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**SAP® BusinessObjects™ Web Intelligence**

The Comprehensive Guide
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The new streamlined interface in Web Intelligence 4.0 is easy to use for both report developers and consumers. A new ribbon toolbar has been introduced, which gives you faster and more intuitive access to icons based on various functional areas.

4 The Web Intelligence 4.0 Report Panel

This chapter begins by exploring the Web Intelligence 4.0 Report Panel, a robust reporting interface that allows report designers to create dynamic data presentations and visualizations. The new reporting interface in Web Intelligence 4.0 positions all icons on a new and enhanced toolbar in tabs grouped by functional areas for logical and effective development. The updated left pane replaces the Report Manager from previous versions and allows for easy access to useful areas such as Available Objects, Document Summary, Report Map, and Input Controls. The newly designed reporting interface also positions a robust status bar at the bottom of the report page, which allows you to easily refresh reports, enable tracking, and navigate pages.

4.1 The Web Intelligence 4.0 Reporting Interface

The Rich Internet Application Report Panel, shown in Figure 4.1, contains several areas that can be modified when creating or editing Web Intelligence reports. The new reporting interface in Web Intelligence BI 4.0 has two main view options—reading and design—to accommodate different types of user interaction within a report. The reading mode has been exclusively designed for report consumers who only need to view and filter a report rather than edit it. The design mode gives report developers the full spectrum of editing capabilities.

In the top right corner of the screen, you can access different viewing options such as Reading, Design, and Data. Figure 4.2 shows the Reading dropdown menu, which presents two options:
HTML: This mode displays only the report elements (charts, tables, freestanding cells) and is primarily used for analysis.

PDF: This mode launches the report data in PDF within the BI Launch Pad panel.

Figure 4.1 Web Intelligence Report Edited in the Rich Internet Application

Figure 4.2 Reading Dropdown Choices

An important option in the reporting toolbar is the Structure only selection found in the Design menu and shown in Figure 4.3. The Design • Structure only button allows you to access the document structure of a report, a step used for editing the size of sections.
For easy access to all of these view options, right-click on the top bar and select the Application Mode menu shown in Figure 4.4.

Now that you are familiar with the new view modes, the next section describes the new ribbon-style toolbar.

### 4.2 Reporting Toolbars

The new formatting toolbar is similar to the Microsoft Office® ribbon-style toolbars that you’re probably already familiar with. This new method of displaying properties allows for easier access to report formatting icons. The toolbar becomes very useful when editing report elements, configuring formatting, modifying data access, and page setup properties. Figure 4.5 shows the formatting toolbar in design mode. Whether you are updating a horizontal table, vertical table, cross table, form, or freestanding cell, the ribbon toolbar allows you to instantly revise the format of entire columns with only a couple clicks.
The ribbon toolbar in design mode contains the following primary tabs that each provides categorized functions and shortcut icons:

- **File**: Located on the left side of the window, this tab is used for adding new reports, opening existing documents, saving, and printing.
- **Properties**: This tab allows you to view and revise document and application properties.
- **Report Element**: This tab delivers report elements for displaying data.
- **Format**: This tab delivers a large number of formatting properties.
- **Data Access**: With this tab, you can add new data providers, edit existing ones, or add new variables to a reporting document.
- **Analysis**: You can use this tab to create filters, input controls, enable data tracking, add conditional formatting, and much more.
- **Page Setup**: This tab contains all page formatting options in one location.

Let's explore the options available in each section below.

**File**

Figure 4.6 shows the **File** tab and its associated icons:

- **New**: This icon is used to create a new document.
- **Open**: This icon allows you to access previously saved Web Intelligence documents.
- **Save**: This icon is used to save reports with **Save**, **Save As**, or **Save to Enterprise** options.
- **Print**: This icon provides one-click report printing.
- **Find**: This icon allows you to search report data with the Find toolbar.
- **History:** If this report has been previously scheduled, the report instances will be available through this icon.

- **Export:** With this icon, you can create a new document or save a document either locally as a PDF, XLS, CSV, or to the CMS and file repository.

- **Email:** Use this icon to send this report to an email address, another user, or to an FTP server. Note that the SAP BusinessObjects administrator is required to configure plugins on the server in order to utilize this functionality.

- **Undo/Redo:** This icon lets you undo or redo previous actions.

- **Cut/Copy/Paste:** This icon lets you cut, copy, and paste any report element, including charts and tables.

- **Delete:** Use this icon to delete selected components.

- **Refresh:** This icon allows for new data to be brought into the report. Being able to refresh data is a primary function when generating reports.

**Figure 4.7** View menu of the Properties tab. The following menus are associated with this tab:

- **View:** Allows report developers to access the Filter Bar, Outline (also known as Fold/Unfold), Formula Bar, and Left Pane. Additionally, you can toggle the Report Tabs and Status Bar on and off using their respective checkboxes.

- **Document:** Provides a summary of configurable document properties. Includes type, author, description of the document, and creation date. Figure 4.12 shows all additional options that can be set in the Document Properties window.

- **Application:** Allows developers to set units of measurements to display in centimeters or in inches.
The Web Intelligence 4.0 Report Panel

Report Element

Figure 4.8 shows the Report Element tab and its associated icons. This is the first primary tab used for displaying data on the report canvas.

First let’s examine the tabs under the Report Element tab section by section.

- **Table**
  - **Vertical table**: Displays header cells at the top of the table
  - **Horizontal table**: Displays header cells to the left of the table
  - **Cross table or Crosstab**: Displays dimensions across the top and along the left side of the table while displaying measures in the body of the table
  - **Form**: Displays categorized dimension descriptions or mailing addresses

- **Cell**
  - **Blank cells**: Used for custom headings or subheadings or to display information that should appear in an Available Objects table
  - **Predefined**: Predefined single value containing metadata about report
Section

- Insert Section: Allows report developers to insert a section using available objects

Chart (chart types examined in Chapter 5)

- Column: Graphically presents values in vertical or horizontal charts (available column charts: stacked column, 100% stacked column, dual axis column, dual axis column and line, and 3D column)
- Line: Displays data graphically with connected data points (available line charts: vertical/horizontal mixed, vertical/horizontal stacked, vertical/horizontal percent, 3D line, 3D surface, dual axis line, and surface)
- Pie: Displays data as a percentage of the whole with pie slices (available pie charts: pie with variable slice depth, doughnut, 3D pie, and 3D doughnut)

Others

- Bar: Graphically represents horizontal bar charts (available bar charts: vertical/horizontal stacked bar, 100% stacked bar, vertical/horizontal grouped, vertical/horizontal perfect, vertical/horizontal bar and line, and 3D bar)
- Radar charts: Include radar line, stacked area radar, polar, and scatter charts.
- Bubble charts
- More

Tools

- Turn Into: Transforms selected object into a different type table or chart
- Set As Section: Allows report developers to insert a section using selected object

Position

- Order
- Align

Linking

- Add Hyperlink
- Link To Document
- Add Element Link
Table Layout: Appears only when a data table on the report canvas has been selected
- Break
- Insert
- Header
- Footer

Cell Behaviors
- Hide
- Page Break
- Repeat: Allows tables, headers, or breaks to repeat on every page

Format
Figure 4.9 shows the Format tab and its associated icons:
- Font
- Border
- Cell
- Style
- Numbers
- Alignment
  - Wrap Text: Allows a word wrap style of formatting to be applied to the selected column or columns so that a carriage return takes place within the cell rather than extending the value horizontally
- Size
- Padding
- Tools
  - Format Painter: Applies formatting. Quickly copy the format of an existing cell or column and apply it to an additional cell or column by first selecting a cell that contains the preferred formatting, clicking on the Format Painter icon, and then clicking on the text to which you would like to apply the formatting
- **Formatting**: Displays all formatting options for the selected report element
- **Clear Format**: Resets all formatting to the default formats

![Figure 4.9 Format Tab](image)

**Data Access**

Figure 4.10 shows the Data Access tab and its associated icons:

- **Data Providers**
  - **New Data Provider**: Adds a new query to the existing document
  - **Edit**: Returns to the Query Panel to edit a query
  - **Purge**: Purges report data. This is important when publishing reports to the file repository with restricted data. You can purge all data from all data providers or choose an individual data provider to purge
  - **Refresh**: Submits the query to the data source to retrieve the most recent data.

- **Tools**
  - **Change Source**
  - **Export Data**

- **Data Objects**
  - **New Variable**
  - **Merge**

![Figure 4.10 Data Access Tab](image)
Figure 4.11 shows the Analysis tab and its associated icons:

- **Filters**
  - Filter
  - Ranking
  - Controls
- **Data Tracking**: Prompts you to set the reference point for data tracking. A variety of data tracking options are available when tracking has been enabled. These options include font formatting for dimension insertions and deletions, detail changes, and increased/decreased values for measures
- **Display**
- **Conditional**
- **Interact**
  - Drill: Used to enable drill mode. It also provides a drill pane to drop result objects for simple report filtering. Drill mode allows report consumers to drill up or drill down the drill path for deeper and quicker analysis
- **Filter Bar**
- **Outline**
- **Functions**
  - Sum
  - Count
  - More
- **Formula Bar**

![Figure 4.11 Analysis Tab](image-url)
Page Setup
Figure 4.12 shows the Page Setup tab and its associated icons:

- **Report**
  - Add Report
  - Duplicate
  - Delete
- **Rename**
- **Move**
  - Move Left
  - Move Right
- **Page**
  - Page Orientation
  - Page Format
- **Header**
  - Show Button
  - Page Header height
- **Footer**
  - Show Button
  - Page footer height
- **Scale to Page**
  - Width
  - Height
  - Scale
- **Margins**
  - Top margin
  - Bottom margin
  - Left margin
  - Right margin
The updated ribbon-based toolbar in Web Intelligence 4.0 is a robust interface that allows users to quickly access all functions related to creating reports. The next section describes the usability of the left pane, which also provides main functions necessary for report maintenance and creation.

### 4.3 The Left Pane

The left pane contains tabs that give additional information and is required for creating Web Intelligence 4.0 reporting documents. The left pane also plays a critical role in editing existing documents. Figure 4.13 shows the first tab of the left pane, which is **Document Summary**.

The left pane, which can be displayed in normal or minimized mode, is different for reading mode, design mode, and data mode. Let’s examine each of these now.

**Reading mode:**

- **Document Summary:** This tab includes information about the report, such as author, date created description, keywords, last refreshed, last modified date, last modified by, duration of previous refresh, document options, data options, and parameters. This metadata about the report is useful for the administrator because it shows who has created and refreshed the document. Additionally, the duration of previous refresh records the number of seconds the report took to refresh on the previous refresh. (Note that if never run, then this value will be zero.)

---

**Display**

- **Page Mode**
- **Quick Display**
- **Rows**
- **Columns**
Figure 4.13 Left Pane–Document Summary

- **Report Map**: This tab provides a linked list of the reports and section values within each report in the document.

- **Input Controls**: This tab allows report users to identify whether any components have been used to filter report data using input controls. The user can select a map of all input controls already saved on the document, choose to reset the values of saved input controls, or both.

- **Design mode**:

  - **Document Summary**: This tab includes information about the report, such as author, date created description, keywords, last refreshed, last modified date, last modified by, duration of previous refresh, document options, data options, and parameters. This metadata about the report is useful for
the administrator because it shows who has created and refreshed the document. Additionally, the duration of previous refresh records the number of seconds the report took to refresh on the previous refresh. (Note that if never run, then this value will be zero.)

- **REPORT MAP**: This tab provides a linked list of the reports and section values within each report in the document.

- **INPUT CONTROLS**: This tab allows both report developers and users to include a variety of components in filtering report data. The report designer can create new input controls by clicking on the New button under the INPUT CONTROLS tab. The user can select a map of all input controls already saved on the document, choose to reset the values of saved input controls, or both.

- **WEB SERVICE PUBLISHER**: This tab allows the report designer to create Web services using existing components or blocks from Web Intelligence reports.

- **AVAILABLE OBJECTS**: This tab contains the fields included in the Result Objects pane in the Query Panel and locally created formulas and variables. All objects in this tab are available to be displayed in reports.

- **DOCUMENT STRUCTURES AND FILTERS**: DOCUMENT STRUCTURES provides a detailed listing of all objects existing within the document. FILTERS shows filters that exist on report elements and data blocks within the reports.

<table>
<thead>
<tr>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design mode has two options: The With Data view refers to displaying any data that has been refreshed in the report, and the Structure Only view refers to displaying only the structure or “formulas” used in the report blocks.</td>
</tr>
</tbody>
</table>

Data mode:

- **DATA**: This tab contains the fields included in the Result Objects pane in the Query Panel and locally created formulas and variables. All objects in the AVAILABLE OBJECTS tab are available to be displayed in reports.

Figure 4.14 shows the result objects from the Query Panel in the AVAILABLE OBJECTS tab. The data for the fields displayed in the AVAILABLE OBJECTS tab has been retrieved from the database and exists within the document’s microcube.
Click on the Document Summary tab in either reading mode or design mode. To reveal the report information, click on Edit to update fields such as Description or Keywords. The Refresh on Open option is used to prompt users for input each time a report is opened and also refreshed.

4.4 Report Panel

The Report Panel or report canvas is where report elements are placed when you create Web Intelligence reports. The report canvas is the primary section in the Report Panel of a Web Intelligence document and is the section of the report used for displaying data.

The report canvas or document pane consists of three sections:

- Report header (optional)
- Report body
- Report footer (optional)

Tip

When a query is refreshed for the first time, the result objects will appear in the document pane in a report titled Report 1. All result objects will also appear in the left pane. For any additional refreshes after the initial refresh, the left pane will be updated with the latest list of result objects, but the objects appearing on the document pane won’t change unless revised by the report developer.
The default report names are shown in Figure 4.15.

![Figure 4.15 Default Report Names in the Document Pane](image)

You can make changes to the report tab names. To rename, insert, duplicate, or delete report tabs, use these methods:

- Right-click on the report name tab located in the lower left of the report.
- Select RENAME to change the name of the report tab.
- Select ADD REPORT to add a new report tab.
- Select DUPLICATE to make a duplicate copy of the current report.
- Select DELETE REPORT to remove the current report tab.

Figure 4.16 shows the actions available when you right-click on the report name tab located at the lower left of the document pane. The Move option is enabled only when two or more reports exist within the document.

![Figure 4.16 Actions Available When Right-Clicking on the Report Tab](image)

Activating data tracking from the status bar is a recent addition to Web Intelligence and has become a valuable analysis feature. To activate data tracking in a report, click on TRACK CHANGES in the status bar located under the Report Panel. You are immediately prompted to set the reference point for data tracking.

The page navigation toolbar on the status bar (see Figure 4.17) allows you to scroll from the current page being viewed to the next page, last page, previous page, and first page.
There are two modes for displaying reports:

- **Quick Display mode:** This is the default display mode. The maximum displayed vertical and horizontal records can be defined in the **Properties** tab.
- **Page mode:** This mode displays reports as they would appear if printed.

Figure 4.17 shows the **quick display** and **page mode icons**.

The zoom options on the status bar (see Figure 4.17) allow you to increase the zoom of the page from a minimum of 10% to a maximum of 500%. There is also an option to zoom to Page Width or Whole Page (also known as Fit to Page). The default value is 100%.

The **Refresh** icon on the status bar is a new function. The ability to refresh data is the primary function when generating reports. The refresh function allows new data to be retrieved from a data source and inserted into the report. Figure 4.17 shows the **Refresh** button and information as to the last time the report had been refreshed.

The formula bar provides quick access to the object definition. You can save time by revising object definitions in the formula bar. To access the bar, right-click on the gray part of the ribbon bar to toggle the formula bar on and off. Note that the formula bar is accessible only in design mode. Figure 4.18 shows the menu to access the formula bar.

The new formula bar can also be expanded to allow report developers to see more code on the screen. Figure 4.19 shows the formula bar expanded by using the double up arrows.
4.5 Report Property Categories

There are five major report element formatting types in the Web Intelligence 4.0 ribbon-based toolbar: Report Elements, Formatting, Data Access, Analysis, and Page Setup. The functional areas make it easy for you to identify which category to select when looking for a particular icon. This section explains in detail each one of these report property categories.

4.5.1 Report Elements

The Report Elements tab on the ribbon toolbar offers many shortcuts to most used objects such as tables, charts, and predefined cells. When a report element is selected on the Report Panel, you will see that the Report Elements tab on the toolbar displays specific icons for the type of element selected. Figure 4.20 shows two additional tabs (TABLE LAYOUT and BEHAVIORS) containing icons to format a table.
Report elements allow report developers to add elements to the canvas and create robust visualizations for report consumers. You can quickly convert an existing table to a chart or convert an existing dimension column into a section. Follow these steps to convert a table into a bar chart:

1. Select an existing table from the canvas.
2. Select the Tool tab on the Reports Elements toolbar.
3. Select the Turn Into icon and select Bar Chart.

The table has been converted to a bar chart. Note that there are two new tabs added to the REPORT ELEMENTS tab on the toolbar. If a chart is selected, then CHART STYLE and CELL BEHAVIOR appear on the toolbar.

Proper report element alignment and relative positioning will improve the overall attractiveness and effectiveness of your Web Intelligence reports. When business users view reports that contain charts and data tables aligned in unusual ways, the reports aren’t usually as convincing as well designed and properly formatted reporting documents.

Use the alignment functions to format the placement of report elements and the Relative Position feature to maintain consistent spacing and alignment when one or more blocks or report elements exist on a report.
Figure 4.21 shows the alignment types available when two or more report elements are selected:

- Align Left
- Align Center
- Align Right
- Align Top
- Align Middle
- Align Bottom
- Relative Position

The Relative Position setting allows two report elements to be tied together and spaced by a selected number of pixels (inches).

To set up relative positioning, select a secondary report element, and then select Relative Position from the Align icon under the Position tab. Figure 4.22 shows the Relative Position properties of a table in a report.

To position an object within a report, follow these steps:

1. Select Left Edge, Right Edge, or None from the first box at the top, and then select Top Side of, Bottom Side of, or None from the bottom setting.
2. Select the object(s) to assign the relative distance to.
3. Choose the relative distance for both the top section and the bottom section.

Relative positioning of charts and data tables gives reports the flexibility to present data in a similar format when the amount of data being reported fluctuates.
4.5.2 Formatting

The **Formatting** tab on the ribbon toolbar offers report developers many formatting functions, such as font size, styles, borders, alignment, and much more. The **Tools** tab allows report developers to copy the format of previously produced components onto new components. Figure 4.23 shows the Font, Style, Alignment, and Tools tab icons under the **Formatting** tab.

![Format Table](image)

**Figure 4.22** Relative Position Properties for a Table

Under the **Tools** tab are three icons that help report developers tremendously when duplicating report elements:

- **Format Painter**: Allows for duplicating formatting from one object and applying it to another object
- **Formatting**: Displays all formatting options for the selected report element
- **Clear Format**: Resets all formatting to the default formats
Follow these steps to duplicate formatting from one cell to another:

1. Move the Document Name predefined cell from the Report Elements ● Cell tab onto the canvas.
2. Select the newly added cell by clicking on it.
3. Select the Formatting tab and, under the Style tab, select Italic and Underline. Then change text color to red.
4. Place the Last Refreshed Date predefined cell from the Report Elements ● Cell tab onto the canvas.
5. Select Format Painter from Formatting ● Tools tab and apply the Document Name cell format to the Last Refreshed Date cell. Figure 4.24 shows two predefined cells and how to duplicate one cell’s format onto the other.

Figure 4.24 Applying Formatting from One Cell to Another

Note
You can copy and duplicate cell formats to any type of objects. You can also duplicate table and chart formats. Formatting of report elements provides a consistent appearance for ease-of-use.

4.5.3 Data Access
The Data Access tab on the ribbon toolbar offers many functions for managing data providers and dealing with data in general. Whether your data comes from a centralized universe or simply from an Excel file, it is important to understand when to refresh, purge, or redefine data providers. Please refer to Chapter 2 for more information on creating Data Providers. Figure 4.25 shows the Purge icons under the Data Access tab.
By restricting the amount of data returned from a data source, report developers can manage performance of the report while constructing it. A good way to achieve this is by understanding how much data is needed per data provider. When multiple data providers are generated for a particular report, developers may choose to refresh or purge individual data providers to increase the performance to the report at design time.

Follow these steps to purge the results from an individual data provider:

1. Create two data providers and refresh all data.
2. Click on the Purge dropdown arrow.
3. Select the first data provider to purge.

You will now have data from only the second data provider. Figure 4.25 shows the Purge button options when dropdown arrow is pressed.

Reports with highly secure data should be purged before they’re published to the CMS. Users with the appropriate permissions will be able to refresh the reports and retrieve the results. Users without the necessary permissions will not be able to see the data since the reports were published after the results were purged.

**4.5.4 Analysis**

The Analysis tab on the ribbon toolbar offers many functions for interacting with the report data. Filtering, ranking, input controls, breaks, sorts, drilling, outline, and functions provide a robust way to interact with report elements. By using these analysis functions, you can customize and filter data to meet business requirements. By allowing for this level of customization, you can create a reporting solution to be consumed by many different types of users. Figure 4.26 shows
the expanded More button under the Functions subtab of the primary Analysis tab.

![Figure 4.26 Expanded More Button under the Functions Tab](image)

You can easily access predefined functions such as Average, Sum, Min/Max and Percentage from the Function tab.

Follow these steps to create a summed value in a data table:
1. Create a table with numeric measure object column.
2. Select the column to apply the sum to.
3. Click on Sum under the Function tab and check Sum.

A new row appears at the end of the table with the column summed up, as shown in Figure 4.27.

![Figure 4.27 Sum Table Column](image)
4.5.5 Page Setup and Layouts

Page margins in a Web Intelligence report can be modified to fit business requirements or standards. The default margins in a report are as follows:

- Top margin: 0.79 inches
- Bottom margin: 0.79 inches
- Left margin: 0.79 inches
- Right margin: 0.79 inches

You can adjust the margins by accessing the MARGINS subtab in the primary PAGE SETUP tab. Locate the margin properties, and then use the up or down arrows to change the size.

The changes take effect when you click off of the size adjustment arrows. Figure 4.28 shows the margins properties and highlights the top margin adjustment arrows for modifying the margin sizes.

![Figure 4.28 Adjusting Page Margins](image)

Click arrows to increase or decrease margins.

Report property categories are functional groupings for formatting icons based on their functional area. These groupings in tab format make it easier for the report designer to access these icons.

4.6 Summary

Web Intelligence 4.0 provides a full spectrum of reporting components as well as a full line of icons to format every element for a customizable look-and-feel. New navigation functionality has been introduced with more streamlined “ribbon-based” toolbars and the left pane. Users and report developers can now access several different formatting tools and from multiple ways. This includes toolbars, right-click menus, and the status bar. An example of the multiple ways of performing a function is the REFRESH button. This feature can be found in three
different locations: the status bar, the Data Access/Data Providers subtab on the ribbon toolbar, or the reading mode toolbar.

Chapter 5 describes how to display data in tables in a Web Intelligence report. Tables are powerful reporting elements and the primary method of delivering data in a Web Intelligence report. They can be quickly and precisely formatted by using the icons located on the new ribbon-based toolbar.
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