension)
Based on	Revenue
Calculation mode	Count

This ranking gives the following result:

Region	Revenue
Central	5000000
North West	4000000
North East	3000000

The implicit steps in calculating this ranking are:

- Sort the records in descending order.
- Display the top 3 records.

Example: Rank the bottom 40% of regions by revenue

To perform this ranking you set the following parameters:

Parameter	Value
Bottom	40%
Ranked by	Region
Based on	Revenue
Calculation mode	Percentage

This ranking gives the following result:

Region	Revenue
South East	1000000
South West	2000000

The implicit steps in calculating this ranking are:

- Sort the record in ascending order.
- Work through the records until 40% of the total number of records are displayed.

Example: Rank the top regions whose cumulative revenue is less than or equal to 10,000,000

To perform this ranking you set the following parameters:

Parameter	Value
Top	10000000
Ranked by	Region
Based on	Revenue
Calculation mode	Cumulative sum

This ranking gives the following result:

Region	Revenue
Central	5000000
North West	4000000

The implicit steps in calculating this ranking are:

- Sort the records in descending order.
- Work through the records until the record that causes the cumulative total of the measure to pass 10,000,000.
- Include those records that do not cause the cumulative total to pass 10,000,000.

Example: Rank the bottom regions whose cumulative revenue is less than or equal to 30% of the total revenue

To perform this ranking you set the following parameters:

Parameter	Value
Bottom	30%
Ranked by	Region
Based on	Revenue
Calculation mode	Cumulative percentage

This ranking gives the following result:

Region	Revenue
South East	1000000
South West	2000000

Region	Revenue
North East	3000000

The implicit steps in calculating this ranking are:

- Sort the records in ascending order.
- Work through the records until the record that causes the cumulative total of the measure, expressed as a percentage of the overall total of the measure, exceeds 30%.
- Display those records that do not cause the cumulative percentage to pass 30%.

1.2.1.12 Merging data from dimensions and hierarchies

You can synchronize the data returned by dimensions, hierarchies or attributes by creating merged objects which incorporate them.

You merge data from different data providers. For example, if you have one data provider that contains detailed customer information and another data provider that contains sales data, you can synchronize the two data providers around the customer.

When you merge data from the same data source (for example the same universe or BEx query), the merge is based on the internal ID of each data member. When you merge data from different data sources, the merge is based on the caption of each data member. For example, if you synchronize two [Geography] hierarchies, the data member [Los Angeles] is merged with [Los Angeles] through its internal ID when the hierarchies are based on the same data source. The members are merged on the caption "Los Angeles" when the hierarchies are in different data sources.

In cases where merging is based on the caption, and different members with the same caption have different parent members, it is not possible to merge the members and the `#MULTIVALUE` error occurs.

When merged objects are from different data providers

When two merged objects are from different data providers, note the following restriction concerning the dimension value for a merged object and object participating in a merge:

- When merging variables, make sure they are not used with Set functions. Set functions are contextual and not supported when merging variables. Only scalar functions are supported.
- When [DIM1] coming from data provider 1, and [DIM2] coming from data provider 2), are merged, the value for the [MERGE] is the union of the values of [DIM1] and [DIM2].
- When you use [DIM1] (or [DIM2]) in a table, the table shows only the value from [DIM1] (or [DIM2]) This behavior is as expected.
- When you filter (using an input control, drill bar, or filter panel) on one of these dimensions, this shows the list of values of the [MERGE] because it will result in a filter on the [MERGE].
- When [DIM1] (or [DIM2]) is used with a context modifier (In, foreach, forall), the calculation will be done based on the [MERGE]. For example, count([measure] foreach ([DIM1])) counts all the measure items given against [MERGE].

Related Information

Merging hierarchies [page 61]

1.2.1.12.1 Merging data providers based on keys

When you merge two data sources based on detail objects for a query based on BICS, the BEx query keys are mapped to details. In this way it is possible to merge data providers based on keys. Once merged, the attribute is used in the report in the same way as a dimension.

1.2.1.12.2 Choosing which data to merge

You merge data when your report draws data from different but related sources.

For example, you have a report showing revenue and sales targets. The report contains sections based on the year, and each section shows revenue and sales targets. If revenue and sales target data comes from two different data providers, it is not synchronized. You synchronize the data by merging the two data providers on the common dimension, Year.

The only technical restriction imposed on merged dimensions is that they must be of the same data type. You can, for example, merge two dimensions containing character data. But it does not make sense to merge unrelated dimensions even when their data types are the same. For example, it does not make sense to merge a dimension containing customer names with a dimension containing sales regions.

Merged dimensions often have the same name in both data sources, but this is not obligatory. It can make sense to merge dimensions with different names if they contain related data.

To merge dimensions correctly you need to be aware of the semantics of the data (what the data refers to) in the different data sources. The dimension data types and names are an approximate guide only to suitability of a dimension for merging.

1.2.1.12.3 Merged dimension example

In this topic, you can see an example of merged dimensions with two data providers.

Example: Merging City dimensions

Data Provider 1:

Country	City
US	New York
US	Los Angeles
France	Paris
France	Toulouse

Data Provider 2:

City	Revenue
New York	100000
Los Angeles	75000
Paris	90000
Toulouse	60000

If you do not merge the City dimensions, you get the following result if you place the Country, City and Revenue objects in a table:

Country	City	Revenue
US	New York	325000
US	Los Angeles	325000
France	Paris	325000
France	Toulouse	325000

Because there is no link between the two data providers through a merged dimension, city revenues are not related to countries. The table shows the total revenue in data provider 2 against each Country/City pair.

If you merge the City dimensions, you get the following result:

Country	City	Revenue
US	New York	100000
US	Los Angeles	75000
France	Paris	90000
France	Toulouse	60000

1.2.1.12.4 Merging hierarchies

You can take advantage of data synchronization by using the original hierarchies that make up a merged hierarchy.

The data in the report takes the structure of the hierarchy you select.

Example: Merged hierarchies

You have two data sources, each using a hierarchy that you have merged into a merged object. Data provider 1 contains the following data:

Product			Store Invoice
Sport			5401
	Gym		4073
		Bottoms	1236
		Tops	1208
		Weights	1629
	Swimming		1328
Camping			16961
	Tents		3534
	Sleeping Bags		3423
	Kitchen Equipment		5352
	Electrical		4652

Data provider 2 contains the following data:

Product			Units Ordered
Sport			13348
	Gym		8814
		Bottoms	1231
		Tops	3241
		Weights	4342
	Swimming		4534
Camping			34234

If you use the first hierarchy in a report, the merged data is structured as follows:

Product			Store Invoice	Units Ordered
Sport			5401	13348
	Gym		4073	8814
		Bottoms	1236	1231
		Tops	1208	3241
		Weights	1629	4342
	Swimming		1328	4534
Camping			16961	34234

Product		Store Invoice	Units Ordered
	Tents	3534	
	Sleeping Bags	3423	
	Kitchen Equipment	5352	
	Electrical	4652	

The child members of [Camping] appear in the hierarchy because they appear in the hierarchy you selected. The [Units Ordered] measure does not display values for these members because they do not exist in the second data source.

If you select the second hierarchy, the merged data is structured as follows:

Product			Store Invoice	Units Ordered
Sport			5401	13348
	Gym		4073	8814
		Tops	1236	1231
		Bottoms	1208	3241
		Weights	1629	4342
	Swimming		1328	4534
Camping			16961	34234

The child members of [Camping] do not appear because they do not appear in the orignal hierarchy you selected.

1.2.1.12.5 Merging different types of objects

You can include dimensions, attributes and hierarchies in merged objects.

The structure of the data that appears in the report depends on which object you chose.

Example: Merging a dimension and a hierarchy

You have two data sources, one containing a dimension and the other a hierarchy. Data provider 1 contains the [Country] dimension as follows:

City	Stock Items
Los Angeles	4545
San Francisco	6465
San Diego	4564

Data provider 2 contains the [Geography] hierarchy as follows:

Geography			Revenue
US			54342
	California		6996
		Los Angeles	3423
		San Francisco	2342
		San Diego	1231

You merge the dimension and hierarchy in a merged object. If you include the [Country] dimension in a report, the data appears as follows:

City	Stock Items	Revenue
Los Angeles	4545	3423
San Francisco	6465	2342
San Diego	4564	1231

If you place the [Geography] hierarchy in a report, the result is as follows:

Product			Stock Items	Revenue
US				54342
	California			6996
		Los Angeles	4545	3423
		San Francisco	6465	2342
		San Diego	4564	1231

1.2.1.12.6 Forcing merged calculations with the ForceMerge function

By default, calculations do not account for merged dimensions if the merged dimensions do not explicitly appear in the calculation context.

Example: Calculating revenue with ForceMerge

This example has two data providers as follows:

Data Provider 1:

Country	City
US	New York
US	Los Angeles
France	Paris
France	Toulouse

Data Provider 2:

City	Revenue
New York	100000
Los Angeles	75000
Paris	90000
Toulouse	60000

If you merge the City dimensions, then create a table with Country and Revenue, you get the following result:

Country	Revenue
US	325000
US	325000
France	325000
France	325000

Because City, the merged dimension, does not appear in the table, it does not influence the calculation of the revenue. The total revenue in the second data provider appears against each country.

To display the correct result, replace Revenue in the second column with the formula `ForceMerge([Revenue])`:

City	Revenue
US	175000
US	175000
France	150000
France	150000

The relationship between countries and cities now influences the calculation of the revenue.

> **i Note**
>
> If Revenue is a smart measure in the above example, `ForceMerge([Revenue])` returns `#MULTIVALUE`. This is because the grouping set (Country) does not exist for the Revenue measure. `ForceMerge([smart_measure])` always returns `#MULTIVALUE`, unless by chance no aggregation is required to calculate the measure.

1.2.1.12.7 To merge details, dimensions, or hierarchies

You can merge data objects.

Procedure

1. In *Design* mode, in to the *Objects* pane, hold down the `Control` key, select the dimensions or hierarchies you want to merge and click ooo.
2. Click *Merge*.

   You can view the merged object in the *Objects* pane. The original hierarchies or dimensions that make up the merged object appear beneath it. You can edit or remove the merged dimension or hierarchy in the *Objects* pane.
3. To add additional objects to a group of merged objects:
   a. In the *Objects*, select the merged object.
   b. Hold down the *Control* key on your keyboard and select one or several object you want to add to the group.

      > **i Note**
      >
      > The objects you select must be of the same data type as the objects already merged.

   c. Click ooo and select *Add to Merge* from the contextual menu.

Related Information

To unmerge objects [page 67]
To edit merged objects [page 67]

1.2.1.12.8 To merge dimensions automatically

You can merge dimensions automatically if the dimensions have the same name and data type, and are in the same universe. The auto-merge happens only at the document level.

Procedure

1. In *Design* mode, click > in the toolbar to open the document properties.
2. In the *Data Option* section, switch the *Auto-merge dimension* toggle on.

> **! Restriction**
>
> If this option is activated, the application searches for all dimensions sharing the same name and data type in a universe and merges them. In the case where you have the same object with different names, we recommend merging dimensions manually.

1.2.1.12.9 To edit merged objects

You can edit merged objects in the *Edit Merged Dimension* dialog.

Procedure

1. In *Design* mode, in the *Objects* pane, click ••• next to a merged dimension.
2. In the *Edit Merged Dimension* dialog, enter the new name of the merged dimension.
3. Add a *Description*.
4. Select a dimension that provides default properties for the merged dimension from the *Source Dimension* dropdown list.
5. Click *OK*.

1.2.1.12.10 To unmerge objects

You can unmerge data objects in the *Objects* pane.

Procedure

1. In *Design* mode, in the *Objects* pane, click ••• next to a merged dimension.
2. Do one of the following:
   - To unmerge a group of objects, click *Unmerge* from the contextual menu.
   - To remove an object from a merged group, right-click it in the group and click *Remove from Merge* from the contextual menu.
3. Click *Yes* to confirm.

1.2.1.12.11 Synchronizing data providers with different aggregation levels

You can synchronize data providers with different aggregation levels. This can have implications for the calculation of measures.

Example: Synchronizing data providers with different aggregation levels

In this example you have two data providers as follows:

Customer	Year	Revenue
Jones	2004	1500
Jones	2005	2000
Smith	2005	1200

Customer	Number of sales
Jones	12
Smith	10

If you merge the two data providers and the table properties *Avoid duplicate row aggregation* and *Show rows with empty dimension values* are unchecked, the result is as follows:

Customer	Year	Revenue	Number of sales
Jones	2004	1500	12
Jones	2005	1200	12
Smith	2005	1200	10

It is not possible to determine the number of sales per year for customer Jones because the data provider that stores the number of sales does not break them down by year. Instead you see the total number of sales on each row.

> **i** Note
>
> Although the Number of Sales values are duplicated, if you add a standard calculation to the bottom of the column (for example a Sum or Average calculation), the result is correct.

One way of adressing this issue is to add the dimensions to the second data provider that allow calculation to the appropriate level of data. If this is not possible, you must be aware of any situations where it is not possible to aggregate the data to the necessary level of detail.

Related Information

To show or hide tables [page 99]
To avoid duplicate row aggregation [page 102]

1.2.1.12.12 Attributes and merged dimensions

Attributes are associated with dimensions and provide additional information about the dimension.

There must be a one-to-one relationship between dimensions and attributes. An attribute can have one value only for each value of its associated dimension. Attribute objects are not taken into account when synchronizing data. The following example illustrates why this is necessary.

> **i** Note
>
> Some previous versions of SAP BusinessObjects Web Intelligence (Web Intelligence, Desktop Intelligence and BusinessObjects), allowed a one-to-many relationship between dimensions and attributes. If you migrate a report created using any of these products and the attribute contains multiple values, you see the #MULTIVALUE error in the attribute cell.

Example: Synchronizing data providers with attributes

In this example you have two data providers, and Address is an attribute of Customer:

Customer	Address	Revenue
John	London	10000
Paul	Liverpool	15000
Paul	London	27000

Customer	Telephone Number
John	1234
Paul	5678

If you create a merged Customer dimension to synchronize the data providers, and Address can have more than one value for each customer, the result is ambiguous because there is no common value for data synchronization.

In the example, Paul has addresses in Liverpool and London, which means that there is no unique 'Paul' row for synchronization of Paul's telephone number. Paul has a different telephone number for each address, and we do not know which address to associate with the telephone number:

Customer	Address	Telephone Number
John	London	1234
Paul	#MULTIVALUE	5678

If the relationship between Customer and Address is one-to-one, Address can be ignored in the synchronization. This removes the ambiguity:

Customer	Address	Telephone Number
John	London	1234
Paul	Liverpool	5678

1.2.1.12.13 Incompatible objects and merged dimensions

As a general rule, you cannot place dimensions from different data providers in the same table.

This is to avoid Cartesian products (the display of all possible combinations of values from unrelated objects) or other ambiguous results, depending on the universe structure.

You can always place measures from different data providers in a table. The measure calculation depends on what dimensions are available. For example, if you place a measure in a table that contains no dimensions from the same data provider as the measure, the calculation displays its total value in the table.

You can place a merged dimension in a table as long as the table contains other dimensions from a data provider that participates in the merge. You can also place attributes from different data providers in a table, as long as the details are associated with dimensions that participate in a merged dimension.

In certain situations, it can be valid to place a dimension from another data provider in a table, even when this is not allowed by the software. This occurs when the incompatible dimension has a one-to-one or one-to many relationship with a dimension already in the table. The important point is that there is only one value of the incompatible dimension associated with the dimension in the table (one-to-one). On the other hand, the same value of the incompatible dimension can be associated with multiple values of the dimension in the table (one-to-many).

In the table below, the relationship between Address and Name conforms to these rules: Address has a one-to-one or one-to-many association with Name. There is no one-to-many association in the other direction, between Name and Address (one name with more than one address):

Dimension in table (Name)	Incompatible dimension (Address)
John	London
Paul	London
George	Liverpool

In this case the universe design is incorrect - the incompatible dimension (Address) should be defined as a detail of the dimension in the table (Name). If you encouter this situation, contact the BI administrator and ask for a redesign of the universe.

> → Tip
>
> If it is not practical to change the universe:

1. Create a variable at the report level.
2. Define this variable as a detail.
3. Associate it with the dimension in the table.
4. Supply the name of the incompatible dimension as the variable definition.

The variable simply returns the same values as the incompatible dimension. Because it is defined as a detail of the dimension in the table, you can place it in the same table as the dimension.

Related Information

To create a variable [page 86]

1.2.1.12.14 Filtering and drilling on merged dimensions

Merging dimensions has implications for the application of filters.

> **i** Note
>
> You cannot apply a filter on a merged object containing hierarchies.

Block filters and merged dimensions

When you apply a block filter to a dimension that is part of a merged dimension, the filter is applied to the block. It is not applied to other data providers synchronized through the merged dimension.

Section filters and merged dimensions

When a dimension that is part of a merged dimension is set as a section cell, any filter applied to the section also applies to blocks from synchronized data providers within the section.

Report filters and merged dimensions

When you apply a report filter to a dimension that is part of a merged dimension, then the filter will impact all related blocks in the report that use the merged dimension (or any dimensions that participate in the merge).

Example

When you have two queries with a common dimension that you have merged, and you have two tables in a report, each table with data coming from a different query, when you filter on the merged dimension in one query, the filter will also impact the corresponding dimension in the second query and therefore in the second table.

Drilling on merged dimensions

When you merge dimensions, the new merged dimension belongs to the hierarchies of all dimensions involved in the merge.

1.2.1.12.15 Extending the values returned by merged dimensions

When you merge dimensions from different data providers, Web Intelligence creates a merged dimension.

When you place the merged dimension in the report, only those dimension values that have corresponding values in the data providers synchronized through the merge are returned.

> **i** Note
>
> Web Intelligence and Desktop Intelligence handle merged dimensions differently, you need to be aware of this when migrating reports from Desktop Intelligence and Web Intelligence. Desktop Intelligence does not create a dimension based on the merged dimension for the report. The following section describes how the differences affect your reports.

Example: Web Intelligence and Desktop Intelligence behavior when dimensions are merged

You have a report with the following data providers:

Country of origin	Revenue
Germany	470

Country of origin	Quantity
Japan	499

Web Intelligence returns the values of the Country of Origin dimension through the values returned by the Revenue measure.

If you include the Country of Origin dimension from Data Provider 1 and the Quantity measure from Data Provider 2 in the same block, in Web Intelligence, you get the following result:

Country of origin	Quantity
Germany	

The same block in Desktop Intelligence returns the following result:

Country of origin	Quantity
Germany	
Japan	499

To get the same results table as above with Web Intelligence, you must extend the dimension values.

1.2.1.12.15.1 To extend dimension values

You can activate the dimension extension option.

Procedure

1. In *Design* mode, click > in the toolbar to display the document properties.
2. In the *Data Options* section, click the *Extend merged dimension values* toggle to enable the option.

   > **!** Restriction
   >
   > You should only activate the *Extend merged dimension values* option when you want to reproduce the merged dimension behavior of SAP BusinessObjects Desktop Intelligence.

3. Click *Apply*.

1.2.1.13 Using time dimensions

A time dimension is a hierarchy whose members reflect several units of time such as years, semesters, quarters, months, weeks, days and so on.

A time dimension provides various levels of granularity, time levels, and is practical for time-based analysis and reporting. It allows for calendar customization, which is very common in financial reporting for instance. You can set up a calendar that reflects the fiscal year of your company, specify the first day of the week according to your company's calendar, or set the first and last months of the year. Your customized calendar can have ranges dates that you define to set limits, which allows for a better analysis of the fiscal period you are interested in.

In Web Intelligence, a time dimension defines the units of time for a data model and how these unites aggregate. Its members are given in a chronological order in the hierarchy, making the analysis over time natural thanks to a logical navigation through the members within time levels.

You can create time dimensions using any DATE or DATETIME type object or variable. When creating a time dimension, time levels you select are automatically created so you can reuse them directly in reports. The time levels you select drive the analysis and how the data is reported.

You create time dimensions by generating a time hierarchy directly from a source dimension object. You can use the same dimension source object to create several time dimensions.

Time dimensions support filters, input controls, ranking, sorting, drill from one level to another and dynamic level change directly within a report block.

! Restriction

- Time dimensions aren't supported in SAP HANA Online mode.
- Time dimensions don't support custom sorts.
- Time dimensions don't support delegated measures.
- Time dimensions don't support data tracking.
- You can't use a report element that contains a time dimension as a shared element.
- Time dimensions don't support translations for abbreviated Quarter, Semester and Week in data.

Related Information

To create a time hierarchy [page 74]

1.2.1.13.1 To create a time hierarchy

Context

You create time hierarchy by generating a time dimension from a DATE or DATETIME type object or variable.

Procedure

1. Click ⋯ next to a dimension of type DATE or DATETIME.
2. Click *Create Time Dimension*.
3. Add a name and a description.

4. Select whether you want to display additional attributes for the time levels you have selected.
5. Select the time level(s) you want to add to the hierarchy and rename them if necessary.

> **i Note**
>
> - The *Month* time level is not compatible with the *Week* time level.
> - The *Week* time level is not compatible with the *Month*, *Quarter* and *Semester* time levels.

6. Select the *Fiscal Month* and *First Day of the Week* to customize the calendar associated to your time dimension.
7. **Optional:** Set range dates to limit the size of the calendar.

> **i Note**
>
> In tables, data that is out of range is still aggregated, and displayed next to an empty cell in the time dimension column.

Related Information

Using time dimensions [page 73]

1.2.1.13.2 To change the levels of a time hierarchy

You can change the levels of a table dynamically to refine the data you want to display.

Context

> **i Note**
>
> You can only choose the levels you have selected when you created the time dimension.

Procedure

1. Right-click a table.
2. Click *Change Level*.
3. Select the level you want to display.

Related Information

Using time dimensions [page 73]
To create a time hierarchy [page 74]

1.2.1.14 Using geo dimensions

Geomaps rely on a geographical database to render your data.

Before you start using geomaps in you reports, you need to set up your data and go through the geo-qualification process so that they can be bound to the geographical database. Geo-qualifying your data means that you match each value of an object with a specific location. Geomaps then use these locations to render your data on a map. The geo-qualification can be done using either a location's name, or its latitude and longitude coordinates.

> ⚠ Caution
>
> The geographic database has been updated in Web Intelligence 4.3. The coverage of many countries has been improved with the addition of new cities, administrative regions and sub-regions, and obsolete locations like old French regions for instance have also been removed from the database.
>
> Some geomap charts migrated from Web Intelligence 4.2 to 4.3 might not display all their data. If you're migrating a 4.2 document with geomap charts to 4.3, we strongly recommend redoing the geo-qualifying process of your data. The application prompts you with warning messages if you don't geo-qualify the data after a migration:
>
> 1. A general warning when opening a 4.2 document containing geo-qualified data in 4.3.
> 2. A warning on geomap charts where data is missing.
>
> Both messages are no longer displayed once you've geo-qualified the data. Note that charts geo-qualified using latitude and longitude coordinates aren't impacted by this update.

Geo-qualifying an object using a location's name

Web Intelligence uses an algorithm to match each value of the object with a geographic location. The search engine uses fuzzy logic to create three categories of values and automatically match them with locations:

- *Resolved* : only one location matches at 100%, and is automatically bound to the value.
- *Unresolved* : several locations match at 100% or higher than 85% but below 100%. There's no obvious match, and you have to select the most appropriate one.
- *Missing* : no location found, or locations match at lower than 85%. Search for the location you want to bind in the geographical database.

> **Note**
>
> In order to be geo-qualified by its name, every value of a dimension must belong to the same geographical level. Hierarchical dimension objects can't be edited as geography because they contain several geographical levels (for example, Country, Region, Sub-Region and City).

You may select a different location in the dropdown list from the one selected by the automatic matching mechanism. To select a location manually, refer to *To manually match values of a dimension with a location*.

Geo-qualifying an object using a location's latitude and longitude coordinates

Latitude and longitude coordinates are two objects that must be available as dimensions, dimensions' attributes or variables. They can be any object that can be added to a dimension as a detail, and do not necessarily have to be the same type of object. You can have latitude coordinates as a dimension and longitude coordinates as a variable for instance. However, make sure they both have Number as data type.

> **Restriction**
>
> Latitude and longitude objects can't be geo-qualified objects, measures, measures' attributes or hierarchies.

Coordinates must range from:

- -90.0° (South) to 90.0° (North) for latitude coordinates, 0° being the equator
- -180.0° (West) to 180.0° (East) for longitude coordinates, 0° being the Greenwich meridian

It's possible to edit an object that has been geo-qualified using latitude and longitude coordinates, but only by latitude and longitude, not by name.

Related Information

Geomap [page 137]
To match values of an object with a location [page 78]
To match values of an object using latitude and longitude coordinates [page 81]

1.2.1.14.1 To match values of an object with a location

You can bind a geographic location to a value. Geomap charts for instance use locations to render data on a map.

Context

The geo-qualification will automatically match values to a geographic database of name-latitude-longitude data using name lookup. If there's more than one matching location, all matches will be presented, allowing you to select the most appropriate location. It's possible to select a different location in the dropdown list from the one selected by the automatic matching mechanism. Refer to *To manually match values of an object with a location* for more information.

Procedure

1. In *Design* mode, go to the *Objects* pane.
2. Hover over an object you want to geo-qualify and click ⋯.
3. Click *Geo-Qualify By: Name*.
4. Select a level in the dedicated drop down.

   There are four possible levels: *Country*, *Region*, *Sub-Region* and *City*. In the United States for example, California is a region, Southern California is a sub-region, and Los Angeles is a city.
5. **Optional:** Use the *Show* drop down to filter the list on matching category.
6. Click the dropdown list next to the value you want to edit and select one of the locations available.
7. Click *Apply*.
8. Click *OK*.

> **Note**
>
> An error icon is displayed on the geomap and next to the geo-qualified object if a value hasn't been geo-qualified. This may occur when you refresh the document or add new locations. To fix this issue, make sure all objects values are geo-qualified by repeating the above procedure.

1.2.1.14.2 To manually match values of an object with a location

You can manually match values of an object to a location. This is useful when the location you expect doesn't appear in the dropdown list for example, or when a value is assigned to an incorrect location.

Context

> **i** Note
>
> The geographical database might not recognize a specific location you are looking for. If this is the case, try to select a substitute location, create a custom location or select an alternative location.

Procedure

1. In *Design* mode, go to the *Objects* pane.
2. Hover over an object you want to geo-qualify and click ooo.
3. Click *Geo-Qualify By: Name*.
4. Select a *Level*.

   There are four possible levels: *Country*, *Region*, *Sub-Region* and *City*. In the United States for example, California is a region, Southern California is a sub-region, and Los Angeles is a city.
5. Click the dropdown list next to the value that you want to edit.

   If several locations appear in the dropdown list, select the one that is closest to the location you were originally looking for.
6. **Optional:** If you can't find the location you are looking for, Click *Select location...*.
7. Do one of the following:
   - Type in the name of the location, select the one you are looking for and click *OK*.
   - Click *Add Location*, enter the coordinates of the location you are looking for and click *OK*.

   > **i** Note
   >
   > The search applies to the level you have defined when you edited the dimension as geography: *Country*, *Region*, *Sub-Region* or *City*. Make sure you are using the correct level when doing a search.
8. Click *OK*.

1.2.1.14.3 Matching values of a merged object with a location

Members of a geo-qualified merged object share a common list of values.

If you merge an object that is geo-qualified with another one that's not, it inherits the geo-qualification method, that is by name or latitude and longitude, of the member that was originally geo-qualified.

Depending on the geo-qualification scenario, you might have conflicts or unresolved and missing values. In that case, an icon is displayed next to the merged object with unresolved or missing values. Another icon is also displayed next to the member whose geo-qualification needs is incomplete. Conflicts, unresolved or missing values can happen in the following cases:

- You are merging two geo-qualified objects to create a geo-qualified merged object
  Each member object comes with its own list of values resulting from a previous geo-qualification. If the lists of values conflict with one another or if there are unresolved and missing values, repeat the geo-qualification process.
- You are adding a new object to a merged object that's already geo-qualified
  The member you are adding to the merged object is automatically geo-qualified. However, it can bring new and unresolved values. Repeat the geo-qualification process either for the merged object or one of its members to solve the issue.

> **!** Restriction
>
> You can't merge objects that have been geo-qualified using the latitude/longitude geo-qualification method. However, it is possible to merge an object that has been geo-qualified using the latitude/longitude geo-qualification method with an object that isn't geo-qualified.

Impact of an unmerge command on geo-qualification

Unmerging a geo-qualified object by name doesn't cancel the geo-qualification of its members. Unmerging a geo-qualified object by latitude and longitude returns all of its members to their original state.

> ⚠ Caution
>
> Resetting the geo-qualification of a merged object, a merged object member or an object that is part of a merge will reset the geo-qualification of the merged object, its members and all its participating objects.

Related Information

To match values of an object with a location [page 78]
To match values of an object using latitude and longitude coordinates [page 81]

1.2.1.14.4 To match values of an object using latitude and longitude coordinates

Context

> ! Restriction
>
> You can't use an object as latitude or longitude if it's already geo-qualified.

Procedure

1. In *Design* mode, go to the Objects pane.
2. Hover over an object you want to geo-qualify and click ⋯.
3. Click *Geo-Qualify By: Latitude / Longitude*.
4. Select the latitude and longitude objects using the dedicated drop downs.
5. Click *Apply*.
6. Click *OK*.

1.2.1.14.5 To modify the location of a value

You can modify the geo-qualification of an object.

Context

After a geo-qualified object has been modified, refresh the document for the new locations to be displayed on the map.

Procedure

1. In *Design* mode, go to the *Objects* pane.
2. Hover over an object you want to edit and click ⋯.

3. Click *Geo-Qualify By: Name* or *Geo-Qualify By: Latitude / Longitude*.
4. **Optional:** Filter the results using the *Show* drop down.
5. Click the drop down next to the value that you want to edit.
6. Select one of the locations available.
7. Repeat the process for every value you want to edit.
8. Click *Apply*.
9. Click *OK*.

1.2.1.14.6 To reset the location of a value

Context

Reset the geo-qualification to remove the geography associated with an object.

> ⚠ Caution
>
> If you reset a merged object, every member is reset and loses the geo-qualification. This also applies if you reset a geo-qualified object thats part of a merge.

Procedure

1. In *Design* mode, go to the *Objects* pane.
2. Hover over an object you want to reset and click ⋯.
3. Click *Reset Geography*.

1.2.1.15 Enhancing reports with calculations, formulas and variables

You can use calculations, formulas and variables to manipulate data in reports.

Refer to the *Using Functions, Formulas and Calculations in Web Intelligence* guide for detailed information on the advanced calculation capabilities that you can use when you perform data analysis. This guide also provides a syntax reference to the available functions and operators.

1.2.1.15.1 Standard calculations

You can use standard calculation functions to make quick calculations on data.

The following standard calculations are available:

Calculation	Description
Sum	Calculates the sum of the selected data.
Count	Counts all rows for a measure object or count distinct rows for a dimension or detail object.
Average	Calculates the average of the data.
Min	Displays the minimum value of the selected data.
Max	Displays the maximum value of the selected data.
Percentage	Displays the selected data as a percentage of the total. The results of the percentage are displayed in an additional column or row of the table. **i Note** Percentages are calculated for the selected measure compared to the total results for that measure on the table or break. To calculate the percentage of one measure compared to another measure, you need to build a custom calculation.

When you apply standard calculations to table columns, the calculation results appear in footers. One footer is added for each calculation.

1.2.1.15.1.1 To insert a standard calculation in a table or cross table

You can insert standard calculations in tables or cross tables to make quick calculations on table data.

Context

For more information on the standard calculations, refer to the *Using Functions, Formulas and Calculations in Web Intelligence* guide.

You can insert multiple calculations in a table or cross table. When you apply two calculations to a table or crosstab, a footer is added for each calculation result. You insert multiple calculations in a table or cross table in the same way that you insert one calculation, but you repeat the procedure for as many calculations as you want to insert.

Procedure

1. In *Design* mode, right-click the table cell that contains the data you want to calculate.
2. Click *Footer Calculation* and select a calculation.

   You can repeat this step to add multiple calculations to the same column.

   > → Tip
   >
   > Double-click a cell to launch the *Formula Editor* toolbar, in which you can edit the formula.

   A footer containing the result of the calculation is added below the column.

1.2.1.15.1.2 To remove a standard calculation

You can remove a standard calculation in Web Intelligence.

Procedure

1. Open a Web Intelligence document in *Design* mode.
2. Right-click that contains the calculation that you want to remove and select *Delete*.

1.2.1.15.2 Using formulas to build custom calculations

Custom calculations allow you to add additional calculations to your report beyond its base objects and standard calculations.

You add a custom calculation by writing a formula. A formula can consist of base report variables, functions, operators and calculation contexts.

A custom calculation is a formula that can consist of report objects, functions and operators. Formulas have a calculation context that you can specify explicitly if you choose.

Example: Showing average revenue per sale

If you have a report with Sales Revenue and Number Sold objects and you want to add revenue per sale to the report, the calculation `[Sales Revenue]/[Number Sold]` gives this value by dividing the revenue by the number of items sold in order to give the revenue per item.

1.2.1.15.2.1 To build a formula manually

You can create formulas manually using the *Formula Editor*.

Procedure

1. In *Design* mode, click *fx* in the *Analyze* section of the toolbar to show the formula bar.
2. In the *Insert* section of the toolbar, click abc > *Blank Cell*, and drag and drop the blank cell on the report canvas.
3. In the formula bar, build a formula in the dedicated field, or click ✎ in the formula bar to open the formula editor.
4. Build the formula.

   > **i Note**
   >
   > Comments in formulas can cause display issues within cells. If the formula starts with a comment, make sure to use a carriage return after the comment so that it displays properly.

5. Click *OK*.

1.2.1.15.2.2 To build a formula in the Formula Editor

You can use the *Formula Editor* to build a formula for a table cell.

Context

In the *Formula Editor*, you can define a formula and include a list of values or a prompt.

> **i Note**
>
> For more information about operators and functions, refer to the *Using functions, formulas and calculations in Web Intelligence*.

Procedure

1. In *Design* mode, select the table cell where you want to insert the formula.
2. Click *fx* in the *Analyze* section of the toolbar to display the formula bar.
3. To build a formula using the *Formula Editor*, click ✎ in the formula bar.

4. Double-click or drag and drop an object, a function or an operator for the corresponding panes to add it to the formula.

   > **i** Note
   >
   > Comments in formulas can cause display issues within cells. If the formula starts with a comment, make sure to use a carriage return after the comment so that it displays properly.

   If the formula requires you to select one or more values from a list of values:

   a. Select an object in the *Operators* list.
   b. Double-click *Prompts* to open the prompt editor and define a prompt.
   c. Double-click the *Values* item to open the *List of Values* dialog.
   d. Use the checkboxes to select one or multiple values.

5. To confirm and apply the formula, click *OK*.

1.2.1.15.3 Using variables to simplify formulas

Variables are useful to break down formulas into manageable parts and make them easier to read. They also make building a formula less error-prone.

You'll find the variables in the *Objects* pane, under the *Variables* section, along with other objects in the query.

Use the *Description* field to provide context and details about a specific variable. The description is displayed in the *Query Panel* when you hover over the variable. You can edit this description when creating, editing or renaming a variable.

1.2.1.15.3.1 To create a variable

Create variables to break down formulas into manageable parts and make them easier to read.

Context

You can create a variable either from the *Objects* pane, or from the formula bar. If you create a variable from the formular bar, it's automatically assigned to the cell that was selected.

Procedure

1. In *Design* mode, do one of the following:
   - In the *Objects* pane, click f_x^+.
   - Select a table cell, and click f_x^+ in the formula bar.

2. Add a name.
3. Select a qualification.
4. Create a formula in the dedicated text field.

   You can use the *Objects*, *Functions* and *Operators* panes to drag and drop pre-built objects to quickly build a formula.

   > **i Note**
   >
   > For detailed information on building formulas, including a syntax reference to the available functions and operators, refer to the *Using functions, formulas and calculations in Web Intelligence* guide.

5. Click ✓ to look for potential errors.

   If there's an error in the formula, a message will help you fix it.
6. Click *OK*.

Results

In the *Objects* pane, the variable you've created is now listed in the *Variables* section.

1.2.1.15.3.2 To edit a variable

You can edit a variable.

Procedure

1. In *Design* mode, in the *Objects* pane, select a variable and click ••• > *Edit*.
2. Edit the variable.

   > **i Note**
   >
   > For detailed information on how to build formulas, including a syntax reference to the available functions and operators, refer to the *Using functions, formulas and calculations in Web Intelligence* guide.

3. Click *OK*.

1.2.1.15.3.3 To delete a variable

You can delete a variable.

Procedure

1. In *Design* mode, in the *Objects* pane, select a variable and click ooo.
2. In the contextual menu, click *Delete*.
3. Click *OK*.

1.2.1.15.3.4 To rename a variable

You can rename variables.

Procedure

1. In *Design* mode, in the *Objects* pane, select a variable and click ooo.
2. Click *Rename*.
3. Rename the variable and click *OK*.

Related Information

To edit a variable [page 87]

1.2.1.15.3.5 To duplicate a variable

You can duplicate a variable in Web Intelligence.

Procedure

1. In a Web Intelligence document in *Design* mode, in the *Objects*, click ooo next to a variable.

2. Click *Duplicate*.
   The duplicated variable appears below the original variable, with a number in parenthesis in its name, for example (1) for the first duplicate, (2) for the second duplicate.

1.2.1.15.3.6 To merge variables

You can merge two variables, or merge a variable with another object.

Context

The variables must be dimension objects, and must come from different queries. You cannot merge objects coming from the same query.

> → Tip
>
> To have a better visibility of the variables you can merge, click ↑↓ > *Queries View* switch to the view in the *Objects* pane. Using this view, you can see the variables coming from the different queries.

Procedure

1. In *Design* mode, in the *Objects* pane, select a variable.
2. While holding the `Ctrl` or `Cmd` key, select a second variable.
3. On the second variable you've selected, click ••• > *Merge*.

1.2.1.15.4 Using references to reuse data

A reference is a variable whose definition and content are based on another cell. It's useful whenever you want to leverage data of a cell that has been obtained using a complex formula.

You use a reference to point to another cell and reuse its value. Using a reference as a direct pointer to the content of a referenced cell is a direct shortcut to the value you are interested in. After you have created a reference in a document, it is replaced by the content of it referenced cell.

You can use references anywhere in a document, in any report or formula. As an example, you could use references to create a summary report that references figures from other reports.

A reference always inherits the type of the cell it references. If the referenced cell type is a string for instance, then the reference type is a string as well. If the referenced cell type changes, then the reference adapts so.

The definition of a reference is made of two elements:

- A name
- The path of the cell it references

The following table lists the definitions related to references:

Concept	Definition
Reference	Variable whose definition and value references a target cell
Referenced cell	Target cell of the reference
Referenced cell content	Data contained in the reference, reused from the referenced cell

! Restriction

- A reference doesn't keep the format of its target cell. If a target cell has a specific color or font for instance, it's not reflected in the reference.
- When hiding a column table that contains a referenced cell or a commented cell, the reference is lost as well as the comment.
- When turning a table into a chart and then turning it back into a table, it's empty if the original table contained a reference. That is because references are constant strings and aren't supported by charts.

References use the following icon: 

1.2.1.15.4.1 To assign a reference

Context

Procedure

1. In *Design* mode, right-click a table cell and click *Assign Reference*.
2. Select whether you want to assign a new reference to the cell or an existing one.
3. Click *OK*.

Results

The reference now appears in the *Objects* pane, under the *References* section. Note that if you copy and paste a cell using a reference, then the reference in the copied cell points to the same target cell.

1.2.1.15.4.2 To edit a reference

Context

Procedure

1. In the *Objects* pane, click the dots next to the reference you want to edit.
2. Click *Edit*.
3. Edit the properties of the reference.
4. Click *OK*.

1.2.1.15.4.3 To delete a reference

Context

Procedure

1. In the *Objects* pane, click the dots next to the reference you want to delete.
2. Click *Delete*.
3. Click *OK*.

1.2.1.15.4.4 To display a referenced cell

Context

Procedure

1. In the *Objects* pane, click the dots next to the reference whose referenced cell you want to display.
2. Click *Show Referenced Cell*.

Results

The cell is automatically selected on the report page.

1.2.1.16 Displaying data in tables

When you create a document and run the query the first time to display the results, the document contains a report that includes the query results in a vertical table.

You can do the following:

- Modify how the table is organized
- Remove or add data
- Insert other rows or columns
- Hide columns (see note below)
- Change the table type
- Turn the table into a chart
- Insert other tables

> → Tip
>
> When you create a new name for a column, it becomes a custom header and it is no longer attached to the dimension. When you hide the column and show it again, it will revert to the original, default column name. If you want the custom header name to be permanent, you can create a variable.

Related Information

To create a variable [page 86]

1.2.1.16.1 Vertical tables

Vertical tables display header cells at the top of the table and the corresponding data in columns.

By default, the header cells display the names of the dimensions, details, and measures included in the table. The body cells display the corresponding values.

You can also change the structure of a vertical table by adding dimension after a measure, or vice versa, when adding columns to the table.

1.2.1.16.2 Horizontal tables

Horizontal tables display header cells on the side of the table and the corresponding data in rows.

By default, the header cells display the names of the dimensions, details, and measures included in the table. The body cells display the corresponding values.

1.2.1.16.3 Cross tables

Cross tables display values for dimensions across the top axis and on the side axis.

The body displays the values of a measure that correspond to the cross-section of the dimensions.

Values in cross tables

In the following example, the cross table displays values for [Quarter] across the top axis and displays values for [State] on the side axis. The body displays values that [Sales Revenue] for each quarter in each state.

	Q1	Q2	Q3	Q4
California	$1,899,680	$1,760,148	$1,930,517	$1,889,225
Colorado	$525,682	$500,076	$510,777	$523,740
DC	$766,822	$706,447	$692,258	$796,423
Florida	$515,688	$489,998	$387,810	$485,663
Illinois	$846,408	$850,595	$610,765	$714,890
Massachusett	$312,896	$291,431	$249,529	$429,850
New York	$1,987,115	$2,028,091	$1,672,581	$1,894,435
Texas	$2,875,569	$2,499,277	$2,146,303	$2,596,516

Multiple dimensions in cross tables

You can include multiple dimensions in cross tables. In the following example, the cross table displays two dimensions. The values for the [Sales Revenue] measure are values each state by quarter for each line.

	Q1	Q1	Q1	Q1	Q1	Q1
	Accessories	City Skirts	City Trousers	Dresses	Jackets	Leather
California	$801,858	$7,796	$8,496	$80,291	$47,939	$6,263
Colorado	$230,204	$726	$2,270	$25,537	$6,921	$3,477
DC	$365,217	$2,568	$4,026	$35,599	$13,584	$2,391
Florida	$222,815	$1,765	$1,737	$24,440	$9,157	$2,124
Illinois	$408,573	$588	$2,139	$32,144	$16,480	$3,122
Massachusetts	$23,655	$1,194	$532	$29,005	$10,461	$2,552
New York	$863,930	$10,626	$14,203	$94,728	$29,730	$9,263
Texas	$1,195,978	$10,612	$12,604	$140,963	$60,581	$9,427

When you create cross tables that include dimensions in the body, the body cell values are calculated according to a multi-dimensional data model. In the following example, the values displayed in the body are calculated according to all of the coordinates on the table axes, whether or not there'ss a row for the specific coordinate in the data.

	Q1	Q2	Q3	Q4
2001	Colorado Springs	Colorado Springs	Colorado Springs	Colorado Springs
2001	Los Angeles	Los Angeles	Los Angeles	Los Angeles
2001	San Francisco	San Francisco	San Francisco	San Francisco
2001	Washington	Washington	Washington	Washington
2002	Colorado Springs	Colorado Springs	Colorado Springs	Colorado Springs
2002	Los Angeles	Los Angeles	Los Angeles	Los Angeles
2002	San Francisco	San Francisco	San Francisco	San Francisco
2002	Washington	Washington	Washington	Washington
2003	Colorado Springs	Colorado Springs	Colorado Springs	Colorado Springs
2003	Los Angeles	Los Angeles	Los Angeles	Los Angeles
2003	San Francisco	San Francisco	San Francisco	San Francisco
2003	Washington	Washington	Washington	Washington

1.2.1.16.4 Forms

You can use in your report to display detailed information per customer, product, or partner.

For example, you can use a form to display customer information such as the account, name, address, and so on.

Forms are also useful for formatting address labels for envelopes.

1.2.1.16.5 To create a table

You are working with a report and want to insert a table into the report. You use the available objects from the query.

Procedure

1. In *Design* mode, in the *Objects* pane, drag and drop objects on the canvas.
   When you release the mouse button, the objects appear as columns in a vertical table.
2. To add objects to the table, you can:
   - Drag them onto an existing table on the canvas. Drag and drop the object on the border of a column to add a column, or right in the middle of column to replace an existing column.
   - With the table selected on the canvas, drag them in the *Data Assignment* section of the *Data* panel (click > to display the *Data* panel).
3. To change the table type and make it a vertical or cross tab, open the *Data* panel.
4. Expand the *Turn Into* section, click and select a table type.
5. Click *Apply*.

> → Tip
>
> You can also insert a table by clicking in the *Insert* section of the toolbar. After you've selected a table type, drag and drop objects onto the ghost table in the canvas.

1.2.1.16.6 To change a table type or change it to a chart

You can change a table type or turn it into a chart.

Procedure

1. In *Design* mode, select a table and click > to open the *Data* panel.
2. In the *Feeding* tab, in the *Turn Into* section, select a table or chart type.

Next Steps

> **i** Note
>
> When you turn a table with a unicode font into a chart, the font isn't retained unless unicode is defined as your default font for charts. Contact your BI administrator for further information on setting unicode as your default font.

1.2.1.16.7 To add table rows or columns

You can add table rows and columns.

Procedure

1. In *Design* mode, right-click a cell in the column or row next to which you want to insert another column or row.
2. Click *Insert*, and select whether your want to add a row above or below, or a column on the left of the right.
3. Drag an object from the *Objects* pane in the side panel to the empty column or row you inserted.

1.2.1.16.8 To remove table rows or columns

You can remove table rows or columns.

Procedure

1. In *Design* mode, right-click the table column or row you want to remove and select *Delete* from the contextual menu.
2. Select *Row* or *Column*.
3. Click *OK*.

1.2.1.16.9 To move a row or column

You can move a row or column in a table.

Procedure

1. In *Design* mode, drag the selected column or row and drop it before or after another column or row on the table.

   When you drag a row or column, the column or row header displays next to your pointer.
2. You can also move rows and column in the *Data* panel:
   a. Click > to open the *Data* panel.
   b. Select a table on the canvas.
   c. In the *Feeding* tab, under the *Data Assignment* section, drag an object above or below another object to move its postion in the table.

      For example, if you want the table to display the years in the first column next to the quarters column, drag the [Year] object right above [Quarter].

1.2.1.16.10 To swap a row or column

You can swap rows and columns in tables.

Procedure

1. In *Design* mode, drag the selected column or row onto the column or row that you want to swap.
2. You can also swap rows or column in the *Data* panel:
   a. Click > to open the *Data* panel.
   b. Select a table on the canvas.
   c. In the *Feeding* tab, under the *Data Assignment* section, drag an object onto the object you want to swap.

      For example, to swap [Lines] for [Category], drag [Lines] onto [Category].

1.2.1.16.11 To clear cell contents from a table

You can clear different types of cells in a table.

Context

You can clear the following types of cell in a table:

- Header cells – you can clear each header cell separately
- Footer cells – you can clear each footer cell separately
- Related body cells – when you clear one body cell, you automatically clear all of the body cells in the same column or row of the table

Procedure

1. In *Design* mode, select the cell you want to clear and right-click it.
   The cell borders are highlighted.
2. In the contextual menu, click *Content* > *Clear Content*.

1.2.1.16.12 To remove a table

You can remove a table.

Procedure

1. In *Design* mode, right-click the top edge of the table you want to remove.
   A highlighted border appears around the table.
2. In the contextual menu, click *Delete*.

1.2.1.16.13 To copy a table

You can copy and paste tables within a report or into external applications such as Microsoft Word and Excel.

Procedure

1. In *Design* mode, select a table, and while maintaning the `Ctrl` or `Cmd` key, drag the table anywhere on the canvas.
2. **Optional:** You can also:
   a. Select and right-click the table you want to copy.
   b. In the contextual menu, click *Copy*.
   c. To paste the table to another part of the report, right-click where you want the table to appear and select *Paste*.

      > **!** Restriction
      >
      > You can't copy tables from one version of Web Intelligence to another.

   d. To paste the table into another application, paste the contents in the other application.

1.2.1.16.14 Hiding tables, measures, and dimensions in tables

You can display or hide tables or table objects in a Web Intelligence document.

Sometimes tables or specific rows and columns display no values. For example, if a sales of a specific product are discontinued, table rows or columns that normally show results for that product appear empty. By default, these empty rows, columns, or tables are displayed.

You can also display and hide tables based on the result of a formula.

1.2.1.16.14.1 To show or hide tables

You can display or hide tables.

Procedure

1. In *Design* mode, right-click the top edge of a table and click *Hide*.

   You can also hide a table via the *Report Structure* pane by clicking ⋯ > *Hide*. Note that you can't access the options described below.

2. Select one of the following options:

> **i Note**
>
> If you only want to hide a column containing a dimension in a vertical or cross table, or a row in a horizontal or cross table, right-click only the dimension in the table.

Option	When selected
Hide	The table is always hidden.
Hide When Empty	The table is hidden when there's no data.
Hide When...	The table is hidden when the formula you create is true. To hide the table when the formula is true, select and type a formula in the box.

Notice that the table you've just hidden is now greyed out in the *Report Structure* pane.

3. **Optional:** If you select *Hide When*, check *Hide when the formula is true*, and type a formula in the dedicated field.
4. Click *Apply*.
5. **Optional:** To show a hidden table, in the *Report Structure* pane in the side panel, hover over the hidden table and click ⋯ > *Show*.

1.2.1.16.14.2 To show or hide dimensions and measures in tables

Depending on the type of table you are using, you can hide or show dimensions and measures in columns or rows.

Procedure

1. In *Design* mode, select the table column containing the dimension or measure you want to show or hide.
2. Right-click a dimension or a measure and select *Hide* > *Hide Column* or *Hide Row*.
3. To display hidden objects in the table, right-click the table frame, and click *Hide* > *Show All Hidden Objects*.

1.2.1.16.14.3 To conditionally show or hide measures or dimensions values in tables

Depending on the type of table you are using, you can conditionally hide or show measures or dimensions values in columns or rows.

Procedure

1. Open a Web Intelligence document in *Design* mode.
2. In *Design* mode, right-click the table frame.
3. Click *Format Table* > *Display Settings*.
4. In the *Format* panel, expand the *Columns and Rows* section, and configure the following options:
   - For form, cross, and vertical tables:

Option	When selected	When deselected
Show rows with empty measure values	Rows are displayed in the table, even if they don't contain values.	Rows are hidden if they don't contain values.
Show rows with empty dimension values	Rows are displayed in the table, even if they don't contain values.	Rows are hidden if they don't contain any values.
Shows rows for which all measure values = 0	Even if the measure value is 0 in all cells of the row, the row still appears in the table.	If the measure value is 0 in all cells, the row doesn't appear in the table.
Shows rows for which the sum of measure values = 0	Even if the sum of measure value is 0 in the row, the row still appears in the table.	If the sum of the measure value is 0 in all cells, the row doesn't appear in the table.

> **! Restriction**
>
> You can't conditionally hide or show column values in vertical tables and forms.

   - For horizontal and cross tables:

Option	When selected	When deselected
Show columns with empty measure values	Columns are displayed in the table, even if they don't contain values.	Columns are hidden if they don't contain values.
Show columns with empty dimension values	Columns are displayed in the table, even if they don't contain values.	Columns are hidden if they don't contain any values.
Shows columns for which all measure values = 0	Even if the measure value is 0 in all cells of the column, the column still appears in the table.	If the measure value is 0 in all cells of the column, the column doesn't appear in the table.

Option	When selected	When deselected
Shows columns for which the sum of measure values = 0	Even if the sum of measure value is 0 in the column, the column still appears in the table.	If the sum of the measure value is 0 for the column, the column doesn't appear in the table.

> **! Restriction**
>
> You can't conditionally hide or show row values in horizontal tables.

5. Click *Apply*.

1.2.1.16.14.4 To avoid duplicate row aggregation

When rows contain duplicate data, measure values are aggregated by default. You can choose not to aggregate measure values in this situation.

Procedure

1. In *Design* mode, right-click the frame of a table.
2. In the contextual menu, click *Format Table* > *Display Settings*.
3. Under the *Columns and Rows* section, check *Avoid duplicate row aggregation*.

> **i Note**
>
> This option doesn't work in tables containing hierarchical data.

4. Click *Apply*.

1.2.1.16.15 To show or hide table headers and footers

You can show and hide table headers and footers.

Procedure

1. In *Design* mode, right-click the frame of a table.
2. In the contextual menu, click *Format Table* > *Display Settings*.
3. In the *Format* panel, under the *Layout* section, check/uncheck *Footer* or *Header* to show or hide them. If the table is a cross table, you can also show or hide the top and side headers, and bottom and side footers.

4. Click *Apply*.

1.2.1.16.16 To start tables on a new report page

You can set a table to start on a new report page.

Procedure

1. In *Design* mode, right-click the frame of a table.
2. In the contextual menu, click *Format Table* > *Layout Settings*.
3. In the *Format* panel, under the *Page Break* section, *Repeat on every page* in the *Vertical* and *Horizontal* sub sections, or both.
4. Click *Apply*.

1.2.1.16.17 To display object names in headers on cross tables

You can display object names in headers in cross tables.

Procedure

1. In *Design* mode, right-click a table frame.
2. In the contextual menu, click *Format Table* > *Display Settings*.
3. In the *Format*, under the *Layout* section, check *Show object names*.
4. Click *Apply*.

1.2.1.16.18 To avoid page breaks in tables

You can stop page breaks from occurring in tables.

Procedure

1. In *Design* mode, right-click a table frame.

2. In the contextual menu, click *Format Table* > *Layout Settings*.
3. Under the *Page Break* section, check *Avoid page breaks* in the *Vertical* or *Horizontal* sub sections.
   The *Horizontal* and *Vertical* sub sections refer to the table axes.
4. Click *Apply*.

1.2.1.16.19 To repeat a table on every page

You can repeat a table horizontally, vertically or both a every page of a report.

Context

> **i** Note
>
> When using this parameter, a banner is inserted at the top of the first page on which the table is repeated. If a repeated table is placed in the middle of a page next to a table that spreads across multiple pages, then on the second page, the rest of the table is displayed only below the banner. We recommend using this parameter only if the table you want to repeat is placed at the top of the page or all the way to the left. Otherwise, the banner takes too much space on the page.
>
> If the repeated element is contained within a section, then its container is the section instance and the banner is up at the top of the section instance rather than at the top of page. If there's not enough space to display the report block that comes after the repeated element, then the parameter is ignored.

Procedure

1. In *Design* mode, right-click a table frame.
2. In the contextual menu, click *Format Table* > *Layout Settings*.
3. Under the *Page Break* section, check *Avoid page breaks* either in the *Vertical*, *Horizontal*, or both sub sections.
4. Click *Apply*.

1.2.1.16.20 To repeat table headers or footers on report pages

You can repeat table headers and footers.

Procedure

1. In *Design* mode, right-click a table frame.
2. In the contextual menu, click *Format Table* > *Layout Settings*.
3. Under the *Layout* section, depending on the table type, check *Repeat vertical header on every page*, *Repeat horizontal header on every page*, *Repeat vertical footer on every page* or *Repeat horizontal footer on every page*.
4. Click *Apply*.

1.2.1.16.21 Transforming a dimension in a table using dimension value groups

In a table column, you can collect the values of a dimension into an aggregated group to which you can assign a unique name. For example, if your company has branch offices in the US cities of New York, Washington, and Boston, you can add them to a group called **`Eastern branch offices`**.

In a table, when you group the values of a dimension, they're no longer visible in the table as single entities; they and their data are aggregated into the group until you choose to remove any of the values of a dimension from the group.

You can group dimension values in *Design* mode in the *Objects* pane:

1. Select a dimension.
2. Click ⋯ > *Manage Groups*.

The application automatically creates a variable object for the aggregated group *Objects* pane.

Ungrouped values

Any ungrouped values of a dimension remain separate in the table column unless you enable the *Automatically grouped* option. If you select *Automatically grouped* for ungrouped values, then the values of a dimension are removed from the table and aggregated into the selected group's data.

Tips about grouping values of a dimension in a table

- You can reuse the aggregated group variable in other tables.

  > **i** Note
  >
  > If the original dimension can be used in the same or other tables and isn't affected by the group variable.

- A dimension value can only belong to one group.
- A dimension value group is a text data type, even if the original values of a dimension are dates or numbers.
- We recommend that you don't have more than 1,000 values of a dimension in a group. Having more than 1,000 values could cause performance issues.

1.2.1.16.21.1 To group or ungroup values of a dimension in a table

The *Manage Group* dialog allows you to assign two or more values of a dimension in a table column to an aggregated group and give it a unique name.

Procedure

1. In *Design* mode, in the *Objects* pane, select a dimension.
2. Click ⋯ > *Manage Groups*.
3. In the *Manage Groups* dialog, check the values that you want to group.
4. Click *Group*.
5. In the *New Group* dialog, give a name to the group and click *OK*.
   The group you've just created now shows in the *All Groups* drop down..
6. **Optional:** If you want to have any ungrouped values of a dimension automatically grouped:
   a. Click *Ungrouped Values* > *Automatically Grouped*.
   b. In the *Automatically Grouped Values* dialog, give a name to the group.
   c. Click *OK*.
7. To remove values from a group, make sure that all values are displayed using the *All Groups* drop down, select the value(s) you want to remove, and click *Ungroup*.
   Notice how the group name is no longer displayed in the *Group* column for the value(s) you've just removed. If you have selected *Automatically Grouped* for ungrouped values, then the values of the dimension don't appear individually in the table column because they're aggregated into the "ungrouped" group data.
8. If you want to rename the group, click  , and give a new name to the group.
9. Click *OK* to close the *Manage Groups* dialog.

Results

The values are grouped in the dimension column in the table, and the column header name changes to "[dimension name]+". For example, if you group values for dimension "City", the column header changes to show "City+". A group variable is created in the *Variables* section in the *Objects* pane. You can change the group variable name in the *Manage Groups* dialog or using the right-click contextual menu for the group variable in the *Variables* section.

Related Information

To edit group variables [page 108]

1.2.1.16.21.2 To add or move values of a dimension to an existing group

The *Manage Group* dialog allows you to add values of a dimension to an existing aggregated group in a table column.

Procedure

1. In *Design* mode, in the *Objects* pane, select a group of values in the *Variables* section and click ••• > *Manage Groups*.
2. In the *Manage Groups* dialog, select the values you want to add to a group.

   > **i Note**
   >
   > You can also select values that are already part of an existing group, or a whole group of values, and move them to another group.

3. Click the *Move to* drop down, and select a group.
   The group name appears in the *Groups* column next to the variables that you have selected.
4. Click *OK*.

Results

The selected values of the dimension disappear from the table column and are aggregated into the selected group.

1.2.1.16.21.3 To edit group variables

You can edit dimension group variables in the *Objects*.

Procedure

1. In *Design* mode, in the *Objects* pane, select a group variable object in the *Variables* section and click ⋯.
2. Depending on what you want to do, click *Rename*, *Duplicate* or *Delete*. If you want to edit the value in the group, click *Manage Groups* to access the group editor and edit the values.

Related Information

To group or ungroup values of a dimension in a table [page 106]
To add or move values of a dimension to an existing group [page 107]

1.2.1.16.21.4 To rearrange values of a dimension

You can create a customer order and rearrange the values of a dimension.

Context

Procedure

1. In *Design* mode, in the *Objects* pane, select a dimension.
2. Click ⋯ > *Custom Order*.
3. Using either the up and down arrows, or drag and drop, rearrange the values as you see fit.
4. Click *OK*.

1.2.1.17 Freezing table headers, columns and rows

You can freeze headers, rows or columns in tables to keep them displayed as you scroll through data.

The zones you can freeze depend on the table type. The following table lists zones you can freeze according to the type of table:

Table type	Zones you can freeze
Vertical table	Header rows and columns
Horizontal table	Header columns and rows
Cross table	Header rows and header columns

You can access the functionality either directly from the toolbar in the *Display* section, or via the contextual menu. Depending on where you enable the option, the possibilities can vary. From the toolbar (), the option freezes all headers with default options. From the contextual menu at the table level in *Design* mode, or the floating menu in *Reading* mode, you get access to more options to fine-tune how you want the table to be displayed depending on the table type:

- Freeze header rows (vertical and cross tables)
- Freeze first data columns (horizontal tables)
- Freeze header columns (vertical and cross tables)
- Freeze top rows (horizontal tables)

> **i** Note
>
> You can freeze up to 5 data rows or columns.

1.2.1.17.1 To freeze table headers, columns and rows

You can freeze table headers, columns and rows in both *Reading* and *Design* mode.

Procedure

1. In the *Display* section of the toolbar, click  .
   By default, headers will be frozen for every table in the report.
2. **Optional:** For more control, depending on the type of table (horizontal, vertical or cross-table) you can also decide to freeze columns and rows:
   - In *Reading* mode, right-click the table, and in the quick actions menu, click  . In the dialog, for a vertical table, select whether you want to freeze header rows, and the number or columns to freeze. For a horizontal table, select whether your want to freeze header columns, and the number of top rows to

freeze. For a cross-table, select whether you want to freeze only header columns, both header columns and header rows, or only header rows.

- In *Design* mode, select a table, then right-click it. In the contextual menu, click *Freeze Headers*. In the dialog, for a vertical table, select whether you want to freeze header rows, and the number or columns to freeze. For a horizontal table, select whether your want to freeze header columns, and the number of top rows to freeze. For a cross-table, select whether you want to freeze only header columns, both header columns and header rows, or only header rows.

For example, in a horizontal table, if you enter 2, the two first top rows remain displayed while you scroll down in the table. In a vertical table, the two first left columns remain displayed while you scroll sideways in the table.

1.2.1.17.2 To unfreeze table headers, columns and rows

You can unfreeze table headers, columns and rows.

Procedure

1. In the *Display* section of the toolbar, click  . Before you click, the icon is highlighted in blue to indicate that headers, columns or rows are frozen. After you've clicked, the icon is no longer highlighted. This action unfreezes everything.
2. **Optional:** For more control on what you want to unfreeze, depending on the type of table (horizontal, vertical or cross-table) you can also:

   - In *Reading* mode, right-click the table, and in the quick actions menu, click  . In the dialog, for a vertical table, select whether you want to unfreeze header rows, and the number or columns to unfreeze. To unfreeze all columns, enter `0`. For a horizontal table, select whether your want to unfreeze header columns, and the number of top rows to unfreeze. To unfreeze all top rows, enter `0`. For a cross-table, select whether you want to unfreeze only header columns, both header columns and header rows, or only header rows.
   - In *Design* mode, select a table, then right-click it. In the contextual menu, click *Freeze Headers*. In the dialog, for a vertical table, select whether you want to unfreeze header rows, and the number or columns to unfreeze. To unfreeze all columns, enter `0`. For a horizontal table, select whether your want to unfreeze header columns, and the number of top rows to unfreeze. To unfreeze all top rows, enter `0`. For a cross-table, select whether you want to unfreeze only header columns, both header columns and header rows, or only header rows.

1.2.1.18 Displaying data in free-standing cells

Free-standing cells are single cells that stand alone in a report.

You can place any text or formula in a blank free-standing cell, or you can use pre-defined free standing cells that display specific information.

For more information on the functions used in free-standing cells, see the *Using Functions, Formulas and Calculations in Web Intelligence* guide, or see the Web Intelligence online help.

Formula and text cell functions in free-standing cells

Function	Description
Blank Cell	Empty cell in which you can enter any text or formula.
Comment	Empty cell in which you can type a general comment about the entire report.
Drill Filters	Uses the `DrillFilters` function to display details of the drill filters applied to the report.
Last Refresh Date	Uses the `LastExecutionDate` function to display the last date when the document was refreshed.
Document Name	Uses the `DocumentName` function to display the document name.
Query Summary	Uses the `QuerySummary` function to display details of the queries in the document.
Prompt Summary	Uses the `PromptSummary` function to display details of the user prompt selections.
Report Filter Summary	Uses the `ReportFilterSummary` function to display the report filters applied to the report.

Page number cell functions in free-standing cells

Function	Description
Page Number	Uses the `Page` function to display the number of pages in the report.
Page Number/Total Pages	Uses the `Page` and `NumberOfPages` functions to display the current page number and the total number of pages in the report.
Total Number of Pages	Uses the `NumberOfPages` function to display the total number of pages in the report.

1.2.1.18.1 To insert a free-standing cell in a report

You can insert a free-standing cell in a report.

Procedure

1. In *Design* mode, in the *Insert* section of the toolbar, click abc.
2. Select a pre-defined cell in the contextual menu.
3. Click on the report canvas to place the cell where you want it.
4. **Optional:** If you have inserted a blank cell, type the text or formula of the cell in the formula bar.

> **i** Note
>
> If you can't see the formula bar, click *fx* in the *Analyze* section of the toolbar to display it.

1.2.1.18.2 To hide free-standing cells

You can hide free-standing cells unconditionally, when they are empty, or based on the result of a formula.

Procedure

1. In *Design* mode, right-click a free-standing cell and select *Format Cell* > *Hide* in the contextual menu.
2. In the *Format* pane, select an option:
   - To hide the cell unconditionally, select *Hide always*.
   - To hide the cell when it is empty, select *Hide when empty*.
   - To hide the cell based on the result of a formula, click *Hide when formula is true* and type the formula in the box.
3. **Optional:** If you've decided to hide the cell based on a formula, in the *Format* panel, check *Hide when formula is true*, type a formula, and click *Apply*.

1.2.1.18.3 To copy a free-standing cell

You can copy and paste free-standing cells within a report or into external applications such as Microsoft Word and Excel.

Procedure

1. In *Design* mode, right-click the free-standing cell and click *Copy* in the contextual menu.
2. To paste the free-standing cell to another part of the report, right-click where you want the free-standing cell to appear and click *Paste* in the contextual menu.
3. To paste the free-standing cell into another application, paste the contents of the clipboard from within the application.

1.2.1.19 Using sections to group data

Sections allow you to split report information into smaller, more comprehensible parts.

Example: Grouping quarterly revenue results into sections on a report

You are the regional sales manager in Texas. You receive a report showing 2003 annual revenue for stores in your region, broken down by cities and quarters.

City	Quarter	Sales revenue
Austin	Q1	314430
Austin	Q2	273608
Austin	Q3	294798
Austin	Q4	252644
Dallas	Q1	215874
Dallas	Q2	194689
Dallas	Q3	204066
Dallas	Q4	188791
Houston	Q1	572177
Houston	Q2	619924
Houston	Q3	533765
Houston	Q4	520332

To make a comparison of the results for each city per quarter, you set [Quarter] as a section value. The report is broken up into four separate sections by quarter.

Q1

City	Sales revenue
Austin	314430
Dallas	215874
Houston	572177

Q2

City	Sales revenue
Austin	273608
Dallas	194689
Houston	619924

Q3

City	Sales revenue
Austin	294798
Dallas	204066
Houston	533765

Q4

City	Sales revenue
Austin	252644
Dallas	188791
Houston	520332

You can create a single section or include multiple sections with subsections in a report. You can also remove and reposition sections within a report.

You can create a section from one of two sources:

- on a dimension already displayed on a table or chart: right-click the dimension and select *Set as Section.*
- on a dimension included in the document but not displayed on a table or chart

You can't create a section with a measure object.

Related Information

To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]

1.2.1.19.1 To create a section from a column

You can create a section based on a table column.

Procedure

1. In *Design* mode, right-click the column you want to define as a section.
2. In the contextual menu, click *Set as Section*.

1.2.1.19.2 To create a section from a dimension

You can create a section.

Procedure

1. In *Design* mode, in the *Insert* section of the toolbar, click .
2. Click on the report canvas where you want to place the section.
3. Select the dimension in the *Define a New Section* dialog, and click *OK*.

1.2.1.19.3 Using report filters in report sections

You can apply report filters to sections using values in the section cell or that appear within the section.

You access filters by right-clicking a section, and then select *Data* > *Add Filter* to access the *Filters* tab of the *Data* panel.

Filters on a section cell

If you have a report with section `[Country]`, you can use in the filter syntax `[Country] = "US"` to filter out all sections on countries that aren't `"US"`.

Filters on section data

If you have a report with section `[Region]` and you use in the filter syntax `[Product]="Drinks"` in the section, the report contains all sections that contain the product `"Drinks"`.

The filter is based on the data in the section, but applied indirectly to the data in the section cell.

1.2.1.19.4 Sections based on a hierarchy

Create a section on a hierarchy, to make each member of the hierarchy a section cell.

You can expand sections in the same way as you expand members in a column in a table.

Depending on how the purpose of your report, you can maintain the default hierarchy order of parents first or reverse it to display children first.

You have a report that displays the following data:

Customer Geography		Gender	Internet Sales Amount
All Customers		Male	235.243
		Female	254,342
	Australia	Male	34,342
		Female	45,464
	Canada	Male	12,232
		Female	14,242
	France	Male	17,343
		Female	18,001

If you create a section on [Customer Geography], the report initially appears as follows:

All Customers	
Gender	**Internet Sales Amount**
Male	235,243
Female	254,342

If you expand the section cell, the report appears as follows:

All Customers	
Gender	**Internet Sales Amount**
Male	235,243

Gender	Internet Sales Amount
Female	254,342

Australia

Gender	Internet Sales Amount
Male	34,342
Female	45,464

Canada

Gender	Internet Sales Amount
Male	12,232
Female	14,242

France

Gender	Internet Sales Amount
Male	17,343
Female	18,001

1.2.1.19.5 To remove a section cell or section

You can remove a section or section cell.

Procedure

1. In *Design* mode, right-click a section cell or section.
2. In the contextual menu, click *Delete*.

1.2.1.19.6 To set the page layout of a section

You can set the page layout of a section.

Procedure

1. In *Design* mode, right-click a section and click *Format Section* > *Layout Settings* in the contextual menu.
2. In the *Layout* tab, check any of the following option:
   - *Start on a new page* to start each section on a new page.
   - *Start instances on a new page* to start each section instance on a new page.
   - *Avoid page breaks in section* to avoid page breaks in the section.
   - *Repeat section cell on every page* to repeat the section cell on every page.
3. Click *Apply*.

1.2.1.19.7 Hiding sections

In the *Format* panel, four different options are available to hide sections.

Depending on the option you select, you can either hide a whole section and all its instances, or only hide specific instances. The table below details the behavior of each option available.

Option	Description
Hide section when the following are empty	Hides the instance of a section if the specified element is empty. **⚠ Caution** This doesn't mean that the instance will be hidden if the specified element no longer exists. A table for instance has to be empty but still visible in a section for the condition to be true.
Hide always	Always hide a section and all its instances.
Hide when empty	Hides the instance of a section if it no longer contains any element.

Option	Description
Hide when the follwing formula is true	Hides the section and all its instances depending on the boolean result of the formula being evaluated. **i Note** This option doesn't specifically hide instances of the section where the formula is true. The formula isn't evaluated in each instance of the section, but at the section level.

The best way to hide an instance of a section is to use the *Hide when the following formula is true* option on each element of an instance, and use the *Hide when empty* option on the section itself.

1.2.1.19.8 To hide sections

You can hide sections.

Procedure

1. In *Design* mode, select a section and right-click it.
2. In the contextual menu, click *Hide*.
3. Select a hiding option:
   - To hide the section, click *Hide*.
   - To hide the section when it is empty, click *Hide When Empty*.
   - To hide the section when a specified formula is true, click *Hide When*, and in the *Format* panel, check *Hide when the folowing formula is true*, type a formula in the box, and click *Apply*. The formula must return a Boolean value (True or False).

1.2.1.19.9 To define colors and images in a section

You can define section colors and images.

Procedure

1. In *Design* mode, right-click the section and select *Format Section* > *Appearance Settings*.
2. In the *Format* panel, define the colors and images using the dedicated controls.
3. Click *Apply*.

Related Information

To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]

1.2.1.20 Using breaks

A break is a division within a block in which data is grouped according to a selected dimension, detail, or measure into self-contained sections.

Break sections are represented as smaller tables within the same block of data.

You use breaks to display all the data for each unique value of an object in separate parts.

Breaks offer the following advantages:

- You can more efficiently organize how your data is represented.
- You can display subtotals.
- You can display sub-aggregations.

When you insert a break, the break footer is automatically filled with the appropriate amounts. The default measure aggregation is used. If the measure has no aggregation, then it is not added in the footer.

1.2.1.20.1 Breaks compared to sections

Breaks and sections separate data differently in Web Intelligence.

A section distributes the data into multiple free-standing cells called section headers. Each section cell contains one value for a dimension, with a block of data that corresponds to the dimension value.

A break divides the data up within one block. One column contains the values for a dimension, detail, or measure, which are repeated for each other row of values in the block.

1.2.1.20.2 Value based breaks

You can create breaks based on values that you have purposely selected.

When creating value based breaks, the headers and footers are only displayed for the values that you have selected, like in the example below.

> **i Note**
>
> You can't use value based breaks with measures or multiple objects.

State	City	Sales revenue
California	Los Angeles	$4,220,929
	San Francisco	$3,258,641
California		**$7,479,569**
Colorado	Colorado Springs	$2,060,275
DC	Washington	$2,961,950
Florida	Miami	$1,879,159
Illinois	Chicago	$3,022,658
Massachuset	Boston	$1,283,707
New York	New York	$7,582,221
Texas	Austin	$2,699,673
	Dallas	$1,970,034
	Houston	$5,447,957
Texas		**$10,117,664**

What if the selected value is filtered out of the table?

The value isn't displayed but still available in the list of values.

What if the selected value no longer exists in the query?

You can still use it in the break, but the value and the break associated to it are no longer displayed in the table.

Related Information

To insert a value based break [page 125]

1.2.1.20.3 Same level breaks

You can create breaks at the same level in the a table using multiple objects.

When creating same level breaks, the objects in the break share the same footer, and are displayed on the same row in the table, like in the example below.

> **Note**
>
> You can't use objects in same level breaks if you already use them in other breaks.

State	Year	Lines	Sales revenue
California	2014	Accessories	$703,210
		City Trousers	$697
		Dresses	$5,350
		Jackets	$11,123
		Outerwear	$29,924
		Shirt Waist	$696
		Sweaters	$87,863
		Sweat-T-Shirts	$22,321
		Trousers	$13,949
California	**2014**		**$875,134**

State	Year	Lines	Sales revenue
California	2015	Accessories	$343,232
		City Skirts	$20,228
		City Trousers	$17,317
		Dresses	$180,593
		Jackets	$36,800
		Leather	$37,952
		Outerwear	$105,245
		Overcoats	$42,312
		Shirt Waist	$240,997
		Sweaters	$49,170
		Sweat-T-Shirts	$554,589
		Trousers	$139,830
California	**2015**		**$1,768,265**

What if the break objects aren't sorted?

The footer is displayed for each deepest object value.

What if the order of objects changes?

The break happens at the new deepest object level.

What if an object is added or removed?

The break happens at the new deepest object level.

Related Information

To insert a same level break [page 125]

1.2.1.20.4 Applying breaks to hierarchies

When you apply a break to a hierarchy, the break occurs on all hierarchy members at all levels.

Example: A break applied to a hierarchy

You have a report displaying the following data:

Customer	Gender	Unit Sales
ALL	F	131,587
	M	138,215
USA	F	131,587
	M	138,215
CA	F	36,759
	M	37,989

If you apply a break to the [Customer] hierarchy, the display appears as follows. The break is applied on each member of [Customer].

Customer	Gender	Unit Sales
ALL	F	131,587
	M	138,215

Customer	Gender	Unit Sales
USA	F	131,587
	M	138,215

Customer	Gender	Unit Sales
CA	F	36,759
	M	37,989

1.2.1.20.5 Default sort order in breaks

When you apply a break in a report, a default sort order is applied.

When you insert a break on an object, the values for the object are automatically sorted in ascending order as follows:

- If the values are numeric, the lowest value appears in the first row of the table, the highest in the last row.
- If the values are alphabetical characters, then the values are sorted in alphabetical order from A to Z.

You can set multiple breaks across several dimensions details or measures and set a sort priority on each break.

1.2.1.20.6 To insert a break

You can insert a break in any table, except for in form tables.

Procedure

1. In *Design* mode, in a table, select a cell in the column to which you want to add a break and right-click it.
2. In the contextual menu, click *Data* > *Add Break*.
   The table is divided into as many mini tables as there are unique values in the column. Each mini table has a footer.

Related Information

To manage breaks priority [page 126]

1.2.1.20.7 To insert a value based break

Context

Create value based breaks if you want your table to break on values that are the most relevant to you.

Procedure

1. Right-click the column to which you want to apply a break.
2. In the contextual menu, click *Data* > *Add Break*.
3. In the *Data* panel, hover over the break you've just created and click  to access the break settings.
4. Check *Value based break*, and click *Values*.
5. Select the values you want to apply to the break and click *OK*.

Results

The break footer and header are displayed only for the value(s) you've selected.

1.2.1.20.8 To insert a same level break

Context

Create same level breaks to have multiple objects break at the same level in a table.

Procedure

1. Right-click a cell column to which you want to apply a break.
2. In the contextual menu, click *Data* > *Add Break*.
3. In the *Data* panel, click the *Add a Break* drop down, select two or more objects and click *OK*.

> **Note**
>
> You can't select objects that are already used in other breaks.

4. Click *Apply*.

Results

The header and footer are displayed only for the deepest object level, that is the object that you have selected last in the *Data* panel.

1.2.1.20.9 To remove a break

You can remove a break in a table.

Procedure

1. In *Design* mode, select the table column on which there's a break and right-click it.
2. In the contextual menu, click *Data* > *Remove Break*.

1.2.1.20.10 To manage breaks priority

You can manage table column breaks.

Procedure

1. In *Design* mode, click  to open the side panel.
2. In the side panel, click  to open the *Data* panel.
3. Click  to access the break tab.

   The break tab shows the breaks defined in the table. If the table is a crosstab, you can see the breaks on both the horizontal and vertical axes. Each break is represented by the dimension on which it is defined. The order in which the dimensions appear indicates the order in which the breaks are applied.
4. Hover over a break and click > *Move Break Down* or *Move Break Up*.

5. To set the properties of a break, hover over a break and click  . See the link at the bottom of this topic for more information on the break properties you can set.
6. Click *Apply*.

Related Information

Break properties [page 127]

1.2.1.20.11 Break properties

A table break has several customizable properties.

You can set the following properties of a break:

Property	Description
Break header	Displays a header for each part of the table, crosstab, or form when you insert a break.
Break footer	This displays a footer for each break in a section, including a footer after the last row for a table or column for a crosstab when you insert a break. When you apply a calculation to the data, the result is shown in the footer.
Apply Sort	Applies the default sort order to the values in the break.
Duplicate values: Display all	Displays all values in the break, even when they are duplicated.
Duplicate values: Display first	Displays the first value only when values are duplicated.
Duplicate values: Merge	Merges cells containing duplicate values and displays a single value over the merged cells.
Duplicate values: Repeat first on new page	Displays the first value in a group of duplicate values at the beginning of the break and on each new page.
Start on a new page	Displays each part of the table or form created by a break on a new page.
Avoid page breaks in block	Where possible, keeps each break section on the same page. This option is not taken into account when a block is larger than one page.
Repeat header on every page	Repeats the header at the top of the table on every new page when a table goes over onto a new page.
Repeat footer on every page	Repeats the footer at the bottom of the table on every new page when a table goes over onto a new page.

1.2.1.21 Using sorts to organize data in reports

You can apply sorts to the values displayed in tables, sections and charts to organize the order in which values are displayed in a report.

By default, the sort starts from the first column.

> **i** Note
>
> - By default, each individual dimension is sorted ascending, in alphabetic order, when displayed in the report. If you do not set the order explicitly, then the priority is given to the dimensions going from left to right.
>   A dimension or hierarchy from an OLAP source (`.unx`) is ordered according to the underlying source order, if this source provides an order.
> - When the Preferred viewing locale is different from and incompatible with the Document locale (different character sets), sorting in document tables may not work. In order to sort in documents that use a different locale to your Preferred viewing locale, contact your administrator and request a change to the registry key for Windows, or to the `boconfig.cfg` file for UNIX in the following way:
>   In Windows, on the server machines and client machines, change or create the following registry key declaration: `HKEY_LOCAL_MACHINE\SOFTWARE\SAP BusinessObjects\Suite XI 4.0\...\WebIntelligence\Calculator : SortLocale = PVL`, then close and reopen any Web Intelligence documents that are open.
>   In UNIX, on the server machines, open the `boconfig.cfg` file (in $installdir/setup/boconfig.cfg), and add the registry key declaration: `HKEY_LOCAL_MACHINE\SOFTWARE\SAP BusinessObjects\Suite XI 4.0\...\WebIntelligence\Calculator : SortLocale = PVL`, then close and reopen any Web Intelligence documents that are open.

When you perform sorts, the following sort orders are available:

Sort order	Description
Default	Depending on the type of data in the column or row, the results are sorted as follows: • ascending numeric order for numeric data • ascending chronological order for date • alphabetical order for alphanumeric data
Ascending	When selected, results are arranged in ascending order, starting with the smallest value at the top of the column. For example: 100, 200, 300 or California, Colorado, Florida.
Descending	When selected, results are arranged in descending order, starting with the highest value at the top of the column. For example: 300, 200, 100 or Florida, Colorado, California.

Sort order	Description
Custom Order	You define your own sort order. *Custom Order* is available on dimensions and attributes. **i Note** • *Custom Order* is not available on hierarchies, levels, and measures. It is not possible to manually add values to the *Custom Order* list if the dimension detail contains an internal key (in data sources like OLAP and BEx). • By default, the maximum number of values for dimensions are set to different values on the client and server. To avoid conflicts, we recommend that you set both to the same value. • You cannot manually add values for a *Custom Order* if the dimension has an internal key. Server default value: 100 items (`MaximumCustomSortSize` parameter in the `WebIntelligenceProcessingServer` properties in the Central Management Console) Client default value: 1000 items (`WebiParamCustomSortMaxSize` parameter in `WebIContainer_ClientDescriptor.xml`)

1.2.1.21.1 Sorting hierarchical data

Sorts apply on hierarchical data within each parent item in the hierarchy. Sorts do not break links between parent and child items.

The sort order impacts the data display independently of the hieararchy order. Optimize the way you present the data by defining the appropriate sort and hierarchy orders in the same data block and managing them separately.

Example: Sorting hierarchical data

The following table contains the [Product] hierarchy in an unsorted state:

Product		
Grocery		
	Baking Goods	
	Beverages	
		Soft Drinks
		Milk
		Soda
	Breads	

After a descending sort is applied, the hierarchy appears as follows:

Product		
Grocery		
	Breads	
	Beverages	
		Soft Drinks
		Soda
		Milk
	Baking Goods	

The sort places grocery types in descending order and beverages in descending order in their parent item. The sorted beverages retain their hierarchical link with their parent item.

1.2.1.21.2 To sort data

You can add a sort to a table to help organize your data.

Procedure

1. In *Design* mode, select the table column you want to sort and right-click it.
2. In the contextual menu, click *Data* > *Add Sort*.
   The application automatically applies and ascending sort order. In the *Data* panel, the sort icon now has a subscript character to indicate that there's a sort applied to the table.
3. If you want to change the sort order, in the *Data* panel:
   a. Click  to open the sort tab.
   b. Click ≡ to switch to descending order.

1.2.1.21.3 To remove a sort

You can remove a column sort.

Procedure

1. In *Design* mode, select a table with a sort.

2. In the *Data* panel, click  to open the sort tab.
3. Hover over the object name with the sort applied, and click  to delete it.

1.2.1.21.4 To manage sorts priority

If you're working with multiple sorts, you can arrange their priority to better control how your data is displayed.

Context

In a cross table, the sorts on both the horizontal and vertical axes are displayed. Each sort is named after its associated dimension, and a pyramid indicates the sort direction (ascending or descending). The order in which the sorted dimensions appear indicates the order in which the sorts are applied.

Procedure

1. In *Design* mode, select the table or chart in which you want to manage sorts.
2. In the *Data* panel, click  to open the sort tab.
3. Hover over a dimension, and click ⋯.
4. Click *Move Up* or *Move Down* to move priority of the sort if you have several.

   > **i** Note
   >
   > You can't change the priority of a sort if a sorted break is defined on the dimension.

5. To create a custom sort order, hover over a dimension and click ⋯ > *Create Custom Oder*. You can change the order of values with the up and down arrows, or add values with the *Add Value* button. You can also reset the order by clicking *Reset Order*.

   > **i** Note
   >
   > - The *Values* button is disabled if the custom sort isn't applicable.
   > - The custom order applies to the dimension in the entire document, not just in the selected block.

6. Click *OK* to save your changes.

Related Information

Using sorts to organize data in reports [page 128]

1.2.1.22 Printing reports

You can print one or multiple reports from a document.

When printing reports, the application generates a .PDF file first. Click ••• > *Print* in the toolbar, set the printing options, and click *Print* to generate the .PDF file.

> **i** Note
>
> - When printing a report, the application sets it to print layout and discards the quick display mode.
> - If a report is wider than the width of the paper size defined in the *Layout*, page breaks are inserted. The paper size and page orientation for printing can be different from the paper size and page orientation set for the reports when you view them in the Rich Client.

1.2.2 Working with charts in reports

Selecting the right charts is a crucial step of the reporting process, as they are the canvas of future analysis.

Your report is the gateway to insights and actionable information. Using the right charts means that your audience interprets data the right way and gets the right insights without any confusion. We broke them down into groups so you can identify the one that is most relevant depending on what you are trying to demonstrate.

You want to ask yourself a few questions before picking visualizations. These are examples that help you know why you might need a specific chart. Are you trying to compare values or analyze trends? Do you want to demonstrate the composition of a process or understand how your data is distributed? Do you want to highlight the relationship between several data subsets?

The following sections provide you with information regarding the different charts available and how to choose them.

Related Information

Chart types [page 132]

1.2.2.1 Chart types

Charts are grouped by intentions and the type of analysis you want to run.

We broke them down in multiple groups to help you decide which ones are the most relevant to your needs.

Analysis	Description	Charts
Comparison	Use to view the differences between values. It provides a simple comparison of categorical divisions of measures. It's the default analysis type. For example, you could use a bar chart to compare the differences in your sales revenue between different countries.	• Column • Bar • Dual Y-Axis Column • Dual Y-Axis Line • Combined Column Line • Dual Y-Axis Combined Column Line • 3D column • Waterfall
Trend	Use to show a trend in the data values. This analysis type is particularly useful for dimensions that are time based, such as Year. It's useful for seeing progression of your data and possible patterns. For example, you can use a line chart to view sales revenue trends of a product throughout a range of years.	• Line • Area
Proportion	Use to show the proportion of a value in a whole. For example, you could use a pie chart to show the proportion of each quarter in a full year of sales revenue.	• Pie • Pie with Variable Slice Depth • Donut • Stacked Column • 100% Stacked Column • Stacked Bar • 100% Stacked Bar • Funnel • Pyramid
Distribution	Use one of these charts to show a summarized group of unorganized data. You can also use these charts for qualitative and quantitative data.	• Tree Map • Heat Map • Box Plot • Radar • Tag Cloud
Correlation	Use for viewing the relationship between values. It's useful for comparing multiple measure values. For example, you can view the correlation of two measures, and understand the impact of the first measure on the second one.	• Scatter Plot • Bubble • Polar Bubble • Polar Scatter Plot
Geographic	Use to show a map of the country object. The data for dimensions sorted by country are shown on the map. This is useful to see the geographical spread of data.	• Geo Choropleth • Geo Bubble • Geo Pie

Analysis	Description	Charts
Indicator	Use to show the value of a key performance indicator. For example, you could use a gauge chart to show the year-to-date sales revenue together with the sales revenue target for the year.	• Speedometer • Linear Gauge • Angular Gauge • Tile • Deviation Tile

Related Information

To add a chart [page 144]
To change a chart type [page 203]

1.2.2.1.1 Bar

Bar charts display data in rectangular form horizontally.

Bar charts are useful if you want to compare similar groups of data; for example, revenue from one time period to another.

Types of bar charts

Chart type	Description
Bar Chart	A chart constructed of horizontally-oriented rectangles. The lengths of rectangles are proportional to the values associated to different category items.
Stacked Bar Chart	A chart constructed of horizontally-oriented stacked colored rectangles . The heights of the rectangles are proportional to the values associated to different category items. Rectangles are colored according to legend entries.
100% Stacked Bar	A chart with data displayed as parts of a whole (as percentages). A whole being a rectangle and a series being a subdivision of the rectangle.

1.2.2.1.2 Box Plot

A *Box Plot Chart* (also called a stock chart) displays a five-number summary based on the distribution of a dataset: the maximum, the minimum, the first quartile, the third quartile, and the median.

A *Box Plot Chart* can also show abnormal values called outliers.

1.2.2.1.3 Column

Column charts display a series as a set of vertical bars that are grouped by category.

Column charts are useful for showing data changes over a period of time or for illustrating comparisons among items.

Web Intelligence offers the following column charts.

Chart type	Description
Column	A chart constructed of vertically-oriented rectangles. The heights of the rectangles are proportional to the values associated to different category items.
Dual Y-Axis Column	A chart with two value axes. It allows a part of a data series to be plotted against one axis and a part of the data series to be plotted against the other axis.
Combined Column Line	A chart displaying a combination of a column chart and a line chart. The chart types share the same value axis.
Dual Y-Axis Combined Column Line	A chart displaying a combination of a column chart and a line chart. The chart types each have their own value axis.
Stacked Column	A chart constructed of vertically-oriented stacked colored rectangles. The heights of rectangles are proportional to the values associated to different category items. Rectangles are colored according to legend entries.
100% Stacked Column	A chart with data displayed as parts of a whole (as percentages) with a whole being a column and a series being a subdivision of the column. If there is only one series in your chart, all the column bars will fit to 100% of the chart area.
3D Column	A chart similar to a column chart with an added 3D dimension.

1.2.2.1.4 Funnel and Pyramid

Funnel charts display progressive decrease of data as it goes from one stage of a process to another, or hierachical structure.

Chart Type	Description
Funnel	It is mostly used in sales reporting to present the different stages of a sale process, but also to identify potential areas of improvement for that sales process. Each section represents a volume of transactions for a specific stage of the process. The height of each section is proportional to the value it represents.

Chart Type	Description
Pyramid	Pyramids are reversed funnels with no neck. You can use pyramids when you need your data to reflect a specific hierarchy. The height of each section is visually representative of a quantity. Sections are arranged from bottom to top, or top to bottom, according to the related topics they depict.

1.2.2.1.5 Gauge

Gauges are charts that indicate the location of data points across a particular range.

You can use gauge charts as value indicators in reports to display key performance indicators, progress indicators or quantity indicators.

Chart Type	Description
Angular Gauge	 An angular gauge indicates where a specific data point, the actual value, is located on a radial scale. It features a primary measure that is compared to other measures representing a mandatory maximum value and optional target and minimum values. The colored area represents the actual value, while the gray area reprensent the gap between the actual value and the maximum value. The optional black line, when present, corresponds to the target value.

Chart Type	Description
Linear Gauge	 A linear gauge indicates where a specific data point, the actual value, is located on a linear scale. It features a primary measure that is compared to other measures representing a mandatory maximum value and optional target and minimum values. The colored area represents the actual value, while the gray area reprensent the gap between the actual value and the maximum value. The optional black line, when present, corresponds to the target value.
Speedometer	 A speedometer is a gauge that uses a needle to represent data on a radial scale between a lower and an upper limit.

1.2.2.1.6 Geomap

Geomaps display data on a geographic map.

Geomap charts are useful if you want to compare your data geographically. They use a geographical database embedded in Web Intelligence and a matching algorithm to automatically match values of dimensions, merged objects or a dimension variables with a location. When you match values with specific locations, you geo-qualify the values and their parent object so they can be rendered on a map. The geo-qualification can be done using either a location's name, or its latitude and longitude coordinates.

> **i** Note
>
> The database contains location names in multiple languages, called exonyms. When you geo-qualify an object, Web Intelligence selects the exonym according to your preferred viewing locale (PVL). If you decide later on to modify your PVL, you will need to geo-qualify the object again so that the new PVL is taken into account.

Chart Type	Description
Choropleth	Choropleth charts display values that are represented by colors on a geographic map. The colors of the geographic zones are determined by a measure value.
Geo Bubble	Geo Bubble charts display values that are represented by bubbles on a geographic map. The size of the bubbles on each geographic zone is determined by a measure value.
Geo Pie	Geo Pie charts display values that are represented by pies on a geographic map. The size of the pies on each geographic zone is determined by a measure value.

Once you have geo-qualified an object, an icon  appears next to it. Click the right arrow to see the geographical details of the location it has been matched with, such as its name, its latitude and its longitude objects.

Available settings

The table below lists the settings available according to each type of Geomap chart.

Parameter	Description	Available for
Display invisible area as point	Display choropleth areas as points when they are too small. This is typically the case for City level areas	Choropleth
Symbol Size	Sets the choropleth symbol size when choropleth is represented as colored points	Choropleth
Draws unrelated geographic boundaries as background	Draws the country borders as background	All Geomaps
Ground Color	Sets the color of the ground	All Geomaps
Geographic Context	Draws the borders of the areas with data. Possible values are: none, neighbors (that is, areas at the same level) or parents (that is, areas at the upper level)	Choropleth
Precision	Drawing precision of the borders (0 - highest to 10 - lowest)	All Geomaps
Sea Color	Sets the color of the sea	All Geomaps
Null values	Sets the color of areas with NULL or empty values	Choropleth
Values Out Of Range	Sets the color of out-of-range areas	Choropleth

Parameter	Description	Available for
Bubble scale	Sets the ratio between the smallest and the largest bubbles and pies (2 to 10)	Geo Bubble, Geo Pie
Bubble scaling mode	Allows you to choose between a proportional and a perceptual bubbles and pies scaling mode	Geo Bubble, Geo Pie
Edge Color	Sets the color of the areas borders	All Geomaps
Pie Title	Allows you to display the Geopie titles	Geo Pie
Manual Range	Allows you to define the latitude / longitude range of the map	All Geomaps

Related Information

Using geo dimensions [page 76]
To match values of an object with a location [page 78]
To modify the location of a value [page 81]
To reset the location of a value [page 82]

1.2.2.1.7 Line

Line charts connect specific data values with lines, either horizontally or vertically.

Line charts are useful if you want to show trends or changes in data over time.

Types of line charts

Chart type	Desciption
Line	An XY chart that displays lines connecting plots. Value axis plot positions are expressed by analysis category items. The secondary value axis plot positions represent the associated values.
Dual Y-Axis Line	An XY chart with two axes displaying lines connecting plots. Category axis plot positions signify analysis category items. The value axis plot positions, on both axes, represent the associated values.
Area	An area chart is an XY chart that displays a surface made up of a collection of plots.

1.2.2.1.8 Map

There are two types of Map charts.

Chart type	Description
Tree Map	Charts that display values within nested rectangles that can be colored. The levels of nesting correspond to the level of hierarchical breakdown. The size of the rectangles and their color both express a set of values.
Heat Map	Charts that display values that are represented by colors in a map using a category axis and optionally a second category axis. The colors of the rectangles are determined by a measure value.

1.2.2.1.9 Pie

Pie charts display data as segments of a whole.

Pie charts are useful if you want to show how each part of your report data contributes to the total.

You can only include one measure object in a simple pie chart or two in a pie chart with depth. If you have several measures in your report, you should choose another chart type.

Data labels on pie charts can be wrapped for a better layout. In the *Data Values* pane of the *Format Chart* tab, the *Text Policy* option *Wrap* can be used.

Types of pie charts available

Chart type	Description
Pie	A circular chart made up of sectors. The area of the circle represents a whole, and the sectors of the circle represent the parts of a whole. Additionally, a *Donut Chart* can be displayed from a pie chart. It is similar to a pie chart, but with an empty center; it is ring shaped.
Pie with Variable Slice Depth	A circular chart made up of sectors. The area of the circle represents a whole, and the sectors of the circle represent the parts of a whole. The sectors may have some depth expressing a third value.

1.2.2.1.10 Point

The Point chart category includes scatter, polar and bubble charts.

Chart type	Description
Scatter Plot	An XY chart displaying plots. Plots are positioned with coordinates given by a pair of values. Each plot may have colored symbols representing the analysis category item associated with the values. Scatter Charts are similar to line graphs, except that the data points are plotted without a line connecting them. Scatter Charts are useful if you want to make a comparison between specific data points.
Bubble	A two-dimensional chart of points representing a collection of data. Extra variables are represented by the size of the points.
Polar Scatter Plot	An XY chart displaying plots. Plots are positioned with coordinates given by a pair of values. Each plot may be sized according to extra values. A chart with one radial axis and one angular axis, where each data point is represented with a symbol. Similar to a Bubble Chart, but without the sizing of points.
Polar Bubble	An XY chart displaying plots. Plots are positioned with coordinates given by a pair of values. Each plot may be sized according to extra values. A two-dimensional chart with one radial axis and one angular axis of points representing a collection of data. Extra variables are represented by the size of the points.

1.2.2.1.11 Radar

The *Radar* (also known as a Spider chart) displays several axes starting from a unique origin and with a common scale.

Each axis represents an analysis category item. Plots are directly placed on an axis according to the associated values. Plots can be linked by lines.

Radar charts are useful if you want to look at several different factors related to one item. For example, you could use a radar chart to display revenue data for different services within a hotel. On one axis, you could display revenue for the rooms. On another you could display revenue for the restaurant, and so on.

1.2.2.1.12 Tag Cloud

A *Tag Cloud* is a mono-dimensional visualization representing data as words where the word font size represents its relative weight in the dataset.

1.2.2.1.13 Waterfall

A waterfall (also known as a Bridge chart) displays vertical bars.

Each one of these bars starts at the level where the preceding bar ends, making the bars look as if they are floating. This type of chart is useful for showing how a measure increases or decreases, for representing positive or negative changes or for illustrating up and down effects.

Types of waterfall charts

- A chart generated from a flat dimension gives a simple waterfall chart.
- A chart generated from hierarchical data gives a complex waterfall chart.

Subtotal management

- Intermediate totals are only generated from hierarchical tree nodes. To generate intermediate totals from a flat dimension, you have to use grouping.
- Intermediate totals (tree nodes) are displayed as a waterfall.

Feeding restrictions

- The category axis is limited to one dimension (or hierarchy).
- The value axis is limited to one measure.

Color management

You can assign specific colors to initial values, totals, subtotals or positive/negative variations.

Related Information

To configure the value colors in a waterfall chart [page 184]

1.2.2.1.14 Custom Elements

Custom Elements are visualizations whose rendering is delegated to external rendering services outside of Web Intelligence.

In Web Intelligence documents, Custom Elements are integrated and displayed similarly to any other report elements like charts or tables. The feeding model is provided by the selected Custom Elements service, with a default number of axis. You can work with Custom Elements using the contextual menu when you right-click them. They are located at the bottom of the list of regular charts when you insert a report element.

To be able to use Custom Elements in Web Intelligence, you have to add a Custom Elements service in the CMC first. To know how to add a Custom Elements service, refer to the *Business Intelligence Platform Administrator Guide*.

> ⚠ Caution
>
> The Custom Elements service you deploy adds code to Web Intelligence, and can generate potential security issues such as cross-site scripting. Cross-site scripting allows attackers to run code and execute scripts on other users' computers. A security warning asks for your explicit consent before your deploy you Custom Elements service. Your consent is mandatory to deploy your Custom Elements service.

> ℹ Note
>
> You cannot drill on a custom element.

Using Custom Elements with the Rich Client

If a document that contains Custom Elements is saved locally on a computer, you can view and modify its full content in Web Intelligence Rich Client only if Rich Client is connected to the BI Platform where the document was created.

Related Information

To add a custom element [page 145]

1.2.2.2 To add a chart

Charts are grouped by intentions.

Procedure

1. Click in the toolbar.
2. Select a chart category.
3. Select a chart.
4. Place the ghost chart on the report page.
5. **Optional:** To change the chart type, in the *Data* panel, expand the *Turn Into* section, click a chart category and select a chart.

   If the *Data* panel doesn't open automatically, click in the toolbar, then click .
6. Assign data to the chart, either:
   - From the *Objects* pane, drag and drop dimensions and measures directly on the chart.
   - From the *Objects* pane, drag and drop dimensions and measures in the *Data Assignment* section of the *Data* panel.
   - Right-click the ghost chart, click *Assign Data* in the contextual menu, and drag and drop dimensions and measures from the *Objects* pane either directly on the chart, or in the *Data Assignment* section of the *Data* panel.

> **i Note**
>
> If you're assigning data to a Geomap, make sure that every object you want to use is matched with a location. An object that hasn't been matched with a location can't be displayed on the chart.

Some dimensions and measures generate axis labels or values and some drive the series color.

The table explains the different elements for assigning data to a chart.

Purpose	Feeds	Object Type
Binding object to axes	Value axes	Measures
	Category axes	Dimensions, Details or Measure Names
Defining series (*)	• Region Color • Region Shape (Radar & Point charts)	Dimensions, Details or Measure Names
Defining series size	• Pie sector size / sector height • Tree Map rectangle weight • Bubble height / Bubble width	Measures

Purpose	Feeds	Object Type
Conditional coloring (*)	• Map rectangles • Tag Cloud text zones	Measures

(*) Optional

1.2.2.3 To add a custom element

Custom elements are visualizations rendered by external rendering services.

Context

The custom element option is greyed out if you haven't configures a custom element service in the CMC. To know how to add a custom element service, refer to *Business Intelligence Platform Administrator Guide*.

Procedure

1. In the *Insert* section of the toolbar, click ••• in the toolbar.
2. Click *Custom Element*.
3. Select a visualization.
4. Place it onto the canvas.
5. From the *Objects* pane, drag and drop the dimensions and measures you want to add to the chart.

> ⚠ Caution
>
> You will lose the mouse focus if you move a custom element in the report page and the pointer hovers over a Custom Element in the process. That's because the focus is taken away by the interactions with the custom element content. To avoid this issue, make sure you don't hover over a custom element when you move the pointer. Also, if you want to move a custom element for instance, you can drag it by the bottom if you want to move it down, or by the top if you want to move it up.

1.2.2.4 To remove a chart

The following task describes how to remove a chart from a report.

Procedure

1. Open a Web Intelligence document in *Design* mode.
2. Do one of the following:
   - Right-click the chart frame and click *Delete*.
   - Select the *Document Structure and Filters* tab in the *Side Panel*. Right-click the chart name and select *Delete*.
   - Select the chart, and in the *Side Panel* toolbar, click the *Delete* icon.

Results

The chart has been deleted.

Related Information

To format a chart [page 173]

1.2.2.5 To copy a chart

You can copy a chart dynamically to another report or as a picture in other applications.

Procedure

1. In *Design* mode, right-click chart and select *Copy*.
   The chart is copied to the clipboard.
2. To paste the chart to another part of the report, right-click where you want the chart to appear then select *Paste*.

Related Information

To format a chart [page 173]

1.2.2.6 Turning hierarchical queries into charts

You can turn a hierarchical query into a chart.

Displaying the totals may generate scale distortions, especially if the measure is an aggregate. Hierarchical totals shouldn't be displayed in pie charts or a tag clouds. To hide hierarchical totals, in the *Format* panel, uncheck *Show parent nodes* (*Format Chart* > *Plot Area* > *Appearance Settings*).

> **i** Note
>
> Use only one hierarchy to feed a tree map.

Related Information

To change a chart type [page 203]

1.2.2.7 To set the position of a table or chart on the report page

You can set the position of a table or chart in a report.

Procedure

1. In *Design* mode, select a table or chart, and click > to open the *Format* panel.
2. Click the *Layout Settings* tab, and in the *Relative Position* section, use the controls to specify the margins and set the position of the table or chart in relation to other report elements.
3. Click *Apply*.

Related Information

To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]
To select a background color for the table or cells [page 164]

To define alternate row and column colors for a table [page 165]
To format table or cell borders [page 165]
To format text in table cells [page 166]
To set cell height and width [page 167]
To copy formatting using the Format Painter tool [page 169]
To layer tables and cells [page 170]
To merge table cells [page 172]
Formatting the report layout [page 149]
Formatting your reports using Cascading Style Sheets [page 152]
Creating a corporate palette for charts [page 185]

1.2.2.8 To position a chart in relation to another chart or table

If you have more than one block (table, chart, or form) in your report, you can use relative positioning.

Context

Relative positioning allows you to position a selected block (for example, a chart) in relation to other blocks in the report.

If new data on the database modifies the size of the tables or charts, relative positioning ensures that the different tables and charts display correctly without overlapping each other.

> **i** Note
>
> If you position a chart in relation to another block (that is, a chart, table, or form), the position of the chart changes automatically, if you reposition the reference block.

Procedure

1. In *Design* mode, select a chart and click  >  to open the *Format* panel.
2. Click the *Layout Settings* tab, and in the *Relative Position* section, adjust the left, right, top and bottom margins.
3. Specify whether the margins apply to the report edges or another report element using the corresponding fields.

1.2.2.9 Formulas in chart elements

You can use the formula editor ( ) to define and edit formulas in chart elements.

You can add formulas in:

Chart title
Legend title
Axis titles
Maximum and minimum values for axis scaling

Once you've selected a chart element, click the pen icon ( ) in the formula editor to add a formula.

For more information on the functions used in free-standing cells, see the *Using Functions, Formulas and Calculations in Web Intelligence* guide.

1.2.3 Formatting reports and report elements

You can format your report and report elements in order to present the report with a company style.

Once your report is setup with the report elements you want to put on display, you can format them so that the data is represented exactly like you want it to be.

1.2.3.1 Formatting the report layout

You can format your report and report elements in order to present the report with a company style.

You can format the report layout manually, or you can create a company stylesheet using a CSS file. You can add color background, corporate images, and so on. Make sure you're in *Design* mode to format the report layout. Each setting mentionned below can be found in the *Format* panel. To open the *Format* panel and access the report layout formatting options, in *Design* mode, click > .

The table below lists the settings available, and the *Format* panel tab in which you'll find them.

To set the...	Do this...
Report name	In the *Display Settings* tab, click the pen icon to rename the report.
Number of records per page	In the *Layout Settings* tab, set the number of records per page using the *Rows* and *Colums* fields.
Report border style	In the *Appearance Settings* tab, set the border style, thickness, and color.
Report background	In the *Appearance Settings* tab, set the background (color, pattern, image).
Page size	In the *Layout Settings* tab, select a page size.

To set the...	Do this...
Page orientation	In the *Layout Settings* tab, select landscape or portrait orientation.
Page scaling	In the *Layout Settings* tab, select the page scaling.
Page margins	In the *Layout Settings* tab, set the different margin sizes, as required.
Show/hide header	In the *Display Settings* tab, check/uncheck *Report header*.
Header size	Select the report hearder, and in the *Layout Settings* tab, enter a size for the header.
Header border style	Select the report header, and in the *Appearance Settings* tab, select a style for the header border.
Header background	Select the report header, and in the *Appearance Settings* tab, select a background color, a pattern or enter an address for an image.
Show/hide footer	In the *Display Settings* tab, check/uncheck *Report footer*.
Footer size	Select the report footer, and in the *Layout Settings* tab, enter a size for the footer.
Footer border style	Select the report footer, and in the *Appearance Settings* tab, select a style for the footer border.
Footer background	Select the report header, and in the *Appearance Settings* tab, select a background color, pattern or enter an address for an image.

Related Information

To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]
Formatting your reports using Cascading Style Sheets [page 152]
Creating a corporate palette for charts [page 185]
Formatting tables and table cells [page 163]

1.2.3.1.1 To format the appearance of reports, headers, footers, sections, tables, and table cells

You can define the background color and pattern of a report, or its headers, footers, sections, tables, and even specific cells in tables. The pattern can be a skin, also known as a theme, an image from a URL address or a file.

Procedure

1. In *Design* mode, select the report, report header, report footer, report section, table, or a selection of one or more cells in a table and click > to open the *Format* panel.
2. Click the *Appearance Settings* tab.
   The *Background* section in this tab shows the settings you can apply to report element you've selected.
3. Select a background color for the selected item in the *Background* section using the color palette.

   > **i Note**
   >
   > When the background color of cells are defined (even as white), they take precedence over the table background color. If you apply a background color to an entire table but one or more cells remain white, open the *Format Cells* dialog for these cells and check their color background setting.

4. In the *Pattern* section, you can format the pattern of the selected item and select whether you want to use a skin or image using the dedicated radio buttons.
   - To select a skin, click the *Skin* radio button, and use the drop down to select a skin.

     > **i Note**
     >
     > If you are formatting a table's appearance, make sure to set the horizontal or vertical padding values greater than 0 in the *Spacing and Padding*, otherwise the skin won't appear.

   - To select an image, either from your local machine or a URL, use the dedicated *URL* and *File* radio buttons. If you use a URL, you can paste it in the text box, and click . You can also create a dynamic image using a formula with the formula editor, by clicking . The syntax for a table cell could be:

     ```
     "<URL>"+"<column header object>"+".<image format>"
     ```

     > **i Note**
     >
     > - To access an image on the corporate server, type the image name. The application inserts `boimg://` when you click .
     > - The dynamic image appears only if the column header object used to define the image is in the table. However, the object can be hidden. If the object isn't in the table, then there's no context available to calculate the images address.

   - If you are using an image, you can select where to display the image using the *Display* drop down.
     - *Normal* lets you set the position of the image from the *Position* drop down.

- *Stretched* adjusts the image to fit the entire space, irrespective of the image height and width settings.
- *Tile* repeats the image in the space.
- *Horizontal Tile* and *Vertical Tile* lets you define additional *Position* options.

> **i** Note
>
> To remove an image or pattern, select *None* for the pattern.

5. Click *OK* to return to the document.

Results

> **!** Restriction
>
> Because there's no background image feature in Excel, when you save or export a report to the Excel format any background images are not exported to the output file.

Related Information

To build a formula in the Formula Editor [page 85]
Formatting the report layout [page 149]
Formatting tables and table cells [page 163]

1.2.3.2 Formatting your reports using Cascading Style Sheets

Web Intelligence Cascading Style Sheets (CSS) define how to display your reports and determine the presentation of documents.

You can edit the CSS to apply a specific style to the presentation of documents. You can export the file, modify the styles according to your needs and then import the file back. You can also distribute the style sheet to other users as a standard style.

The Web Intelligence CSS conforms to the W3C CSS core syntax. However, the core syntax doesn't imply anything about property names, types, and semantic. Web Intelligence CSS supports locale-specific style sheets.

From 4.3 onwards, Web Intelligence uses a CSS introduced in 4.2 SP6. It's used by default in new documents, and documents created in Web Inteligence 4.2 SP6 (or higher). If you want to use the new CSS in older documents created prior to the 4.2 SP6 release, or keep your corporate CSS you previously saved in new documents, make sure to import the correct CSS file. To do so, refer to the *Modifying the document default style* section.

> **Note**
>
> The CSS style sheet doesn't control the color of charts. There's a separate file for defining corporate palettes for charts. For more information on how to assign colors to charts, see Assigning colors to charts [page 180].

> **Note**
>
> The Cascading Style Sheets are derived from the W3C CSS. To modify the CSS of your documents, you must be familiar with the CSS core syntax of the W3C. For more information, see http://www.w3.org .

Using a CSS allows you to:

- Define a company-wide style sheet in order to define standard settings (such as a company logo).
- Define different styles to present a specific type of information. For example, you can use one color for products sold, another color for expenses and another color for revenues.
- Create a style sheet in order to encode personal preferences.
- Personalize the presentation of the documents you create.

Related Information

Formatting the report layout [page 149]
Creating a corporate palette for charts [page 185]
Formatting tables and table cells [page 163]
Modifying the document default style [page 154]

1.2.3.2.1 Using a Cascading Style Sheet in documents

When you create a report or a report element in a document, the formatting is entirely based on the default style.

If these elements have a specific formatting applied in the *Format* panel, the modified properties overwrite locally the values taken from the default style.

To remove this specific formatting, select the visualization, and in the *Format* panel, click > *Reset Format*.

1.2.3.2.2 Modifying the document default style

The document default style is stored in a Cascading Style Sheet (CSS) file attached to the document.

You can export and edit the default style in the *Properties* pane. In *Design* mode, click *Default Style* > *Export*. Once you're done with the changes, import the custom style by clicking *Import*.

If you want to apply the custom CSS to a visualization that's already been formatted, make sure to clear its format first. To do so, select the visualization, and in the *Format* pane, click > *Reset Format*.

> **Note**
>
> The CSS you import doesn't impact the properties you've set via the user interface (toolbox, contextual menu, dialog box,...).

If you decide to reset the format of all the visualization of the report, make sure to clear the headers and footers manaully, as they're not part of the report body.

You can restore the default style anytime in the *Properties* pane by clicking *Reset Default Style*.

1.2.3.2.3 Modifying and using the standard default style

The standard CSS file is named `WebIDefaultStyleSheet.css`.

This standard CSS file is located by default at:

```
C:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\images
```

When you create a 4.X document, the standard CSS is embedded into the document to become the document style. This default style document diverges from the standard and can be locally modified.

To reset the document default style to the standard style, in the *Properties* pane, in the *Default Style* section, click *Document* > *Reset Default Style*. The standard CSS will replace the previous CSS in the document.

To publish a standard default file, you must have access to the `../images/` folder of your servers and Web Intelligence Rich Client installations to put a new version of `WebiDefaultStyleSheet.css`.

1.2.3.2.4 Web Intelligence CSS syntax

The Web Intelligence CSS conforms to the W3C CSS core syntax.

However, the core syntax does not imply anything about property names, types and semantic.

Web Intelligence CSS supports locale-specific style sheets.

Related Information

http://www.w3.org/TR/CSS21/syndata.html

1.2.3.2.4.1 Cascading Style Sheet elements

In order to modify the way your document is displayed, you have to modify the Web Intelligence CSS elements of the document.

To modify an element, you have to modify its properties.

This table shows the elements you can edit in the CSS file:

Element	Definition
REPORT	Tag that contains the report
PAGE_BODY	Tag that contains the page
PAGE_HEADER	Tag that contains the area on top of the PAGE_BODY
PAGE_FOOTER	Tag that contains the area in the bottom of the PAGE_BODY
SECTION	Tag that contains an area inside the PAGE_BODY
TABLE	Tag that contains a table
VTABLE	Tag that modifies a table vertically
HTABLE	Tag that modifies the table horizontally
COLINFO	Tag that contains the columns of a table
ROWINFO	Tag that contains tha rows of a table
CELL	Tag that contains the cells of a table
AXIS	Tag that defines the relationship between the columns and rows of a table
FORM	Tag that contains a form
XELEMENT	Tag that contains a graphic
BAG	Tag that contains elements and places them relatively using X and Y
WOB	Tag that contains elements and places them automatically

1.2.3.2.4.2 Cascading Style Sheet properties

For many properties, Web Intelligence CSS uses the same names as the W3C CSS.

Some property names change and some are ignored.

Example

Web Intelligence CSS uses the property `min-width` and the W3C CSS uses the property `width`. Both properties have the same use.

1.2.3.2.4.2.1 Report page properties

For cascading style sheets, you can edit the following report page properties.

This table shows the properties that can be applied to the element `REPORT`:

Property name	Description	Default value	Value range
`page-format-dimension-height`	Height of page	42094	Numeric value
`page-format-dimension-width`	Width of page	29764	Numeric value
`page-format-margin-bottom`	Size of the bottom margin of the page	0	Numeric value
`page-format-margin-left`	Size of the left margin of the page	0	Numeric value
`page-format-margin-right`	Size of the right margin of the page	0	Numeric value
`page-format-margin-top`	Size of the top margin of the page	0	Numeric value
`page-format-orientation`	Orientation of page	`portrait`	`landscape, portrait`
`page-records-horizontal`	In *Quick Display* mode, specifies how many data records can be horizontally displayed before triggering a page break	150	Numeric value
`page-records-vertical`	In *Quick Display* mode, specifies how many data records can be vertically displayed before triggering a page break	50	Numeric value
`page-scaling-factor`	Zoom percentage	100	Numeric value
`page-scaling-tall`	When this property is defined, the report will be scaled so that it fits in the given height	100	Numeric value
`page-scaling-wide`	When this property is defined, the report will be	0	Numeric value

Property name	Description	Default value	Value range
	scaled so that it fits in the given width		
`page-target-mode`	Pagination mode: quick display or not	`undefined`	`undefined, quick, all`

1.2.3.2.4.2.2 Report element properties

For cascading style sheets, you can edit the properties in report elements.

Property name	Description	Default value	Value range
`autofit-height`	Specifies whether the height of the element can be adjusted to fit its content	`yes`	`yes/no`
`autofit-width`	Specifies whether the width of the element can be adjusted to fit its content	`yes`	`yes/no`
`bookmark`	Specifies whether the element will be bookmarked	`no`	`yes/no`
`h-align`	Horizontal positioning of the element	`none`	`none, top, center, bottom`
`hide`	Specifies whether the element is hidden	`no`	`yes/no`
`min-height`	Minimal height of the element	0	Numeric value
`min-width`	Minimal width of the element	0	Numeric value
`never-alternate`	This property can be used to avoid the application of the alternate style on the element	`no`	`yes/no`
`padding-bottom`	How much space to put between the bottom border and the content of the element	0	Numeric value
`padding-left`	How much space to put between the left border and the content of the element	0	Numeric value
`padding-right`	How much space to put between the right border and the content of the element	0	Numeric value
`padding-top`	How much space to put between the top border and the content of the element	0	Numeric value

Property name	Description	Default value	Value range
`struct-min-height`	Minimal height of the element when displayed in structure mode	900	Numeric value
`struct-min-width`	Minimal width of the element when displayed in structure mode	4050	Numeric value
`v-align`	Vertical positioning of the element	`none`	`none, top, center, bottom`

These properties can be applied to the following elements:

- `BAG`
- `WOB`
- `CELL`
- `VTABLE`
- `HTABLE`
- `XTABLE`
- `TABLE`
- `XELEMENT`
- `SECTION`

1.2.3.2.4.2.3 Formatting properties

For cascading style sheets, you can edit the Formatting elements.

This table shows the properties that you can edit to modify the Formatting elements:

Property name	Description	Default value	Value range
`background-color`	Color to be displayed in background	#000000	Any hexadecimal color
`background-fill`	Describes what will be displayed in background	`none`	`color, bitmap, bitmapAndColor, skin, none`
`background-h-align`	Horizontal position of the background image	`center`	`left, center, right`
`background-image`	Image to be displayed in background	None	Any image you want
`background-inner-height`	Inner height of background	0	Numeric value
`background-inner-width`	Inner width of background	0	Numeric value

Property name	Description	Default value	Value range
background-type	Determines how the background image will be laid out or repeated	box	box, tile, vtile, htile, stretch
background-v-align	Vertical position of the background image	center	top, center, bottom
border-bottom-color	Color of an element's bottom border	#000000	Any hexadecimal color
border-bottom-style	Style of an element's bottom border	none	none, dashed, dotted, double, plain
border-bottom-width	Width of an element's bottom border	0	Numeric value
border-left-color	Color of an element's left border	#000000	Any hexadecimal color
border-left-style	Style of an element's left border	none	none, dashed, dotted, double, plain
border-left-width	Width of an element's left border	0	Numeric value
border-right-color	Color of an element's right border	#000000	Any hexadecimal color
border-right-style	Style of an element's right border	none	none, dashed, dotted, double, plain
border-right-width	Width of an element's right border	0	Numeric value
border-top-color	Color of an element's top border	#000000	Any hexadecimal color
border-top-style	Style of an element's top border	none	none, dashed, dotted, double, plain
border-top-width	Width of an element's top border	0	Numeric value
color	Foreground color	#000000	Any hexadecimal color
default-date-h-align	Default horizontal alignment when a date is being displayed	right	left, center, right, auto
default-numeric-h-align	Default horizontal alignment when a numeric value is being displayed	right	left, center, right, auto
default-text-h-align	Default horizontal alignment when a text is being displayed	left	left, center, right, auto

Property name	Description	Default value	Value range
font-family	Name of font family	default	Web Intelligence-supported fonts
font-orientation	Describes the orientation of the displayed text	normal	normal, hotel, 45D, 90D, 180D, 270D, 315D
font-size	Size of the displayed font	0	Numeric value in points (pt.)
font-style-italic	Activates the italic font style	no	yes/no
font-weight-bold	Activates the bold font style	no	yes/no
text-align	Horizontal alignment of the text	left	left, center, right, auto
text-decoration-line-through	Activates the line-through text decoration	no	yes/no
text-decoration-underline	Activates the underline text decoration	no	yes/no
text-v-align	Vertical alignment of the text	bottom	top, center, bottom
text-wrap	Specifies whether the text may be wrapped	no	yes/no

These properties can be applied to the following elements:

- BAG
- WOB
- CELL
- VTABLE
- HTABLE
- XTABLE
- TABLE
- XELEMENT
- SECTION

1.2.3.2.4.2.4 Spacing properties

For cascading style sheets, you can edit the spacing element properties.

This table shows the properties that you can edit to modify the spacing elements:

Property name	Description	Default value	Value range
h-spacing	Horizontal spacing of children	0	Numeric value
v-spacing	Vertical spacing of children	0	Numeric value

These properties can be applied to the following elements:

- BAG
- WOB

1.2.3.2.4.2.5 Hyperlink properties

For cascading style sheets, you can edit the hyperlink elements.

This table shows the properties that you can edit to modify the hyperlink elements:

Property name	Description	Default value	Value range
active-color	Color of hyperlinks when they are being activated	#000000	Any hexadecimal color
hover-color	Color of hyperlinks when the user designates it (by a pointing device)	#000000	Any hexadecimal color
link-color	Color of hyperlinks	#0000ff	Any hexadecimal color
visited-color	Color of visited hyperlinks	#000000	Any hexadecimal color

These properties can be applied to the following elements:

- REPORT

1.2.3.2.4.2.6 Break properties

For cascading style sheets, you can edit the break element properties.

This table shows the properties that can be applied to the BREAK element:

Property name	Description	Default value	Value range
break-newpage	Reports always start on a new page	false	true/false
break-onepage	Reports start on a new page only if they do not fit in the current page	true	true/false

1.2.3.2.4.3 Cascading Style Sheet units

Numeric values can be very important in Cascading Style Sheet units.

Numeric values in fonts

When you assign a numeric value to the property `font-size`, you can only use the unit "points" (pt).

For example: `font-size : 14pt;`

Numeric values in dimension properties

When you assign a numeric value to any other dimension property, you can use centimeters (cm), inches (in) or "metric" (without any unit).

`width : 1.0in;` would be the same as `width : 2.54cm;` and the same as `width : 3600;`

1.2.3.2.5 Style and 3.x documents

When you open a Web Intelligence 4.x document with a Web Intelligence 3.x format, the style of the document does not change, regardless of the style defined in the standard CSS.

However, the style used while creating report elements or during *Turn into* operations will come from the CSS.

The Web Intelligence CSS replaces the old way of personalizing your documents.

To set the default style defined by the report elements in the document, select the report elements and in the *Format* pane, click to  *Reset Format*. The formatting of the selected objects will be cleared and the default style will be applied.

The `DefaultConfig.xml` file used in the previous versions is obsolete.

Here are some correspondances between the entries of Web Intelligence CSS and the obsolete entries of the `DefaultConfig.xml` file used in previous versions.

WebI selector	**Corresponding entry in defaultConfig.xml**
TABLE	table*Table
FORM	table*Form
SECTION	Section*background
CELL	freeCell*default

1.2.3.3 Formatting tables and table cells

You can define several visual aspects of tables and cells in reports.

- Select a background color for the table
- Insert an image or skin in a table or one or more of its cells
- Format table cells or borders
- Format text in table cells
- Set cell height and width
- Copy and paste formatting
- Set the position of the table in the report page
- Layer tables and cells
- Merge table cells

Related Information

To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]
To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]
To select a background color for the table or cells [page 164]
To define alternate row and column colors for a table [page 165]
To format table or cell borders [page 165]
To format text in table cells [page 166]
To set cell height and width [page 167]
To copy formatting using the Format Painter tool [page 169]
To set the position of a table or chart on the report page [page 147]
To layer tables and cells [page 170]
To merge table cells [page 172]
Formatting the report layout [page 149]
Formatting your reports using Cascading Style Sheets [page 152]
Creating a corporate palette for charts [page 185]

1.2.3.3.1 To select a background color for the table or cells

You can set the background color for a table or its cells. When the background color of cells are defined (even as white), they take precedence over the table background color.

Procedure

1. In *Design* mode, select a table or cell and click  >  to open the *Format* panel.
2. In the *Appearance Settings* tab, click the dedicated color drop down in the *Background* section and select a background color.

   > → Tip
   >
   > If you try to apply a background color to all of a table, and the cells remain white, make sure that the cells aren't set with a white background.

3. Click *Apply*.

Related Information

To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]
To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]
To define alternate row and column colors for a table [page 165]
To format table or cell borders [page 165]
To format text in table cells [page 166]
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Formatting the report layout [page 149]
Formatting your reports using Cascading Style Sheets [page 152]
Creating a corporate palette for charts [page 185]

1.2.3.3.2 To define alternate row and column colors for a table

You can define row colors in a table in *Design* mode.

Procedure

1. In *Design* mode, select a table and click  >  to open the *Format* panel.
2. In the *Appearance Settings* tab, in the *Alternate Color* section, set the frequency with which you want the alternate color to appear for the alternate row color in the combo box next to *Frequency*.
3. Select a color using the dedicated drop down.
4. Click *Apply*.

Related Information

To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]
To select a background color for the table or cells [page 164]
To format table or cell borders [page 165]
To format text in table cells [page 166]
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Formatting the report layout [page 149]
Formatting your reports using Cascading Style Sheets [page 152]
Creating a corporate palette for charts [page 185]

1.2.3.3.3 To format table or cell borders

You can format the border of a table or cell in a table in *Design* mode.

Procedure

1. In *Design* mode, select a table or cell and click  >  to open the *Format* panel.

2. In the *Appearance Settings* tab, in the *Border* section, use the controls in the tab to configure the border styles and colors.

   When borders are defined between two adjacent cells, priority is given to lines in the order *Double* > *Dashed* > *Dotted* > *Plain* > *None*. In case of equivalent priorities between the two cells, the right border of the left cell or the bottom border of the top cell will be shown.
3. Click *Apply*.

Related Information

To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]
To select a background color for the table or cells [page 164]
To define alternate row and column colors for a table [page 165]
To format text in table cells [page 166]
To set cell height and width [page 167]
To copy formatting using the Format Painter tool [page 169]
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Formatting the report layout [page 149]
Formatting your reports using Cascading Style Sheets [page 152]
Creating a corporate palette for charts [page 185]

1.2.3.3.4 To format text in table cells

You can format text in tables in *Design* mode.

Procedure

1. In *Design* mode, select the cells whose text you want to format and click > to open the *Format* panel.

   > **i Note**
   >
   > If you select one cell in the column, depending on the type of table, the following cells are also selected:
   >
   > | Table type | Resulting cells are selected |
   > |---|---|
   > | Horizontal | Row |
   > | Vertical | Column |

Table type	Resulting cells are selected
Cross	Entire table body

→ Tip

You can select multiple cells in one of the following ways:

- Select the first cell, hold down the `Control` key, and then click additional cells.
- To select a contiguous group of columns or rows, select the beginning row or column, hold down the `Shift` key, and then click the end location of the group of rows or columns.

2. Click the *Text Settings* tab, and in the *Font* section, select the font, style, size, alignment, text wrapping, and effects, as needed.
3. Click *Apply* to return to the document.

Related Information

To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]
To select a background color for the table or cells [page 164]
To define alternate row and column colors for a table [page 165]
To format table or cell borders [page 165]
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Formatting the report layout [page 149]
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1.2.3.3.5 To set cell height and width

You can define the height and width of cells.

Context

→ Tip

If you want to hide the contents of a cell, right-click the cell and select *Hide* > *Hide dimension*.

Procedure

1. In *Design* mode, to set a fixed cell height and width, do one of the following:
   - Drag the cell borders until the cell is the height and width you want.
   - Select the cells you want to change and click  to open the *Format* panel. In the *Layout Settings* tab, use the drop downs in the *Size* section to set the height and width. Check *Autofit* to have the cell fit to its text contents automatically.

   Autofit retains the current cell size as the minimum size and enlarges the cell size if the string that the cell contains is larger than the minimum size specified.

   Some functions are incompatible with autofitted cells. If you place any of these functions in an autofitted cell, the function returns the `#RECURSIVE` error message.
2. To set the cell to automatically fit to its text contents, do one of the following:
   - To set an autofit cell width, double-click either sides of the cell.
   - To set an autofit cell height, double-click the bottom border of the cell.

> **!** Restriction
>
> - Documents that contain tables with the cell size set to autofit take longer to display than documents where tables contain cells with a fixed cell width and height.
> - The *Autofit* property doesn't work as well when the *Read content as* option is set to HTML.

Related Information

To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]
To select a background color for the table or cells [page 164]
To define alternate row and column colors for a table [page 165]
To format table or cell borders [page 165]
To format text in table cells [page 166]
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1.2.3.3.6 To copy formatting using the Format Painter tool

You can use the *Format Painter* tool to quickly apply the formatting from a report, table or cell to other reports, tables or cells.

Context

The formatting options applied depend on the objects you choose as the source and target. In general, only properties that affect the visual formatting, for example font style, background color, are applied. Properties that affect the display of data, for example table properties such as *Avoid duplicate row aggregation*, aren't applied.

Procedure

1. In *Design* mode, select the report, table or cell whose formatting you want to apply.
2. In the *Format* pane, click  > *Copy Format* to copy the formatting of the selection.
3. Click the report, table or cell to which you want to apply the formatting.

Related Information

To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]
To select a background color for the table or cells [page 164]
To define alternate row and column colors for a table [page 165]
To format table or cell borders [page 165]
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1.2.3.3.7 To set the position of a table or chart on the report page

You can set the position of a table or chart in a report.

Procedure

1. In *Design* mode, select a table or chart, and click  >  to open the *Format* panel.
2. Click the *Layout Settings* tab, and in the *Relative Position* section, use the controls to specify the margins and set the position of the table or chart in relation to other report elements.
3. Click *Apply*.

Related Information

To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]
To select a background color for the table or cells [page 164]
To define alternate row and column colors for a table [page 165]
To format table or cell borders [page 165]
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To set cell height and width [page 167]
To copy formatting using the Format Painter tool [page 169]
To layer tables and cells [page 170]
To merge table cells [page 172]
Formatting the report layout [page 149]
Formatting your reports using Cascading Style Sheets [page 152]
Creating a corporate palette for charts [page 185]

1.2.3.3.8 To layer tables and cells

Layering determines how tables and cells appear when they occupy the same space in a report. An object further forward in the layering order appears over an object further backward in the layering order.

Procedure

1. In *Design* mode, select the table or cell whose layer you want to set.

2. Right-click the selection, click *Order* and select the layering option.

Option	Description
Bring to Front	Make the table or cell the first object in the layering order.
Send to Back	Make the table or cell the last object in the layering order.
Bring Forward	Bring the table or cell one layer forward in the layering order.
Send Backward	Send the table or cell one layer backward in the layering order.

Related Information

To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]
To select a background color for the table or cells [page 164]
To define alternate row and column colors for a table [page 165]
To format table or cell borders [page 165]
To format text in table cells [page 166]
To set cell height and width [page 167]
To copy formatting using the Format Painter tool [page 169]
To set the position of a table or chart on the report page [page 147]
To merge table cells [page 172]
Formatting the report layout [page 149]
Formatting your reports using Cascading Style Sheets [page 152]
Creating a corporate palette for charts [page 185]

1.2.3.3.9 To exclude zero values in charts and tables

In charts and tables, you can exclude zero values from the displayed data.

Context

If a chart or table has zero values, you can choose to remove them from the visible output. You can also have hidden items that have zero values.

If you disable one of the zero value options:

- In a chart, there are no items.
- In a table, if the values in a column or row for an item equal zero, the column or row doesn't appear.

Procedure

1. In *Design* mode, select a table or chart, and click  to open the *Format* panel.
2. Click the *Display Settings* tab, and in the *Columns and Rows* section for tables, or *Dimensions and Measures* section for charts, select the following options:

Option	Description
Show rows for which all measure values = 0	In vertical and cross tables, to suppress rows where all measure values are equal to zero.
Show rows for which the sum of measure values = 0	In vertical and cross tables, to suppress rows where the sum of the measure values is equal to zero.
Show columns for which the sum of measure values = 0	In horizontal and cross tables, to suppress columns where all measure values are equal to zero.
Show columns for which all measure values = 0	In horizontal and cross tables, to suppress columns where the sum of the measure values is equal to zero.
Show measure values when values = 0	In charts, to suppress a chart item if its measure values are equal to zero.
Show measure values for which the sum of values = 0	In charts, to suppress a chart item where the sum of its measure values is equal to zero.

> **i** Note
>
> In charts and tables, empty values are considered the same as zero values, and therefore are also affected by these options.

3. Click *Apply*.

1.2.3.3.10 To merge table cells

You can merge table cells.

Procedure

1. In *Design* mode, to select the cells you want to merge, hold down the `Control` key and click the cells.
2. Keep the `Control` key pressed, right-click the selected cells, and select *Merge*.

> ⚠ Caution
>
> When you merge cells, the resulting merged cell contains the data only from the first cell you selected only. Data from all the other cells is lost.

Related Information

To format the appearance of reports, headers, footers, sections, tables, and table cells [page 151]
To select a background color for the table or cells [page 164]
To define alternate row and column colors for a table [page 165]
To format table or cell borders [page 165]
To format text in table cells [page 166]
To set cell height and width [page 167]
To copy formatting using the Format Painter tool [page 169]
To set the position of a table or chart on the report page [page 147]
To layer tables and cells [page 170]
Formatting the report layout [page 149]
Formatting your reports using Cascading Style Sheets [page 152]
Creating a corporate palette for charts [page 185]

1.2.3.4 Formatting charts

You can format a chart area or a selected chart area.

You can find the formatting options in *Design* mode. Select a chart and click  to open the *Format* panel and browse through the tabs to access the settings categories: *Appearance*, *Display*, *Layout*, or *Style*.

1.2.3.4.1 To format a chart

You can format a chart in a report using options in the *Format* panel.

Procedure

1. In *Design* mode, select a chart, and click  to open the *Format* panel.
   In the *Format* panel, you can see formatting options that apply to the whole chart. Click the tabs at the top of the pane to navigate through the display (), appearance (), style (), and layout () settings categories.
2. **Optional:** Click the drop down next to the chart name at the top of the panel to access the options related to a specific chart component, like the title, legend, plot area, and so on...
3. Use the controls available in each section to change the formatting options.
4. Click *Apply* to save your changes.

1.2.3.4.2 Data intervals in tree maps, heat maps and tag clouds

Data intervals are based on colors in tree maps, heat maps, and tag clouds that use intervals.

You can use one of the following shape coloring methods:

Coloring method	Description
Custom Ranges	The *Custom Ranges* method uses ranges that you set based on an increment or percentage, and you select the color that applies to each range.
Gradient	The *Gradient* method uses a 2 or 3 color gradient definition, and you select the color that applies to each gradient.
Gradient With Polarity	The *Gradient With Polarity* method not only uses a 2 or 3 color gradient definition, it also uses a 2 or 3 color neutral polarity definition.
Palette	The *Palette* method applies a different color from the selected palette to each legend interval.

> **i Note**
>
> You shouldn't use these charts with hierarchical nodes for aggregate measures because the color scale can be distorted. To deactivate these nodes, in the *Format* panel, uncheck *Show parent nodes* (*Format Chart* > *Plot Area* > *Appearance Settings*).

Palette coloring methods

In all of the palette coloring methods, the data range is defined in the *Range Definition* setting. This range defines the set of data that is distributed in the intervals.

You can define the number of intervals which will be created within the data range, using the *Number of Intervals* setting.

You can set the way data is distributed in chart intervals using the *Data Distribution* setting.

Mode	Description
By Values	The range of attribute values is divided into equal-sized ranges. This method emphasizes the amount of an attribute value relative to other values. **i Note** If the data values are clustered instead of being evenly distributed, then most of the data can exist in one or two ranges and some ranges can have no data.

Mode	Description
By Quartiles	The quartile distribution works well with linearly-distributed data. Because data is grouped by the number in each range, the resulting chart can be misleading. Similar data can be placed in adjacent ranges, or data with widely different values can be put in the same range. This distortion can be minimized by increasing the number of ranges. **i Note** Data with close values may end up in different ranges, thus exaggerating the differences between them.

Shapes with values out of range

By default, coloring applies to all values, but you can restrict coloring to a range of values. This is done by default with the *Custom Ranges* method. You can specify a color to values out of range.

Shapes with null or empty values

You can specify a color for shapes with null or empty values to, for example, define the color of states without any point of sales.

Data Interval Syntax

In *Measure-based Coloring*, the chart legend displays a range of data using bracket. You select the preferred syntax in the *Data Interval Syntax*.

To declare an interval, you can use the *ISO31-11* syntax setting, which uses an inverse bracket to exclude a value:

[-2..-1[

[-1..3[

[3..5]

However, in the United States, you use the *US Syntax* setting to replace that bracket by a parenthesis when excluding values:

[-2..-1)

[-1..3)

[3..5]

If you prefer syntax less mathematical, then you use the *Basic Syntax* setting:

-2..1

1..3

3..5

Measure polarity

Measure-based coloring charts are driven by measure values. The *Gradient With Polarity* coloring method is based on the polarity associated to the measure driving the color and determines if high values are good, bad or neutral.

The following palettes exist:

Palettes	Description
Ascending	The colors indicate that low is bad and high is good, with the first palette from the *Start Color* to the *End Color*, which is red to green by default.
Descending	The colors indicate that low is good and high is bad, with the first palette from the *End Color* to the *Start Color*, which is green to red by default.
Neutral	With this palette, neither low nor high is bad or good. The second palette is from *Start Color* to *End Color*, which are blue to yellow by default.

By default, the polarity is set to *Automatic*, which applies a descending polarity.

Related Information

Tag Cloud [page 141]
Waterfall [page 142]

1.2.3.4.2.1 To configure the measure polarity for tree maps, heat maps, and tag clouds

You can configure the measure polarity for data interval charts.

Procedure

1. In *Design* mode, select a chart and click  >  to open the *Format* panel.

2. Click the *Style Settings* tab, and in the *Measure Style* section, select the measure polarity.
3. Select a polarity palette for your chart type:

Option	Description
Chart Type	**Measures to configure**
Tree Map	*Rectangle Weight* *Rectangle Color*
Heat Map	*Rectangle Color*
Tag Cloud	*Tags Weight* *Tags Family*

4. Click *Apply*.

Related Information

To manage measure-based coloring in tree maps, heat maps and tag cloud charts [page 201]
To configure the data interval for tree maps, heat maps, and tag clouds [page 177]

1.2.3.4.2.2 To configure the data interval for tree maps, heat maps, and tag clouds

You can configure the data interval for tree mapa, heat maps, and tag clouds.

Procedure

1. In *Design* mode, select a chart and click  to open the *Format* panel.
2. In the *Style Settings* tab, select a color palette in the *Palettes* section.
3. Select a coloring method using the dedicated drop down.
4. **Optional:** If you're using one of the gradient-based palette coloring methods, specify wether the gradient should use 2 or 3 colors using the dedicated toggles, and select the start, middle, and end colors.
5. To define the number of intervals within the defined data range, specify a number of ranges.

> → Tip
>
> The best number of ranges is typically 4 or 5. This amount can reveal data patterns without being confusing. If you have more than 7 colors, data with similar values can be hard to distinguish, and fewer than four ranges won't reveal much variation and therefore may reveal no clear pattern.

> **Note**
>
> This setting doesn't apply to the *Custom Ranges* coloring method.

6. To define a specific range of data to appear in the chart, check the *Range Definition* checkbox, and adjust the upper and lower bounds using the dedicated controls.

> **Note**
>
> This setting doesn't apply to the *Custom Ranges* coloring method.

7. To set the way data is distributed in chart intervals, select a data distribution mode, by values or quantiles, using the dedicated toggles.

> **Note**
>
> This setting doesn't apply to the *Custom Ranges* coloring method.

8. Select colors for out of ranges and null values using the dedicated color pickers.
9. Select a data interval syntax.
10. **Optional:** If you're using the *Gradient With Polarity* coloring method, specify whether the gradient for neutral measures should use 2 or 3 colors, and select the start, middle, and end colors
11. **Optional:** If you're using the *Custom Ranges* coloring method, configure the ranges:
    a. To have the ranges colored by percent instead of increments, check *Percent*.
    b. Enter the minimum and maximum zone parameters.
    c. Select colors using the color pickers for each value and set the opacity.
    d. **Optional:** To add or delete ranges, click the down arrow next to a value and click *Insert* or *Delete*.

Related Information

To configure the measure polarity for tree maps, heat maps, and tag clouds [page 176]
Map [page 140]
Tag Cloud [page 141]

1.2.3.4.3 Warning icons in charts

Warning icons in charts can let you know when there are chart and data object errors.

You can enable or disable warning icons in the *Format* panel in the *Display Settings* tab, under the *Errors and Warnings* section, using the *Show alert when incompatible data present* option.

Warning icons can signal:

- General warnings, icons displayed on the top left corner of the chart.

  Red X in a white background: impossible to generate the chart. This could be due to a cache problem - try clearing temporary objects from cache.

White X in a red circle: can't find the image, ask your BI administrator to check load balancing settings and enable service monitoring as described in the *Business Intelligence Platform Administrator Guide*.

Yellow warning: for example dataset too large (technical limit of the server), need to refresh the dataset, other cube errors.

Blue alert: limit for optimal rendering

The display of the general warning icons is controlled by the *Hide warning icons in chart* setting in the document properties. If this setting is activated, then no general warning icons are displayed in charts.

- An incompatible chart data warning, small yellow warning icon displayed on the data point.
  These happen if *Show alert when incompatible data present* is activated in the chart format options and the dataset is inconsistent with the chart parameters. For example, a warning can appear in a pie chart with negative values, negative values for a logarithmic scale, or inconsistent hierarchical values for a tree map.

Restriction	Definition	Result
Technical limits of the data received from the Visualization Service, which is responsible for displaying data in the chart	Max number of rows = 50,000 **! Restriction** This is a non-configurable parameter. It's hard-coded into the product and can't be changed by properties of the APS server in CMC or by manually changing an XML file.	Only part of the dataset is rendered and a warning icon appears, as well as an informational tooltip.
Data restricted for optimal rendering	The data is restricted by the chart type and size for optimal appearance.	An alert icon appears, as well as a tooltip showing optimization guidelines.

Related Information

Viewing document properties [page 8]

1.2.3.4.4 To edit and format a chart title

You can activate and set titles in charts in the *Format* panel.

Context

By default, titles are generated automatically.

Procedure

1. In *Design* mode, select a chart and click  to open the *Format* panel.
2. In the *Display Settings* tab, in the *Display* section, check *Title*, and click the right arrow next to the option.
3. Click *Custom* and add a title.
4. Click *Apply*.

Related Information

To format a chart [page 173]

1.2.3.4.5 To display a chart with a 3D look

You can apply a 3D look to a chart.

Procedure

1. In *Design* mode, select a chart and click  to open the *Format* panel.
2. Click the *Style Settings* tab, in the *3D* section, click *3D Look*.
3. Click *Apply*.

Related Information

To format a chart [page 173]

1.2.3.4.6 Assigning colors to charts

You can personalize the appearance of charts in Web Intelligence reports by assigning colors to dimension objects manually or by using built-in or customized color palettes. You can retain this color assignment to keep a color assigned to a dimension object.

When you create a chart in a Web Intelligence report, colors from the default color palette are automatically assigned to dimension objects in a top-to-bottom order. This order remains the same across sections and pages. However, the colors you assign using color palettes are not retained when the report is refreshed when opened, or when you change the number of objects displayed in a chart by filtering.

If you want to consistently display a specific object, such as a [Product Line] or [Sales Region], in a specific color, you can either assign a specific color to the object manually, or assign an in-built or custom color palette and set the color assignment as default.

When you set the color assignment as default, colors assigned to dimension objects do not change when you use filters, or when the report is refreshed when opened. You can reset all colors by applying a new palette to the chart or by using a dedicated option.

> **Note**
>
> When you turn a chart into another type of chart, the color mapping is maintained only if the following conditions are respected:
>
> - The legend color for the primary dimension (assigned to Region Type color or Pie color) must be the same.
> - The legend items must be the same (no adding or removing a primary dimension for the Region Shape).

> **Note**
>
> You cannot assign colors to dual value axis charts or to charts using Measured-Based Coloring (like Heat Map, Tree Map and Tag Cloud).

Related Information

To create a custom palette style for charts [page 182]
To assign a color to an object in chart [page 184]

1.2.3.4.6.1 To select a palette for a chart

You can select a palette for a chart in the *Format* panel.

Procedure

1. In *Design* mode, select a chart and click  to open the *Format* panel.
2. Click the *Style Settings* tab, and in the *Palettes* section, use the dedicated drop down to select a palette.

   The chart is displayed with the colors from the palette. If the colors aren't as you prefer, you can either select another palette style from the drop down, or create a custom one by clicking *Customize* > *New* at the end of the list.

> **Note**
>
> In waterfall charts, settings other than *Automatic* in the *Custom Colors* section of the *Format* pane can override any custom *Color Palette* settings. To use the *Color Palette* settings in the waterfall chart, change all *Custom Colors* settings to *Automatic*.

Related Information

To edit a custom palette chart style [page 183]
To create a custom palette style for charts [page 182]
To configure the value colors in a waterfall chart [page 184]

1.2.3.4.6.2 To create a custom palette style for charts

You can create a custom palette style based on an existing palette style.

Procedure

1. In *Design* mode, select a chart and click  to open the *Format* panel.
2. In the *Style Settings* tab, in the *Palettes* section, click the drop down and select *Customize*.
3. In the *Manage Palettes* dialog:
   - If the currently selected palette is the one from which you want to create a custom palette, click *New*.
   - If you want to create a palette based on another built-in palette, select that palette and click *New*.
4. In the *Create Palette* dialog, add a palette name.
5. Click a cell in the *Color Settings* area and then select a different color from the *Color* drop down palette.
6. **Optional:** Set the opacity if necessary.
7. When you're done, click *OK*.

   The custom palette now appears in the *Custom* section of the *Manage Palettes* dialog, and in the Palettes section in the *Format* pane.

> **Note**
>
> In waterfall charts, settings other than *Automatic* in the *Custom Format* section of the *Format* pane can override any custom *Color Palette* settings. To use the *Color Palette* settings in the waterfall chart, change all *Custom* settings to *Automatic*.

Related Information

To edit a custom palette chart style [page 183]
To select a palette for a chart [page 181]
To configure the value colors in a waterfall chart [page 184]

1.2.3.4.6.3 To edit a custom palette chart style

You can edit custom chart styles.

Procedure

1. In *Design* mode, select a chart and click  >  to open the *Format* panel.
2. In the *Style Settings* tab, in the *Palettes* section, click the drop down and select *Customize*.
3. Select the custom palette style that you want to edit and click *Edit*.

> **i Note**
>
> Built-in chart styles can't be changed, however you can create a palette chart style from a built-in chart style.

4. Edit the palette settings as necessary.
5. When you have completed your changes, click *OK*.

> **i Note**
>
> In waterfall charts, settings other than *Automatic* in the *Custom Format* section of the *Format* pane can override any custom *Color Palette* settings. To use the *Color Palette* settings in the waterfall chart, change all *Custom* settings to *Automatic*.

Related Information

To create a custom palette style for charts [page 182]
To select a palette for a chart [page 181]
To configure the value colors in a waterfall chart [page 184]

1.2.3.4.6.4 To assign a color to an object in chart

You can assign custom colors to dimension objects in charts.

Procedure

1. In *Design* mode, select a dimension object or a legend item on a chart.
2. Open the *Format* pane.
3. Click the *Custom Format* toggle.
4. Select a color in the *Series Color* drop down, or click *More Colors* to create a custom one.
5. Click *Apply*.

Results

The color is assigned to the dimension object.

1.2.3.4.6.5 To configure the value colors in a waterfall chart

You can configure the start, total, negative and positive values in a waterfall chart.

Procedure

1. In *Design* mode, select a waterfall chart and click  >  to open the *Format* panel.
2. In the *Style Settings* tab, in the *Custom Colors* section, configure the *Fixed Value* for any of the following:
   - The *Start Value* color affects the starting value bar.
   - The *Total* color affects the final value bar.
   - The *Decrease* color affects any bars that reflect negative values.
   - The *Increase* color affects any bars that reflect positive values.

   > **i Note**
   >
   > Settings other than *Automatic* in the *Custom Colors* section can override the *Color Palette* settings. To return to the *Color Palette* settings, change all of the *Custom Colors* settings to *Automatic*.
3. When you have completed your changes, click *OK*.

Related Information

To edit a custom palette chart style [page 183]

1.2.3.4.6.6 Creating a corporate palette for charts

You can define a corporate palette for charts so that your reports have the corporate style. The palette colors are defined in the configuration file called `VisualizationConfig.xml`. You can only define one corporate palette, and the palette ID must not be changed.

The default palette contains 32 defined colors. You can define more colors, but you must define at least two colors. You define a color by defining the strengths of red (R), green (G), blue (B), and the transparency (A).

Example

```
<COLOR R="200" G="0" B="0" A="255" />
```

Related Information

Formatting the report layout [page 149]
Formatting your reports using Cascading Style Sheets [page 152]
Formatting tables and table cells [page 163]

1.2.3.4.6.6.1 Corporate palette configuration file syntax

You can define a default corporate chart palette.

The corporate chart palette configuration file `VisualizationConfig.xml` is by default located in the following location:

```
C:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI
4.0\images
```

This file contains the following elements:

```
<?xml version="1.0" encoding="UTF-8"?>
<CONFIG>
            <!-- Rename this file to VisualizationConfig.xml which will activate
a custom default palette. -->
            <!-- The following section allows to define a corporate palette
which will be used by default in all new visualization. -->
            <!-- TOMCAT must be restarted after each modification of this file --
>
```

```
  <PALETTES>
                        <PALETTE ID="corporate">
                                   <!-- Add a list of colors so as to define
your palette (default palettes contains 32 colors): R for Red, G for Green, B
for Blue and A for managing the transparency-->
                                   <!-- Each attributes must take an integer
value from 0 to 255 -->
                                    <!-- The palette ID should not be changed.
-->
                                   <COLOR R="200" G="0" B="0" A="255" />
                                   <COLOR R="0" G="200" B="0" A="255" />
                                   <COLOR R="0" G="0" B="200" A="255" />
                                   <COLOR R="0" G="0" B="0" A="255" />
                                   <COLOR R="200" G="200" B="200" A="255" />
                                   <COLOR R="125" G="125" B="0" A="255" />
                                   <COLOR R="0" G="125" B="125" A="255" />
                                   <COLOR R="125" G="0" B="125" A="255" />
                                   <COLOR R="200" G="0" B="0" A="255" />
                                   <COLOR R="0" G="200" B="0" A="255" />
                                   <COLOR R="0" G="0" B="200" A="255" />
                                   <COLOR R="0" G="0" B="0" A="255" />
                                   <COLOR R="200" G="200" B="200" A="255" />
                                   <COLOR R="125" G="125" B="0" A="255" />
                                   <COLOR R="0" G="125" B="125" A="255" />
                                   <COLOR R="125" G="0" B="125" A="255" />
                                   <COLOR R="200" G="0" B="0" A="255" />
                                   <COLOR R="0" G="200" B="0" A="255" />
                                   <COLOR R="0" G="0" B="200" A="255" />
                                   <COLOR R="0" G="0" B="0" A="255" />
                                   <COLOR R="200" G="200" B="200" A="255" />
                                   <COLOR R="125" G="125" B="0" A="255" />
                                   <COLOR R="0" G="125" B="125" A="255" />
                                   <COLOR R="125" G="0" B="125" A="255" />
                                   <COLOR R="200" G="0" B="0" A="255" />
                                   <COLOR R="0" G="200" B="0" A="255" />
                                   <COLOR R="0" G="0" B="200" A="255" />
                                   <COLOR R="0" G="0" B="0" A="255" />
                                   <COLOR R="200" G="200" B="200" A="255" />
                                   <COLOR R="125" G="125" B="0" A="255" />
                                   <COLOR R="0" G="125" B="125" A="255" />
                                   <COLOR R="125" G="0" B="125" A="255" />
                        </PALETTE>
            </PALETTES>
</CONFIG>
```

Related Information

To define a corporate palette for charts [page 187]

1.2.3.4.6.6.2 To define a corporate palette for charts

The BI administrator can use the following steps to define a corporate palette using the `VisualizationConfig.xml` configuration file. This corporate palette will then be used as default for all new charts.

Procedure

1. In the following directory open the template file: `VisualizationConfig.template.xml`:

   `C:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\images`
2. Define at least two colors or edit the ones present in the template file.
3. Rename the file: `VisualizationConfig.xml` and save it in the same directory.
4. Restart Tomcat.

Results

This corporate palette will be used as default for all new charts. Make sure there are no errors in the configuration file, otherwise the standard palette will be applied.

Next Steps

> → Tip
>
> Restart Tomcat each time you modify this file.

1.2.3.4.7 To modify chart borders

You can modify the borders of a chart.

Procedure

1. In *Design* mode, select a chart and click  >  to open the *Format* panel.
2. In the *Appearance Settings* tab, use the controls to format the borders.

3. Click *Apply*.

Related Information

To format a chart [page 173]

1.2.3.4.8 To format a chart background

You can format the background colors, grid colors, opacity, line type and transparency of charts.

Context

> **i Note**
>
> Tree maps, tag clouds, and heat map don't have background configuration options.

The options available vary depending on the type of chart.

Procedure

1. In *Design* mode, select a chart and click  to open the *Format* panel.
2. In the *Style Settings* tab, click the drop down next to the chart's name and select *Plot Area*.
3. In a 3D chart, you can show or hide the grid floor and edges.
4. In the *Background and Borders* section select a *Grid and Background* style:
   - *Plain*
     - *Background Color* (refers to the background of the plot area)
     - *Category Axis Grid Color* (refers to the lines that are parallel to the category axis)
     - *Value Axis Grid Color* (refers to the lines that are parallel to the value axis)
     - *Depth Grid Color* (in a 3D chart, it refers to the lines parallel to the *Value Axis Grid Color*.
   - *Striped* (shows alternate colors, instead of a grid. The striped background option may not be available depending on the chart type, as in the case of Pie and 3D charts.
   - If you want the plot area lines to be dashed, select *Dashed Lines*.

   > **i Note**
   >
   > Grid options slightly differ depending on the chart type.
5. Click *Apply*.

Related Information

To format a chart [page 173]

1.2.3.4.9 To modify plot area settings in waterfall charts

You can activate or deactivate a reference line and set the spacing between objects in the waterfall chart plot area.

Procedure

1. In *Design* mode, select a waterfall chart and click  >  to open the *Format* panel.
2. Click the *Style Settings* tab, and click the drop down next to the chart's name and select *Plot Area*.
3. In the *Style* section, check *Reference Line*.
4. To set the spacing between plot area items, click  enter or select a number in the *Relative Spacing Between Items* field.
5. Click *Apply*.

Related Information

To format a chart background [page 188]

1.2.3.4.10 To show and format chart legend

You can format the chart legend.

Procedure

1. In *Design* mode, open the *Format* panel.
2. Select the legend of a chart.
3. In the *Format* pane, check *Legend Title*.
4. You can adjust the symbol size, position and layout, group by dimension, adjust the text settings and border and background settings. Use the different tabs at the top of the panel to access the different settings categories.

5. You can set the legend title by clicking the right arrow next to the *Legend Title* checkbox to access additional settings and generate or custom title or create a custom one.
6. Click *Apply*.

Related Information

To format a chart [page 173]
Formulas in chart elements [page 149]

1.2.3.4.11 To reverse the legend order of a chart

You can reverse the legend order of a chart.

Context

The legend is reversed by default for bar and stacked charts. It is available for all XY charts as well as Pie charts and derived charts (if the *Clockwise* setting is disabled).

Procedure

1. In *Design* mode, open the *Format* panel.
2. Select the legend of a chart.
3. In the *Format* pane, check *Legend Title*.
4. Click the right arrow next to the checkbox.
5. Click  to access the style settings.
6. Check *Reverse legend order*.
7. Click *Apply*.

1.2.3.4.12 To avoid page breaks in charts

You can restrict page breaks in charts.

Procedure

1. In *Design* mode, select a chart and click  to open the *Format* panel.
2. Click the *Layout Settings* tab, and in the *Layout* section, check *Avoid page break*. You can set the option for both horizontal and vertical breaks.
3. Click *Apply*.

Related Information

To format a chart [page 173]

1.2.3.4.13 To configure a stacked bar or column chart

In a stacked chart, the measure data is stacked in bars or columns. Stacking is done axis by axis and you can choose which data to stack. In a 100% stacked chart, the data is displayed as percentage parts of a whole, or 100%, of a bar or column.

Context

> **i** Note
>
> Only charts with value axes can be stacked.

Procedure

1. In *Design* mode, select a stacked bar or column chart and click  to open the *Format* panel.
2. Click the *Display Settings* tab, and in the *Value Axis* section, click the right arrow next to the *Value Axis* checkbox.
3. Click  at the top of the pane to access the style settings.

4. In the *Style* section, click the *Stacking* drop down and select a stacking option.

Option	Description
Unstacked	Unstacks all dimensions and measures in the chart.
Stacked Chart	Slices one dimension by another. For example, in a chart containing revenue per state and year. Measures aren't stacked.
Globally Stacked	Stacks dimensions and measures in one stack per bar or column.

5. **Optional:** Check *100% Stacked* if you want to measure multiple series as a proportion vs. time, or if you have three or more data series and want to compare distributions within categories, and at the same time display the differences between categories. Each bar represents 100% of the amounts for that category.
6. If you are configuring a 100% stacked chart, and want bars or columns with zero values to be flat against the value axis:
   a. Click the drop down next to the chart name and select *Plot Area*.
   b. Click  to access the style settings.
   c. Check *Flatten zero values*.
7. Click *Apply*.

Related Information

To format the category or value axis title [page 193]
To format a chart background [page 188]
To format axis grid values, numbers and text [page 196]
To show a specific range of axis values [page 194]
To display the Value Axis logarithmically [page 195]
Linear and logarithmic axis scales [page 194]
To show and format chart legend [page 189]

1.2.3.4.14 To manage overlap in bar charts

You can set the overlap between bars in a bar chart.

Context

Procedure

1. In *Design* mode, select a bar chart and click  to open the *Format* panel.
2. In the *Layout Settings* tab, click the drop down next to the chart name, and select *Plot Area*.
3. Use the *Spacing Between Groups* and *Spacing Within Groups* controls to adjust the spacing values.
   - *Spacing Between Groups* corresponds to a percentage of the total axis space dedicated to separate bars of category axis values, and defines the space allocated to each bar group.
   - *Spacing Within Groups* corresponds to the space allocated to each bar within a group. A negative value defines a percentage of the total group space dedicated to bar overlap. We recommend setting the *Bar Width* to *Unlimited* when using negative values.
4. Click *Apply*.

1.2.3.4.15 To format the category or value axis title

You can format the title of a category or value axis in a chart.

Procedure

1. In *Design* mode, select a chart and click  to open the *Format* panel.
2. In the *Display Settings* tab, in the *Category Axis* or *Value Axis* sections, check *Title* and click the right arrow next to the checkbox.
3. Use the tabs to move through the settings categories, and edit the title settings:
   - Title lable and visibility
   - Layout spacing
   - Text formatting
   - Borders and the background
4. Click *Apply*.

Related Information

To format a chart [page 173]

1.2.3.4.16 To show a specific range of axis values

You can specify a range of values in a chart axis.

Procedure

1. In *Design* mode, select a chart and click  >  to open the *Format* panel.
2. Click the *Display Settings* tab, and in the *Value Axis* section, check *Value Axis*, and click the right arrow next to the checkbox.
3. Click  to access the style settings.
4. Under *Scaling*, set the *Minimum Value* and *Maximum Value* to *Fixed Value*, and enter a value.

   > **i Note**
   >
   > Overscaling is a specific display that indicates that a bar is incomplete. Its value is out of the axis Max/Min values.

5. Click *Apply*.

Related Information

To format a chart [page 173]

1.2.3.4.17 Linear and logarithmic axis scales

Linear scales are based on addition. Logarithmic scales allow you to examine values that span many orders of magnitude without losing information on the smaller scales.

By default, the application displays the Value axis on charts as a linear scale. In a linear scale, the axis markers are evenly spaced.Consider, for example, the linear sequence: 1, 3, 5, 7, 9. To get the next number in the sequence, you add 2 to the previous number.

You can set the axis to a logarithmic scale. Logarithmic scales are based on multiplication rather than addition. In a logarithmic scale, the steps increase or decrease in size. Logarithmic scales are based on multiplication (or division). Consider, for example, the logarithmic sequence: 2, 4, 8, 16, 32

To get the next number in the sequence, you multiply the previous number by 2. We can say that this sequence represents ``base 2.''

Consider the following sequence: 1, 10, 100, 1000, 10000.

This sequence represents ``base 10,'' because you get the next term in the sequence by multiplying the previous term by 10.

1.2.3.4.17.1 To display the Value Axis logarithmically

You can change the Value Axis to appear logarithmically in a chart.

Procedure

1. In *Design* mode, select a chart and click  >  to open the *Format* panel.
2. In the *Display Settings* tab, under the *Value Axis* section, check *Value Axis*, and click the right arrow next to the checkbox.
3. Click  to access the style settings.
4. In the *Scaling* section, set the *Axis Scaling* option to *Logarithmic*.

   A logarithmic scale uniformly presents percent changes rather than point changes. In other words, the distance from 1 to 2 (100% increase) is the same as the distance from 2 to 4 (another 100% increase).
5. Click *Apply*.

Results

> **i** Note
>
> You can't represent negative values on a logarithmic scale. If you have enabled the *Show alert when incompatible data present* option, a yellow warning icon will appear on the data point if there is negative data.

Related Information

To format a chart [page 173]
Linear and logarithmic axis scales [page 194]

1.2.3.4.18 To assign axis labels to data values

You can assign labels to an axis in charts.

Procedure

1. In *Design* mode, select a chart and click  to open the *Format* panel.
2. In the *Display Settings* tab, click to drop down next to the chart's name and select *Plot Area*.
3. Click  to access the display settings.
4. Check *Data Label* and click the right arrow next to the checkbox.
5. In the *Style* section, click the *Data Type* drop down and select a data type.
6. **Optional:** You can also change other data value settings on this page, like the font, border, line and background settings.
7. Click *Apply*.

Related Information

To format a chart [page 173]

1.2.3.4.19 To format axis grid values, numbers and text

You can format the value and category axis settings.

Procedure

1. In *Design* mode, select a chart and click  to open the *Format* panel.
2. Click the *Display Settings* tab, and in the *Display* section, check *Category Axis* or *Value Axis* to make the axis visible, and click the right arrow next to one of the checkboxes.
3. Click the tabs at top of the panel to access the different settings categories.
   - Under *Display*, you can display the axis, show labels, ticks and titles using the checkboxes.
   - Under *Style*, you can adjust the legend layout, adjust the ticks, automatically reduce the font size of labels displayed in grid, reverse order on the category axis, set the axis borders and colors, set the axis label delete mode and show continuous axis layout.

> **Note**
>
> By default the Value axis is the Y axis and the Category axis is the X axis. If you reverse the order of the chart, the X,Y relationship is broken. The horizontal line remains the X axis and the vertical axis remains the Y axis.

To set the legend layout, click the drop down next to the chart name, select *Legend* and click  to access the layout settings. Check *Layout Information* and configure the following options for the layout width and height:

Option	Description
Automatic	Select *Automatic* so that the legend width or height is automatically adjusted to the size of the legend contents. **Note** The width adjusts as much as possible, however if the legend items are long, they can disappear from the legend cell.
Fixed	Select *Fixed* to manually set the height or width of the legend cell.
Proportional	Select *Proportional* to have the legend cell height or width appears relative to the size of the chart. You express this size as a 0.x value, where 0.2 means that the legend cell height will appear as 20% of the actual chart.

- Under *Text*, you can adjust the font settings, change the orientation and text alignment, and the text policy (*Wrap*, *No Wrap* or *Truncate*).
- Under *Layout*, you can set layout width and height.

4. Click *Apply*.

Related Information

To format a chart [page 173]

1.2.3.4.20 To unlock a value axis in a dual axis chart

In a chart that uses dual axes, the chart normally has axes that are locked and synchronized to the same origin.

Context

In some data series where one axis has positive values and another data series has both negative and positive values, the chart results can appear flat. In this case, you can unlock the axes so that each has its own grid and origin, and the minimum and maximum values share one axis, each according to its data context.

Procedure

1. In *Design* mode, select a chart and click  to open the *Format* panel.
2. Click the *Display Settings* tab, and in the *Display* section, check *Value Axis 2* and click the right arrow next to the checkbox.
3. Click  to access the style settings.
4. Under *Scaling*, check *Unlock the Axis*.

Results

When the axes are unlocked, the second value axis is freed from the grid.

Related Information

Linear and logarithmic axis scales [page 194]
To format axis grid values, numbers and text [page 196]
To assign axis labels to data values [page 196]
To show a specific range of axis values [page 194]

1.2.3.4.21 To hide an empty chart

Sometimes charts display no values. For example, if sales of a specific product are discontinued, a chart that normally displays results for that product will appear empty. By default, the application displays such empty charts on reports. If wished, you set the application to hide charts whenever they are empty.

Procedure

1. In *Design* mode, select a chart and click  to open the *Format* panel.
2. Click the *Display Settings* tab, and in the *Display* section, select one of the following:
   - Select *Hide always* to hide the chart.
   - Select *Hide when empty* to hide the chart when it's empty.
   - Select *Hide when formula is true* and type a formula in the box to hide the chart when the formula is true.
3. Click *Apply*.

Related Information

To format a chart [page 173]

1.2.3.4.22 To exclude zero values in charts and tables

In charts and tables, you can exclude zero values from the displayed data.

Context

If a chart or table has zero values, you can choose to remove them from the visible output. You can also have hidden items that have zero values.

If you disable one of the zero value options:

- In a chart, there are no items.
- In a table, if the values in a column or row for an item equal zero, the column or row doesn't appear.

Procedure

1. In *Design* mode, select a table or chart, and click  >  to open the *Format* panel.
2. Click the *Display Settings* tab, and in the *Columns and Rows* section for tables, or *Dimensions and Measures* section for charts, select the following options:

Option	Description
Show rows for which all measure values = 0	In vertical and cross tables, to suppress rows where all measure values are equal to zero.
Show rows for which the sum of measure values = 0	In vertical and cross tables, to suppress rows where the sum of the measure values is equal to zero.
Show columns for which the sum of measure values = 0	In horizontal and cross tables, to suppress columns where all measure values are equal to zero.
Show columns for which all measure values = 0	In horizontal and cross tables, to suppress columns where the sum of the measure values is equal to zero.
Show measure values when values = 0	In charts, to suppress a chart item if its measure values are equal to zero.
Show measure values for which the sum of values = 0	In charts, to suppress a chart item where the sum of its measure values is equal to zero.

> **i** Note
>
> In charts and tables, empty values are considered the same as zero values, and therefore are also affected by these options.

3. Click *Apply*.

1.2.3.4.23 To specify styles, shadow effects and data markers for the chart data

You can specify palette and style effects in line, bar, column, line, point, and radar charts.

Context

> **i** Note
>
> By default, dual axis charts use two color palettes.

Procedure

1. In *Design* mode, select a chart and click  to open the *Format* panel.
2. Click the *Style Settings* tab, and configure the following options as you see fit:
   - Under *Bar*, *Line*, or *Pie* select rendering options.
   - Under *Palette*, select the color palette.
   - Under *3D*, select a 3D look and different 3D effects.
   - Under *Marker*, choose symbols, symbol size, symbol palettes, border, border color.
   - Under *Light And Shadow Effects*, select many light and shadow effects: offset, color, shadow, and 1-sided shadow.
3. Click *Apply*.

Related Information

To format a chart [page 173]

1.2.3.4.24 To manage measure-based coloring in tree maps, heat maps and tag cloud charts

The coloring method determines the color of rectangles or tags based on the value of a reference measure.

Procedure

1. In *Design* mode, select a chart and click  to open the *Format* panel.
2. Go to the *Style Settings* tab, and in the *Colors* section, click the *Coloring Method* drop down and select an option:

Option	Description
Palette	You can define the number of ranges and the colors are associated automatically based on the selected palette. You can also define range definition and the color for null or empty values.
Gradient	You can define a 2- or 3-color gradient associated to the ranges.
Gradient With Polarity	You can define a 2- or 3-color gradient associated to Measure with Neutral Polarity.
Custom Ranges	You can define the ranges manually and associate the colors by either percentage or absolute value.

3. **Optional:** If needed, define a range for the measure values and associate a color to out of range values.
4. Select colors for our of range and empty values using the dedicated color pickers.

5. Define the gradient for gradient methods or associate a color to each range for the custom method. For custom ranges coloring, define the *Maximum* and *Minimum* values of the color ranges. (It's automatic for other methods)
6. Click *Apply*.

1.2.3.4.25 To format a series of data in a chart

You can adjust the color, color opacity and data label position of pieces or points in bar, column, line, pie, scatter, bubble, and point charts.

Procedure

1. In *Design* mode, open the *Format* panel.
2. Select the piece, point, or legend item in a chart that you want to configure.

   > **i** Note
   >
   > This feature isn't available for Box plot, Map, Tag cloud or Waterfall charts.

3. In the *Format* panel, click the *Custom format* toggle.

   > **i** Note
   >
   > You can reset the toggle at any time by setting it to *No*.

4. Select a series color and a border color using the drop downs.
5. If you are formatting a Line chart and want to have a thicker line, select a *Line Width* number.
6. To have a data label appear, in the case where a data label was hidden, or to customize the data label position, select *Show data values*.

   > **i** Note
   >
   > Unselect this option if you want the data label hidden in the chart.

7. Select one of the following data position options:

   For all charts:

   - Select *Outside* if you want the label outside of the selected chart piece.
   - Select *Inside* if you want the label inside the selected chart piece.

     > **i** Note
     >
     > Data label positioning isn't available for polar, stacked bar or column charts.

   For all charts except the Pie chart the following options are also available:

   - Select *Inside First, Outside Otherwise* if you prefer the label inside the selected chart item, but can allow it to be outside the chart piece if there isn't enough room for the label in the item.

- Select *Outside First, Inside Otherwise* if you prefer the label outside the selected chart piece, but can allow it to be inside the chart piece if there isn't enough room for the label in the item.

8. Depending on your chart type, you can set the data label alignment when the data position is set to *Outside*:
   - If you are working with a Donut or Pie chart, select one of the following data label alignments:
     - Select *Side Layout* for the data label to appear at the side of the chart block.
     - Select *Circular Layout* for the data label to appear right next to the chart piece.
   - If you are working with a Line or Point chart, select one of the following data label alignments: *Top*, *Below*, *Left*, *Right*.
9. Click *Apply*.

1.2.3.4.26 To resize a chart

You can resize the chart.

Procedure

1. In *Design* mode, select a chart and click  to open the *Format* panel.
2. Click the *Appearance Settings* tab, and in the *Size* section, use the *Height* and *Width* controls to edit the size of the chart.
3. Click *Apply*.

Related Information

To format a chart [page 173]

1.2.3.4.27 To change a chart type

You can change the chart type using *Turn Into*.

Procedure

1. In *Design* mode, select a chart and click  to open the *Data* panel.
2. In the *Feeding* tab, under the *Turn Into* section, click the drop down next to one of the chart categories and select a chart.

Edit the chart values if necessary.

3. Click *Apply*.
   The selected template is applied to the block and displays the data in the chart type you chose.

Related Information

To format a chart [page 173]
Line [page 139]
Bar [page 134]
Box Plot [page 134]
Column [page 135]
Geomap [page 137]
Map [page 140]
Pie [page 140]
Point [page 141]
Radar [page 141]
Tag Cloud [page 141]
Waterfall [page 142]

1.2.3.5 Formatting numbers and dates

You can change how values appear in specific cells or on chart axes using predefined formats available in the application, or by creating your own custom formats.

You can save your custom formats for reuse in more than one block and report in the same document.

1.2.3.5.1 Predefined formats

This topic describes the predefined formats available in Web Intelligence for table cells.

Format	Description
Default	The format defined for the object on the universe.
Number	Formats for decimal or integer values.
Currency	Formats for currency values.
Date/Time	Date and time formats.
Boolean	Formats for true and false values.

Related Information

To define a custom format [page 210]
Setting decimal type for big numbers to improve calculation and rounding accuracy [page 205]

1.2.3.5.1.1 To apply a predefined format to a cell

You can apply a predefined number format to data in a cell in a table.

Procedure

1. In *Design* mode, select a cell and right-click it.
2. Click *Format Display* > *Number*.
3. Select a format and click *Apply*.
4. Click *OK*.

1.2.3.5.1.2 Setting decimal type for big numbers to improve calculation and rounding accuracy

The new decimal number type implements the IEEE 754-2008 decimal data format for big numbers which improves Web Intelligence calculation precision. The decimal function `ToDecimal(value)` is supported where value can be a number or a string, and transforms its input into a decimal type.

The decimal number type offers the following advantages:

- The application can compute decimal numbers for any operation where a number type is expected, for example, mathematical operators, conditional operators, or logical operators.
- Decimal values have a default precision of up to 40 digits with a maximum exponent value of 400 which correctly converts double into decimal.
- The decimal function `ToDecimal(value)` is supported in any function where a number is expected. For example, in the Character functions, you can use a decimal value for num_repeats in the function `Fill(repeated_string ; num_repeats)` where `(value)` can be a number or a string that transforms its input into a decimal. The string input type is particularly useful to extract large precision values from a data source without any loss in precision. For a numeric function, if the argument for a function is decimal, then the function returns decimal type to the extended precision. For example, =Sin(1.0/3.0) returns . 3271946967961520 but =Sin(ToDecimal("1")/ToDecimal("3")) returns 0.327194696796152244173440852676206061.

To apply Decimal for a measure, hover over a measure in the *Objects* pane, click ••• and select *Change Type to Decimal*. You can also select *Number* for a measure that is already defined as decimal.

> ⚠ Caution
>
> Changing certain measures to Decimal in your report may impact the performance of the application. This applies particularly to documents with many measures returning high numbers of rows in the data provider.

Related Information

Predefined formats [page 204]

1.2.3.5.2 Custom formats

In tables, you can use the Custom format type to define a customized format for any cell.

In Web Intelligence functions, the day/date, calendar and time of day character definitions below apply. The following table lists the strings you can use to create custom formats:

Character(s)	Display(s)	Example
#	The corresponding digit. If the number has less digits than the number of # characters used to specify the format, no leading zeros are inserted.	'12345' with the format #,##0 gives '12,345' (if your locale defines the grouping separator as a comma) or '12 345' (if your locale defines the grouping separator as a space)
0	The corresponding digit. If the number has less digits than the number of 0 characters used to specify the format, a leading zero(s) is inserted before the number.	'123' with the format #0,000 gives '0,123'
,	The grouping separator as defined by your locale.	'1234567' with the format #,##0 gives '1,234,567' (if you locale defines the grouping separator as a comma) or '1 234 567' (if your locale defines the grouping separator as a non-breaking space)
.	The decimal separator as defined by your locale.	'12.34' with the format #.#0 gives '12.34' (if your locale defines the decimal separator as a period) or '12,34' (if your locale defines the decimal separator as a comma)
[%]%	Displays a percentage sign (%) after the result and multiplies the result by 100.	0.50 becomes 50%.
%	The % sign after the result, but does not multiply the result by 100.	0.50 becomes 0.50%
	A non-breaking space ( )	'1234567' with the format # ##0 gives '1234 567'

Character(s)	Display(s)	Example
`1, 2, 3, a, b, c, $, £, €` (and so on)	The alphanumeric character.	'705.15' with the format `$#.#0` gives '$705.15' or with the format #,#0 € gives '705,15 €' **i Note** Alphanumeric characters should be delimited by single quotes, otherwise they can be interpreted as formatting characters. For example, # # will result in '123 4' while '#' # will result in '# 1234'
`[Red], [Blue], [Green], [Yellow], [Gray], [White], [Dark Red], [Dark Blue], [Dark Green]`	The value in the specified color.	'150' with the format `#,##0[Red]` gives '150' in red text, `#,##0[Blue]` gives '150' in blue text.
Day/date characters	`(day, date)`	
`d`	The number of the day in the month with no leading zeros. If the date for day is less than two characters, the date displays without a zero before it.	The first day of a month with the format `d` gives '1'
`dd`	The number of the day with leading zeros. If the date for day is less than two characters, the date displays with a zero before it.	The first day of a month with the format `dd` gives '01'
`ddd`	The name of the day abbreviated. The first letter is capitalized if the selected locale uses capitalized day names.	'Monday' with the format `ddd` gives 'Mon' in English, in French, lundi gives lun.
`Dddd`	Forced the capitalization of the day name, for any locale.	'Monday' with the format `Dddd` gives 'Mon' in English, in French, lundi gives Lun.
`dddd`	The name of the day in full. The first letter is capitalized if the selected locale uses capitalized day names.	'Monday' with the format `dddd` gives 'Monday' in English. In French, the day is lundi.
`DDDD`	The name of the day in full, in uppercase.	'Monday' with the format `DDDD` gives 'MONDAY' in English. In French, the day is LUNDI.
`dddd dd`	The day of the week followed by a space and the number of the day.	'Monday' with the format `dddd` dd gives 'Monday 01'
Calendar characters	`(week, month, year)`	
`M`	The number of the month with no leading zeros. If the number for month is less than two characters, the number displays without a zero before it.	'January' with the format `M` gives '1'

Character(s)	Display(s)	Example
MM	The number of the month with leading zeros. If the number for month is less than two characters, the number displays with a zero before it.	'January' with the format MM gives '01'
mmm	The name of the month abbreviated. The first letter is capitalized if the selected locale uses capitalization.	'January' with the format mmm gives Jan in English. In French, this is 'jan'.
Mmmm	The name of the month abbreviated. The first letter is capitalized for all locales.	'January' with the format mmm gives Jan in English. In French, this is 'Jan'.
mmmm	The name of the month in full. The first letter is capitalized if the selected locale used capitalization.	'January' with the format mmmm gives January in English, janvier in French
MMMM	The name of the month in full all in uppercase.	'January' with the format MMMM gives JANUARY in English, JANVIER in French
ww	The week number of the year.	For the 9th of January 2015, the ww format gives '02', because it is the seventh week of the year 2015.
w	The week number of the year without leading zero.	For the 9th of January 2015, the w format gives '2', because it is the seventh week of the year 2015.
W	The week number of the month.	For the 9th of January 2015, the W format gives '2', because it is the second week of January.
yy	The last two digits for year.	'2003' with the format yy gives '03'
yyyy	All four digits for year.	'2003' with the format yyyy gives '2003'
Time of day characters	(hours, minutes, seconds, am/pm)	
hh:mm:ss a	The hour with no leading zeros and the minutes and seconds with leading zeros. The "a" character displays AM or PM after the time when available.	'21:05:03' with the format hh:mm:ss a gives '9:05:03 PM' for English locale
H	The hour according to the 24-hour clock, starting at 0. No leading zero for single figure hours.	'21:00' with the format H gives '21'. Possible values are 0-23.
HH	The hour according to the 24-hour clock, starting at 0.	'21:00' with the format HH gives '21'. Possible values are 00-23.
k	The hour according to the 24-hour clock, starting at 1. No leading zero for single figure hours.	'21:00' with the format k gives '21'. Possible values are 1-24.
kk	The hour according to the 24-hour clock, starting at 01.	'21:00' with the format kk gives '21'. Possible values are 01-24.
hh	The hour according to the 12-hour clock.	'21:00' with the format hh gives '09'

Character(s)	Display(s)	Example
HH:mm	The hour and minutes with a zero in front of a single-digit hour.	'7:15 am' with the format HH:mm gives '07:15'
HH:mm:ss	The hour, minutes, and seconds with a zero in front of a single-digit hour.	'7:15 am' with the format HH:mm:ss gives '07:15:00'
mm:ss	The minutes, and seconds with a zero in front of a single-digit hour.	'07:15:03' with the format mm:ss gives '15:03'
x	Time zone in hours.	-08, +0530, +00
xx	Time zone in hours minutes.	-0800, +0530, +0000
xxx	Time zone in hours:minutes.	-08:00, +05:30, +00:00
xxxx	Time zone in hours minutes seconds.	-0800, +075228, +0000
xxxxx	Time zone in hours:minutes:seconds.	-08:00, +07:52:28, +00:00
X	Same as x, except that it displays "Z" when the time zone is UTC.	-08, +0530, Z
XX	Same as xx, except that it displays "Z" when the time zone is UTC.	-0800, +0530, Z
XXX	Same as xxx, except that it displays "Z" when the time zone is UTC	-08:00, +05:30, Z
XXXX	Same as xxxx, except that it displays "Z" when the time zone is UTC.	-0800, +075228, Z
XXXXX	Same as xxxxx, except that it displays "Z" when the time zone is UTC.	-08:00, +07:52:28, Z
VV	Time zone ID.	America/Los_Angeles
O	Time zone in hours from GMT.	GMT-8
OOOO	Time zone in hours and minutes from GMT (replaces the former 'z' format).	GMT-08:00
z	The time zone name. If the time zone has no name, z displays the time difference.	CEST or PST. If the zone has a name. If there's no name, z displays the time difference as follows: +02, +530,... **i Note** Documents created before the 4.3 release that use the previous z format are automatically converted so that the result displayed in 4.3 stays the same. The older z is interpreted as the OOOO listed in the table.

1.2.3.5.2.1 To define a custom format

You can define custom number formats to use in cells in tables.

Procedure

1. In *Design* mode, select a table cell and right-click it.
2. Click *Format Display* > *Custom* > *Numbers*.
3. Select a format and click *Add Custom Format*.
4. Edit the selected format by typing additional characters in one or more text boxes.

   For example, if you want to create a custom format for a number value, type the custom format you want in the *Positive*, *Negative*, and *Equal to zero* text boxes. If you want to create a custom format for Boolean values, type the custom format you want in the *True* and *False* boxes.
5. Click *Add*.

   You can't delete or edit custom formats. To change a custom format, you need to create a new custom format and apply the new format to the selected cells. Any custom formats not applied to cells in a document are deleted automatically when you end your session.

   The custom format appears in the *Custom* tab of the *Format Display* dialog.
6. Click *Apply*.
7. Click *OK*.

Related Information

Custom formats [page 206]

1.2.3.5.3 To format a number as a currency in a table cell

You can format the currency format in a cell in a table.

Procedure

1. In *Design* mode, select a cell and right-click it.
2. Select *Format Display* > *Currency*.
3. Select a number format from the list.
4. If the format you're looking for isn't in the list, *Add Custom Format*. Refer to the *To define a custom format* topic for more information.

5. Click *Apply*.
6. Click *OK*.

Related Information

To define a custom format [page 210]

1.2.3.5.4 To apply a percentage format to a cell number

You can apply a percentage format.

Procedure

1. In *Design* mode, select one or more cells and right-click the selection.
2. Click *Format Display* > *Percentage*.
3. Select one or more cells.
4. Select *123,456.70%*.
5. Click *Apply*.
6. Click *OK*.

Results

The cell or cells change to the selected number format.

1.2.3.6 Formatting multiple report elements simultaneously

You can format several report element at the same time.

Resizing, aligning, defining borders, background colors, or relative positions are examples of what's possible when formatting multiple report elements simultaneously. The formatting options available depend on the report elements you select. There are three possible selections:

- selection of report elements of the same type, such as two vertical tables.
- selection of report elements of different type, such as a vertical table and a horizontal table.
- selection of report elements of heterogenous type, such as a pie chart and a free cell.

When editing mutliple elements simultaneously, the *Format* panel displays "Multi-Selection" rather than the name of each chart selected.

You can use the table below as a reference point to know the available formatting options in the *Format* panel, depending on the report elements you select.

> **i** Note
>
> If a custom element is part of your multi-selection, the *Background* and *Palette* options aren't available.

Options available within these tabs depend on the type of selection you make and the settings the report elements you select have in common. Also, some of these settings may appear as undetermined when the report elements have different values for the same setting. These settings are reset to make sure that the new value you enter applies to all the report elements you select.

1.3 Linking

Linking, whether that is to other documents or reports, gives you or your colleagues immediate access to information related to a report or document. There's a variety of links allowing you to access information quickly and efficiently.

> **⚠** Caution
>
> - By default, the execution of hyperlinks and Javascript is disabled. For hyperlinks to work properly, make sure you set necessary security properties in the Central Management Console (*Applications* > *Web Intelligence* > *Properties*), and allow the execution of hyperlinks and Javascript.
> - Web Intelligence enables embedded Javascript/HTML code in document cells thanks to its formula capabalities.
>   This code can be enabled or disabled in the Central Management Console, and fine-tuned using an allowlist to filter on the authorized HTML tags and attributes.
>   However, SAP is not responsible for the compatibility of this code and its possible side effects. For example, your code might require some adaptation due to browser updates, Javascript version support or the way the code is dynamically embedded in the web page. From a technical standpoint, as of the 4.3 release, the application runs as a Single Page Application. There is no technical separation between the report and the overall web page. The code might require adjustments to run in that new context.

The following sections provide you with details regarding these links and how to create them.

1.3.1 Linking to other documents

You can define cells as hyperlinks to give immediate access to information related to a report from that repor.

The user who consults the report can click the active hyperlink and open a web page with additional, related information.

> **! Restriction**
>
> - When the hyperlink refers to a web site that can't be opened in other websites, there might be browser errors.
> - To avoid having `#ERROR` displayed instead of hyperlinks you've created, we recommend avoiding hard coded date formats. It causes `#ERROR` when changing the preferred viewing locale of the BI Launch Pad.

When you click a cell that contains a hyperlink, the target document specified in the link opens. The target document can be another Web Intelligence document, a website, a PDF, Excel or Word document, or any resource accessible through a hyperlink.

Hyperlink types

Hyperlinks can be either static or dynamic. A static hyperlink always links to the same document in the same way. A dynamic hyperlink can link differently depending on the data in the document containing the hyperlink.

You can create different types of hyperlink:

- A cell where the cell text is the hyperlink text.
  When you define a cell as a hyperlink, the cell text becomes an active hyperlink. This method is best suited for static hyperlinks, where the text in the cell always remains the same and links to the same resource in the same way.

  > **i Note**
  >
  > You can make this type of hyperlink dynamic by using a cell formula to change the cell text based on report data.

- A cell with an associated hyperlink.
  When associating a hyperlink with a cell, you define a hyperlink that links to the source document when the cell is clicked. You can also have a cell text different from the hyperlink text. We recommend using this method to create dynamic hyperlinks, as it allows for parameters within dynamic links. Additionally, you can create them using a graphical interface, which avoids dealing with complex hyperlink syntax. Finally
- A link to another document in the CMS. For target documents that refer to BEx queries, `.unx` or `.unv` universes that contain prompts that use Index Awareness, there are additional parameters to set. For more information, check out Linking to another document in the CMS [page 214].

Every hyperlink type can be formatted to display colors when the link has been clicked, or hasn't been clicked.

As well as linking between documents, you can also link report elements in the same report by defining elements as input controls that filter the values in other report elements.

OpenDocument links

When you create a link, the link is defined using the `OpenDocument` syntax. You can also build links manually using `OpenDocument`. OpenDocument is a web application that processes incoming URL requests for

documents and any other viewable object type in the Central Management Server (CMS), and delivers the correct document to the end user in the appropriate viewer.

You can either open OpenDocument links or create them following a specifix syntax, depending on the client you want to the OpenDocument link to point, the report you want to open and so on. For more information on the syntax of an OpenDocument link and the parameters you should include when creating one, refer to the Viewing Documents Using OpenDocument Guide.

1.3.1.1 Linking to another document in the CMS

You can link to another document in the CMS using the *Create Hyperlink* dialog box.

The link uses the `OpenDocument` function. The parameters passed to the function are determined by the choices you make in the dialog box.

You can also work with the `OpenDocument` function directly by typing the syntax into a cell.

Document instances and values passed to prompts

Hyperlinks supply values to prompts in the target document in two ways:

- Passing values directly to prompts.
- Opening a document instance based on passed values.

In the first case, the hyperlink feeds values directly to the prompts in the target document. In the second case, the link opens the document instance whose stored prompt values correspond to the values passed by the hyperlink. When you click on the url, the target document is automaticaly refreshed, even if the *Refresh on open* option is deactivated.

It is more efficient to choose a document instance based on passed parameters if the target document is large.

Linking to large documents

When the target document contains a large amount of data, it is more efficient to link to an instance than to open and retrieve the document with a passed parameter value. You can schedule and pre-retreive multiple instances with different parameter values. This allows the document to be scheduled and pre-retrieved in advance with different parameter values.

When you click the hyperlink, the link opens the appropriate pre-retrieved instance rather than using the passed value to open the document and retrieve the data.

Example: Linking to a large sales report

In this example you link to a large sales report that retrieves sales by region. The report has a parameter that allows the user to select the region. There are four regions - North, South, East, and West.

Your source document has a [Region] dimension. You do the following:

- Configure the hyperlink to pass the value of [Region] as a parameter.
- Create four instances of the sales report, one for each value of [Region].
- Schedule these instances for pre-retrieval.
- Configure the hyperlink to open the latest instance whose parameter value matches the value passed by the hyperlink.

Assuming that the document has a [Region] dimension, the settings are as follows:

Link to document instance setting	Latest value match
Most recent - matching prompt values	[Region]

1.3.1.2 To define a cell as a hyperlink

You define a cell as a hyperlink in a document.

Procedure

1. In *Design* mode, select or type a hyperlink in a cell.
2. While the cell is selected, click to open the side panel.
3. In the side panel, click to open the *Format* panel.
4. Click to access the appearance settings.
5. Under the *Display* section, select *Hyperlink* in the *Read content as* drop down.

1.3.1.3 To add a hyperlink to a cell

You configure cell hyperlinks.

Procedure

1. In *Design* mode, select a cell and right-click it.
2. In the contextual menu, click *Hyperlink* > *Add Hyperlink*.

3. Type or paste the hyperlink in the dedicated field.
4. **Optional:** If the URL has paramerters, click *Customize URL Paramerters (Parse)*.

   Dynamic hyperlinks have parameters whose values can change. Parameters appear as a `name=value` combination at the end of the hyperlink after a question mark. For example, the following URL has a `reportname` parameter, whose value is `products`:

   ```
   http://salesandproductreport/default.asp?reportname=products
   ```

   If the hyperlink is dynamic and has parameters, they're listed in the *Customize URL Parameters* area.

   Each parameter has a dedicated field filled with its value and the parameter name above. The static part of the hyperlink, the part without the parameters, is shown above the parameters.
5. **Optional:** To add or remove a parameter, click *Edit URL*, edit the hyperlink syntax, and click *Customize URL Parameters (Parse)*.
6. Add the label of the hyperlink in the *Label* field.
7. Using the *Open In* dropdown, select whether the link should open in a new window or in the current window.
8. Type the tooltip text in the *Tooltip* field.
   The tooltip appears when you hover your mouse pointer over the cell containing the hyperlink.
9. Click *OK*.

1.3.1.4 To set hyperlink colors

You can set the colors of hyperlinks in documents.

Procedure

1. In *Design* mode, right-click a blank area on the report that contains hyperlinks and select *Format Report* > *Appearance Settings* to open the *Format* panel.
2. In the *Format* panel, in the *Appearance* tab, expand the *Hyperlink* section.
3. Use the dedicated *Visited* and *Unvisited* controls to either select a predefined color or define a custom color.
   Every link in the document will now be displayed in the color that you've just defined.
4. Click *Apply* to close.

1.3.1.5 To link to another document in the CMS

You can set in a document one or more links to other documents in the same CMS.

Prerequisites

If you want to link to a specific report part, you need to get the link before you create the hyperlink. Open the document that you want to link to, right-click a table, a chart, a free cell or a section, and click *Copy Link of X*, "X" being the element you've selected. Once you have the link, skip to step 2.

Context

> **i** Note
>
> When the target document refers to a `.unx` or `.unv` universe containing an Index Awareness Prompt, or to a BEx query, there are additional objects to select.

Procedure

1. In *Design* mode, right-click the cell in which you want to add the link, and click *Hyperlink* > *Add Hyperlink*.
2. In the *Hyperlink* dialog, click *Browse* to select the document you want to link to. Or, if you want to link to a report part, paste the link that you've previously copied in the *Target URL* field.

   The application creates the link automatically when you select a document using the browser.
3. Click *Customize URL Parameters (Parse)*.
   The dialog lists the document information.
4. Click *Analyze the Document*.
5. Answer prompts if there are any, and select the instance of the document you want to open.
6. Back in the hyperlink dialog, select the report you want to link to in the *sReportName* dropdown.
7. In the *sRefresh* dropwdown, set the value to *Y* if you want to refresh the document when the link is clicked, or *N* if you don't want to refresh the document.
8. In *Label*, type the text that the hyperlink should display.
9. Using the *Open In* drop down, select whether the link should open in the same window, or in a new one.
10. Add a tooltip in the *Tooltip* field. The tooltip will appear when you hover your mouse pointer over the cell containing the hyperlink.

1.3.1.6 To open a document from a hyperlink

You can set hyperlinks between documents.

Procedure

1. In *Design* mode, hover your mouse pointer over a cell with a hyperlink to display the tooltip, if a tooltip is defined.

   > **i** Note
   >
   > The generated syntax of the hyperlink appears in the *Formula Bar*. Do not modify this syntax directly. Instead, right-click the cell and click *Hyperlink* > *Edit Link* if you need to update the link.

2. Click the hyperlink to open the target document.
   Depending on how the hyperlink is configured, the target document opens in a new browser window, or it replaces the current document in the current browser window.

1.3.1.7 To edit a hyperlink in a cell

You can set hyperlinks in table cells in the Web Intelligence HTML interface.

Procedure

1. Open a Web Intelligence document in *Design* mode.
2. Right-click the cell containing the hyperlink and select *Hyperlink* > *Edit*.
3. In the *Create Hyperlink* dialog box, edit the hyperlink.
4. Click *OK* to close the *Create Hyperlink* dialog box.

1.3.1.8 To delete a hyperlink

You can delete hyperlinks in documents in the Web Intelligence.

Procedure

1. Open a Web Intelligence document in *Design* mode.

2. Right click the cell or the column containing the hyperlink and select *Hyperlink* > *Remove Link*.

1.3.2 Linking to other reports within the same document

You can define hyperlinks, called intra-document links, to give users immediate access to other reports within the same document.

You can create an intra-document link:

- In a free cell,
- In a table cell (on any cell of the table and on any type of table).

> ⚠ Caution
>
> When you select a link, its formula is displayed in the formula bar. You should not change it or the link may break. Also, note that all the parameters are case-sensitive.

1.3.2.1 To link to another report within the same document

You can add one or multiple links in a document to other reports within the same document.

Procedure

1. Open a Web Intelligence document in *Design* mode.
2. Right-click the cell (free cell or in a table) where you want to create the link and select *Hyperlink* > *Add Hyperlink...*.
3. In the *Hyperlink* dialog, click the *This Document* tab.
4. Select the report you want to link to using the dedicated dropdown.

   If the target report has been hidden, it won't be listed in the dropdown. If the report is hidden depending of formula, then the target report is available in the dropdown list and an icon shows you whether the document is currently hidden or visible.
5. Add a label to the link using the object name, or select another object using the *Select Object* option. You can also build a dynamic label using the *Build Formula* option.
6. Enter text in the *Tooltip* box, or build a dynamic tooltip by using the *Build Formula* or *Select Object* options. The tooltip will appear when you hover your mouse pointer over the cell containing the hyperlink.

Option	Description
Build Formula	You build a formula in the *Formula Editor* to supply the formula output as the tooltip.

Option	Description
Select Object	You choose the variable from the list in the *Select an Object* dialog to supply its value as the tooltip.

7. Click *OK*.

Next Steps

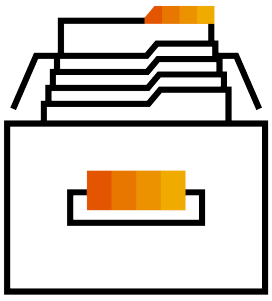
You may want to edit or delete the link afterwards. To do so, see To edit a hyperlink in a cell [page 218] and To delete a hyperlink [page 218].

1.4 Saving

Once your report is ready, you can save it and export it.

The format of your choice depends on who's at the receiving end.

The following sections provide you with details regarding the different formats available, and how to save and export reports.

	For more information about	Read
Save and Export Reports 	Saving and exporting	Saving and exporting documents, reports and data [page 220]
	Exporting documents, reports, or data	Exporting documents, reports or data [page 222]
	From HTML Code, URLs, and Images to Excel Spreadsheets and PDF Files	Exporting HTML Code, URLs, and Images to Excel Spreadsheets and PDF Files [page 225]

1.4.1 Saving and exporting documents, reports and data

You can save or export documents in a multiple formats if you have the corresponding user rights granted.

> ⚠ Caution
>
> If you don't have the right to save a document, please use the *Save As* function.

In both clients, you can save document as a .WID file, the Web Intelligence format.

You can also export documents in .CSV, .XLSX, .PDF, .TXT and HTML.

> **i** Note
>
> The .HTML and .CSV files are exported in a ZIP file.

Refer to the appropriate topics in this document for instructions on how to save and export document in different formats.

Related Information

To save a document in the corporate repository [page 221]
Exporting documents, reports or data [page 222]

1.4.1.1 To save a document in the corporate repository

You can save a document in the corporate repository.

Context

Procedure

1. In the *File* section of the toolbar, click  > *Save As*.
2. Browse the folder in which you want to save the document.
3. Give a name to the file.
4. Click *Options* and add a description and keywords.
5. **Optional:** Check *Refresh on open* to refresh the document each time it is opened.

> **i** Note
>
> When you enable the *Refresh on open* document property, the document displays the latest information each time you open the document. The *Refresh on open* option is dependent on the following settings in the CMC (configured by the BI administrator):
>
> - In *Applications* > *Web Intelligence*, from the *Manage* list, select *Properties*. In the *Automatic Document Refresh on Open Security Right Setting* section, the property *Check the "Disable Automatic Refresh on Open for all documents" security right* is enabled.

- In *Applications* > *Web Intelligence*, from the *Manage* list, select *User Security*. When you select a user profile and click *View Security*, check that the *Document - disable automatic refresh on open* security right is disabled.
  The *Refreh on open* property here is different from the *Refresh on open* option mentioned in the *To link to another document in the CMS* section. In this case, the document is purged from its data when you open it. This means that the document is empty when you open it, and is then refreshed to reflect the latest data available. There's no record of your data.

6. **Optional:** Check *Permanent regional formatting* to preserve the document regional formatting with the document.
7. Check *Save document with comments* if you want to keep the comments of the document.
8. Click *Categories*.
9. Select one or more categories.
10. Click *Save*.

1.4.1.2 Exporting documents, reports or data

You can export a complete document or one or more reports to a .TXT, .PDF, .XLSX, .CSV, or .HTML file.

Each file type has its own settings, detailed in the sections below.

.PDF

When exporting to a .PDF file, you can decide whether you want to export all reports if you have several reports in your document, or only the report you are currently viewing. If you decide to export only one report, then it's possible to select whether you want to export:

- All pages
- The current page, only if you have selected to export the report you are currently viewing.
- Specific pages, for example pages 10 to 15 only

You can also fine-tune the DPI for images using the *Images DPI* drop down under the *Options* section.

Check *Display bookmarks* to display the bookmarks tab by default when opening the file to make the navigation through the document easier.

.XLSX

When exporting to an Excel file, if you have several reports in your document, you can decide to export all of them or explicitly select the ones to export. Each report is saved as a spreadsheet in the Excel file. You can select between two options:

- Check *Prioritize the formatting of the document* to keep the formatting in the .XLSX file.
- Check *Prioritize ease data processing in Excel* to avoid merging multiple cells into Excel cells as much as possible and benefit from the data processing features of Excel.

You can also fine-tune the DPI for images using the *Images DPI* dropdown list.

> **Note**
>
> The maximum number of columns supported during the export is limted. By default, the limit is set to 256 columns for .XLS sheets and 16383 for .XSLX sheets. The application automatically truncates generated sheets to fit whitin these limits. Other columns aren't exported.

.CSV

You can export either:

- Reports' data, by selecting the *Reports* radio button, and selecting the reports you want to export.
- Documents' raw data by selecting the *Data* radio button, and selecting the queries you want to export.

You can also configure the text qualifier, column delimiter and charset. In the column delimiter drop down, you can also directly type in a custom charcacter you want to use, such as the pipe (|) for instance.

The class name is added to objects with identical names when exporting query data to a .CSV file. If the class names are also identical, then the parent class name is also attached, as shown in the example.

Example

Class	Objects
Resort	Country
	Resort
Customer	Country
	City
Measure	Revenue

When exporting the query data to a CSV file, the names of [Country] and [Country] are modified to [Resort.Country] and [Customer.Country].

> **Note**
>
> To prevent malicious command injections from being triggered when you open the CSV file in Microsoft Excel, Web Intelligence adds a space before the following characters during the export process:
>
> - = (Equal)
> - + (Plus)
> - - (Minus)
> - @ (At)
>
> The additional space prevents values with these characters from being executed as commands, which could cause a security issue on your system.

If you want to disable this behavior, ask your administrator to create or change the registry key in Windows or in the `boconfig.cfg` in UNIX, as follows:

• In Windows, on the server machines and client machines, set the following registry key to false: `HKEY_LOCAL_MACHINE\SOFTWARE\SAP BusinessObjects\Suite XI 4.0\default \WebIntelligence\EscapeCharactersForCSVExport`.

• In UNIX, on the server machines, open the `boconfig.cfg` file (in `$installdir/setup/ boconfig.cfg`), set the following registry declaration key to false `HKEY_LOCAL_MACHINE\SOFTWARE \SAP BusinessObjects\Suite XI 4.0\default\WebIntelligence \EscapeCharactersForCSVExport`.

After the change and before you perform the export, close and open Web Intelligence.

.TXT

When you export a text file:

- In page mode, report elements are exported page by page.
- The exported file in page mode can be different from the result in draft mode.
- The separator used is a tab space.
- Charts and images aren't exported.
- Export size limit for text file is defined in the Central Management Console. The default value is 5 MB. An error message appears if the size limit is exceeded.
- If several reports are selected, they are appended one after another in the same text file.

1.4.1.3 To export a document

You can export a document to a specific location.

Procedure

1. In the *File* section of the toolbar, click ••• > *Export*.
2. Select a format using the dedicated radio buttons.
3. Select the reports you want to export using the dedicated checkboxes. To export the whole document, check *All*.

   If you are exporting to CSV, you can select to export document's data by checking the *Data* radio button. Select the queries you want to export using the dedicated checkboxes. To export all queries, check *All*.
4. Adjust the settings available depending on the format.

   To know more about the options available, read Exporting documents, reports or data [page 222].
5. Click *Export*.

6. Select where you want to export the file.
7. Give a name to the file.
8. Click *Save*.

1.4.1.4 Exporting HTML Code, URLs, and Images to Excel Spreadsheets and PDF Files

HTML code, URLs and images contained in Web Intelligence documents can be exported to Excel spreadsheets and to PDF files.

Exporting HTML Code to Excel Spreadsheets and PDF Files

HTML code contained in Web Intelligence tables and free cells is exported as text in Excel spreadsheets and isn't interpreted. In PDF files, HTML code contained in Web Intelligence tables and free cells will not be exported, if these cells have been formatted to be read as HTML. Else, they will be exported as text without any interpretation.

Exporting URLs to Excel Spreadsheets and PDF Files

URLs contained in Web Intelligence tables and free cells are exported as URLs in Excel spreadsheets and PDF files, if these cells have been formatted to be read as hyperlinks. Else, they are exported as text.

Exporting Images to Excel Spreadsheets and PDF Files

Images as background or content, that is, cells formatted to be read as image hyperlinks, of Web Intelligence tables and free cells are exported as images in Excel spreadsheets and PDF files.

However, you must define the proxy server used by Web Intelligence to export these images.

On Windows

In the Windows registry `HKEY_LOCAL_MACHINE\SOFTWARE\SAP BusinessObjects\Suite XI 4.0\default\WebIntelligence\BlobManager` subkey, do the following:

1. Create or modify the `ResolveHTTPUrl` value to `yes` to have the following line:

   ```
   "<ResolveHTTPUrl>"=string:"<yes>"
   ```

2. Create or modify the `PROXY` value to `<customer-proxy>:<port>`, where `<customer-proxy>` is your proxy server and `<port>` is the port of that server, to have the following line:

   ```
   "<PROXY>"=string:"<customer-proxy>:<port>"
   ```

In the case of the Web Intelligence Rich Client, the `BlobManager` subkey is to be found in `HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\SAP BusinessObjects\Suite XI 4.0\default\WebIntelligence`.

On UNIX

You need to modify the `boconfig.cfg` file found in the `$installdir/setup` folder.

In the `boconfig.cfg` file, locate the `Software\SAP BusinessObjects\Suite XI 4.0\default\WebIntelligence\BlobManager` section and do the following:

1. Create or modify the `ResolveHTTPUrl` value to `yes` to have the following line:

   ```
   "<ResolveHTTPUrl>"=string:"<yes>".
   ```

2. Create or modify the `PROXY` value to `<proxy>:<port>`, where `<proxy>` is your client proxy server and `<port>` is the port of that server, to have the following line:

   ```
   "<PROXY>"=string:"<proxy>:<port>"
   ```

Important Disclaimers and Legal Information

Hyperlinks

Some links are classified by an icon and/or a mouseover text. These links provide additional information.
About the icons:

- Links with the icon  : You are entering a Web site that is not hosted by SAP. By using such links, you agree (unless expressly stated otherwise in your agreements with SAP) to this:
  - The content of the linked-to site is not SAP documentation. You may not infer any product claims against SAP based on this information.
  - SAP does not agree or disagree with the content on the linked-to site, nor does SAP warrant the availability and correctness. SAP shall not be liable for any damages caused by the use of such content unless damages have been caused by SAP's gross negligence or willful misconduct.
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Videos Hosted on External Platforms

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