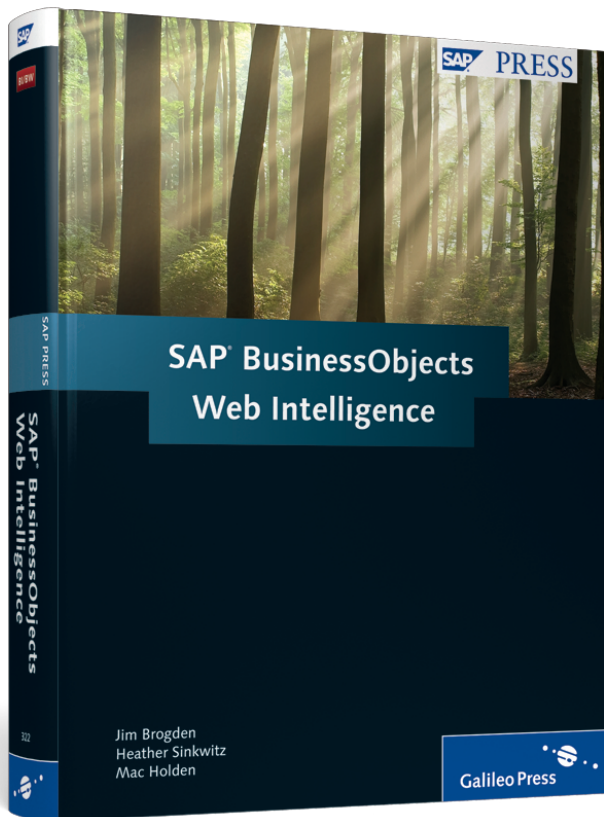


Jim Brogden, Heather Sinkwitz, and Mac Holden

SAP® BusinessObjects Web Intelligence



 Galileo Press®

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SAP® BusinessObjects™ Web Intelligence® XI 3.1 is the industry's most powerful ad hoc query, reporting, and analysis solution on the market today. Create, analyze, publish, and share enterprise-wide reports in minutes with Web Intelligence XI 3.1.

1 SAP BusinessObjects Web Intelligence XI 3.1

SAP BusinessObjects Web Intelligence is a best-in-class ad hoc query, reporting, and analysis tool designed with the business user in mind. With Web Intelligence XI 3.1, users have self-service access to company data through an easy-to-use web-based portal interface known as InfoView.

Web Intelligence provides business users with the tools to make better decisions and offer deeper insight into company data. The major benefits include the ability to drill, pivot, chart, track changes, publish, schedule, and share business information online and within a single online portal.

There are many aspects to developing Web Intelligence documents, and this book will explain every detail in creating highly functional and analytical reports. The features available in Web Intelligence allow you to analyze company data in a way that you have never done before. By learning to use the rich set of functions available out of the box (OOB), you'll be able to make more informed and accurate business decisions.

This chapter introduces you to the key features and core functionality of the Web Intelligence reporting tool. We'll also discuss the steps for setting up the report viewing properties and introduce the reporting analysis environments.

1.1 Features of Web Intelligence

Web Intelligence has been known for many years by report developers as "WebI" (pronounced "webby"). It's best known as a highly intuitive, web-based query

and analysis tool that provides business users with the capability of creating and modifying queries without having to write a single line of SQL.

By reducing the level of complexity in report building, business users have unprecedented opportunities to analyze and leverage company information. The InfoView portal makes sharing reports across the enterprise a breeze.

The architecture of the SAP BusinessObjects Enterprise solution allows Web Intelligence reports to operate purely within the web browser. This architecture significantly reduces deployment costs and complexity, making it easier for small to midsize companies to use the SAP BusinessObjects reporting suite.

Enterprise reporting is no longer just for executives. Business users leverage the strengths of Web Intelligence to interact with and analyze data on a daily basis. Web Intelligence plays a very important role in extending analysis across the enterprise to a large audience of casual users and power users, in addition to executives.

Key Advantages of SAP BusinessObjects Web Intelligence XI 3.1

- ▶ Generate SQL without knowledge of underlying data structures
- ▶ Develop and analyze reports in a zero-client online portal structure
- ▶ Self-service access to company data for business users
- ▶ Merge dimensions of multiple data providers for more robust reports
- ▶ Drill-down functionality in reports
- ▶ Extensive set of out-of-the-box (OOB) report section functions
- ▶ Ease-of-use in creating analytical documents with a variety of chart types
- ▶ Capability of adding functionality with Web Intelligence Extension Points
- ▶ Integration with Microsoft Office via SAP BusinessObjects Live Office
- ▶ Integration with SAP NetWeaver BW and SAP NetWeaver
- ▶ Customization through the SDK and with creating BI widgets
- ▶ Multidimensional reporting through OLAP universes

In the following sections, we'll discuss the six primary functions of Web Intelligence: query, report, analyze, share, customize, and integrate.

1.1.1 Core Functionality

The primary function of Web Intelligence XI 3.1 is to provide the capability of querying a set of data without any knowledge of the SQL language and interactively analyzing data to further restrict, expand, and modify the way information is displayed and delivered. After data is retrieved, formatting is easily applied to present results in a variety of customized formats.

The data retrieved with Web Intelligence is displayed in the report section by using report element templates. The available templates include data tables, charts, and free-hand cells to meet a wide variety of reporting requirements. After your query has been refreshed and results are returned, the data is easily visualized by inserting report templates and result objects into your reports.

Reports can be quickly organized by inserting breaks to group the data and by applying block- or report-level filters. These actions can be completed with just a couple clicks of the mouse. An extensive set of shortcut icons are available to assist with frequently used customizations. These icons are located at the top of the screen within Web Intelligence and grouped into three toolbars.

When you're ready to share your work, you can easily publish your documents to the InfoView portal. Users across the enterprise will then have the opportunity to view and interact with your reports by logging into InfoView through a web browser without any installation requirements. Extended interaction is available to users by right-clicking on a report or report element for on-the-fly interaction and customization.

Primary Web Intelligence Functions

Following are descriptions of the primary Web Intelligence functions:

- ▶ **Query:** Building queries in Web Intelligence XI 3.1 has been significantly improved compared to previous versions. In Web Intelligence XI 3.1, you now have the capability of connecting to multiple universes within the same document and synchronizing your data through merged dimensions. In addition, you can quickly and graphically generate complex SQL statements within the Web Intelligence query panel that contain subqueries and unions (referred to as combined queries).
- ▶ **Report:** Over the course of this book, you'll learn to create everything from simple reports to complex analysis documents with multiple report tabs. Unlock

the full potential of Web Intelligence XI 3.1 by using the built-in editing and formatting features available for presenting data quickly and accurately. Reporting with Web Intelligence is also very flexible and intuitive. Never again let your reporting solution cause the bottleneck in your business intelligence solution.

- ▶ **Analyze:** Use drill filters, report filters, block filters, and built-in report functions to provide detailed, laser-targeted analysis. Discover the extensive list of report functions and contexts available for creating precise variables and formulas.

Provide deep analysis and deliver valuable analytical reports to the user community with the functionality of Web Intelligence XI 3.1 and become a more insightful analyst and subject matter expert (SME) with your clients' data. Perform on-the-fly modifications to reports with an extensive set of options available when you right-click on a report.

- ▶ **Share:** Publish your Web Intelligence report documents to the InfoView portal for collaborative analysis. The documents can then be scheduled to execute the generated SQL statements and distribute the data to enterprise user inboxes or emailed externally.

InfoView delivers Web Intelligence reports within the default folder structure or within a folder-like structure known as categories. Reports can also be delivered in SAP BusinessObjects Dashboard Builder XI 3.1.

- ▶ **Customize:** Ever wonder how to make modifications to the “look and feel” of Web Intelligence? Take your SAP BusinessObjects installation to the next level by editing the provided SDK to produce customized business intelligence reporting solutions.

Use Web Intelligence extension points to extend the functionality of Web Intelligence. Produce additional customizations by developing BI widgets with Web Intelligence data.

- ▶ **Integrate:** Discover the capabilities of integrating Web Intelligence with Microsoft Office by using SAP BusinessObjects LiveOffice for flexible and portable reporting documents. The rich set of SAP BusinessObjects reporting tools now lends itself to integration.

1.1.2 Web Intelligence Offline

Operating remotely in offline mode is no longer an aberration of report developers. As of mid-2008, Web Intelligence report development is now possible in offline mode with the SAP BusinessObjects XI 3.1 client tool called Web Intelligence Rich Client.

This portable version of Web Intelligence provides report developers with the capability to disconnect from the Central Management Server (CMS) and work outside of InfoView. Web Intelligence Rich Client also provides the capability of using a local data source. You can import a TXT, CSV, or XLS as a local data source to create Web Intelligence documents.

Figure 1.1 shows the screen that appears when you launch Web Intelligence Rich Client. Click the Create a New Document icon to create a new Rich Client report. The two choices available are to create a new document that uses either a Universe or Local Data Source as the access type.

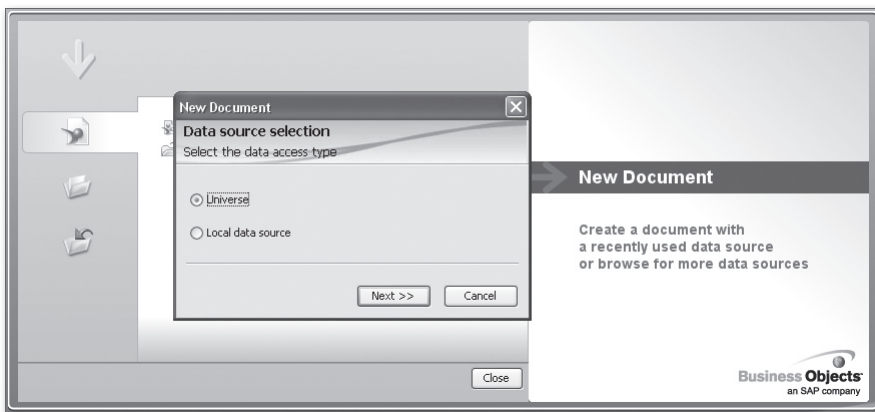


Figure 1.1 Create a New Document in Web Intelligence Rich Client

1.1.3 Launching Web Intelligence Rich Client

Figure 1.2 shows the full list of SAP BusinessObjects XI 3.1 client tools currently available. The highlighted tool, Web Intelligence Rich Client, can be launched to connect to the SAP BusinessObjects Enterprise system or used in offline mode.

Web Intelligence Rich Client can be launched as your editing tool of choice by selecting Desktop as the default creation tool in the Preferences section.

If Web Intelligence Rich Client doesn't already exist on your PC, you can install it by going to the Default Creation/Editing Tool section located in the Web Intelligence settings on the Preferences page. This information will be discussed in detail over the next several pages.

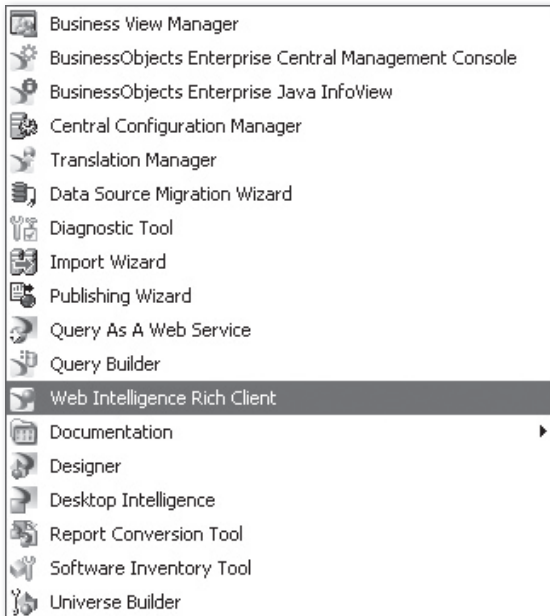


Figure 1.2 Full List of SAP BusinessObjects XI 3.1 Client Tools

1.1.4 Web Intelligence and the Microcube

After a query has been refreshed in Web Intelligence, the data is stored in memory in an unseen microcube. The *microcube* is a data storage structure existing within each report to store the query results behind the scenes. This structure provides the capability of displaying the data within any reporting block type, chart type, or combination of interactions while also providing the ability to drill down.

By storing the result data of each document for the last query that was successfully executed, the microcube allows you to analyze data using different dimensions in separate report tabs and report blocks while only revealing the data that you request.

Until the data becomes visible on a report, it remains stored behind the scenes in the microcube.

1.2 Web Intelligence InfoView Preferences

InfoView is the centralized web portal designed to provide access to all of your business intelligence content, securely and within a single platform. InfoView allows you to create, modify, save, share, and analyze valuable company data from a single location.

By deploying SAP BusinessObjects XI 3.1, you'll enable business users to make better and more informed decisions. The built-in structures of Web Intelligence work seamlessly within InfoView, providing the capability to analyze data with ease.

Web Intelligence now allows you to create and modify reports conveniently through an Internet browser or by working locally with Web Intelligence Rich Client.

Working in offline mode allows report developers to disconnect from the CMS and work locally with saved Web Intelligence documents. This new functionality fulfills the frequently requested task of saving and editing Web Intelligence documents outside of InfoView.

Figure 1.3 shows a custom-formatted Web Intelligence report with drill filters being viewed within InfoView and opened in a new window.

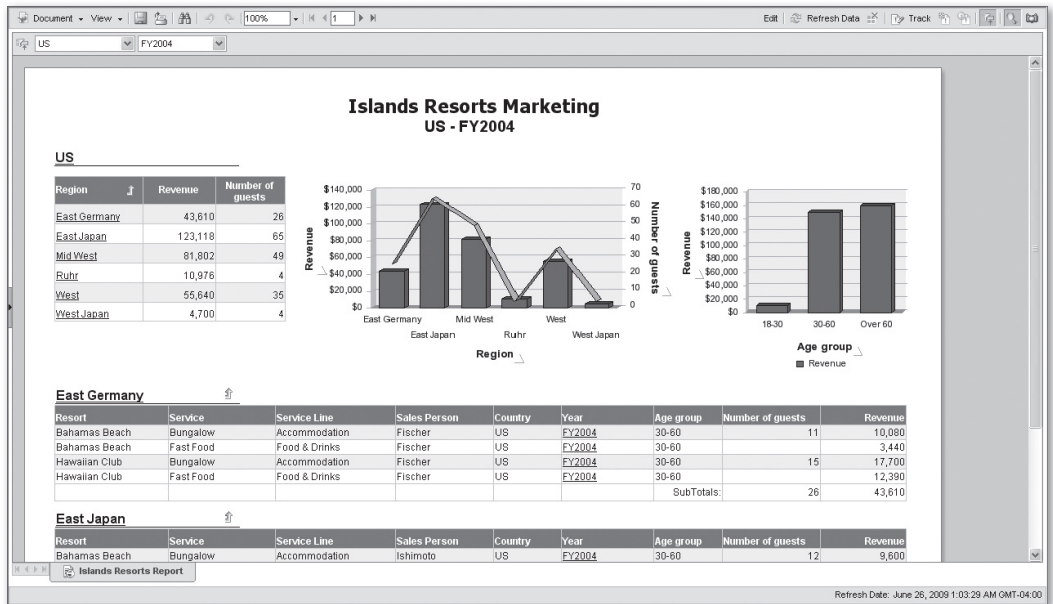


Figure 1.3 Web Intelligence Report Viewed in InfoView

1.3 Setting Web Intelligence Preferences in InfoView

A number of configurable settings are available to enhance the user experience when viewing and interacting with Web Intelligence reports in InfoView. To begin adjusting settings for viewing and interacting with SAP BusinessObjects reporting objects, click the Preferences button located in the upper-right corner of InfoView (see Figure 1.4).



Figure 1.4 Locating the Preferences Button in InfoView

Depending on your security rights, the Preferences page allows you to modify several General Settings and to modify the default settings for viewing and interacting with reporting documents created with the following products:

- ▶ Set Reporting Tool Preferences
 - ▶ Web Intelligence
 - ▶ Desktop Intelligence
 - ▶ Crystal Reports
 - ▶ Dashboard and Analytics
 - ▶ Voyager Client
- ▶ Web Intelligence Preferences
 - ▶ Default View Format
 - ▶ Creation/Editing Tool
 - ▶ Select Default Universe (optional)
 - ▶ Drill Options
 - ▶ Start Drill Session
 - ▶ Priority for Saving Report Data to Microsoft Excel

1.3.1 Setting the Default View Format

When setting the default view format, you have three options: Web, Interactive, and PDF (see Figure 1.5). We discuss each of these options in the sections that follow.

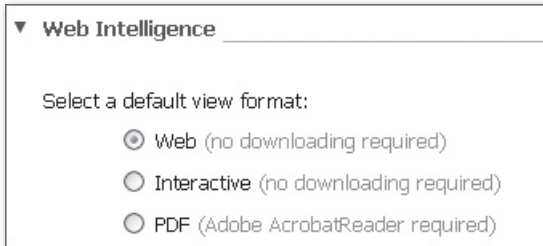


Figure 1.5 Web Intelligence Default View Formats

Web View Format

The Web view format allows you to perform all of the basic functions of viewing and analyzing a report such as saving a document to the repository; saving files locally in either PDF, XLS, or CSV format; or viewing a report in one of the four view modes.

In the Web view format, only the report filter toolbar is available when viewing a Web Intelligence report in InfoView. This toolbar provides the same functionality as drill mode.

Drill Mode with the Web View Format

When viewing a report in InfoView, click the magnifying glass shortcut icon in the upper-right corner of a Web Intelligence report to start drill mode (see Figure 1.6).

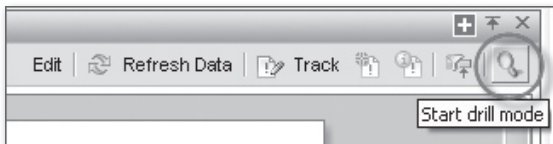


Figure 1.6 Start Drill Mode in a Web Intelligence Document

The report filter toolbar allows users to perform drilling analysis on a report by either selecting a value from an existing prompt or adding a report filter object.

Tip

Report filters provide the capability of filtering report data similar to the way data is restricted in the *Where* clause of a SQL statement. However, because the data has already been returned from the query and stored in the microcube, drill filters can limit your report data on the fly by only displaying filtered data.

Interactive View Format

The Interactive view format provides the greatest level of interaction for report consumers. When selecting Interactive as the default view format, Web Intelligence users have access to the four toolbars shown in Figure 1.7.

This viewing format is most commonly reserved for power users or advanced report consumers that benefit from the additional report functionality.



Figure 1.7 Report Toolbars Available in Interactive Viewing Mode

In addition to the Formatting, Report, Formula, and Report Filter toolbars becoming available when viewing Web Intelligence documents with the Interactive View Format, every object on a report has an extensive list of additional features when right-clicking on a report element.

Figure 1.8 shows the menu options available after right-clicking on a measure column in a vertical table while viewing a report in the Interactive view format in InfoView, and the following list gives the suboptions for each menu option.

- ▶ **Insert:** New Row or Column Above/Below the Selected Column
- ▶ **Format:** Cell, All Table Cells, Table, Section, Report
- ▶ **Filter:** Add Filter or Remove Filter
- ▶ **Turn Table To:** Turn the selected data table to any of the following available Chart and Table Types:
 - ▶ Four Data Tables
 - ▶ Nine Bar Charts

- ▶ Eight Line Charts
- ▶ Eight Area Charts
- ▶ Four Pie Charts
- ▶ Four Radar Charts

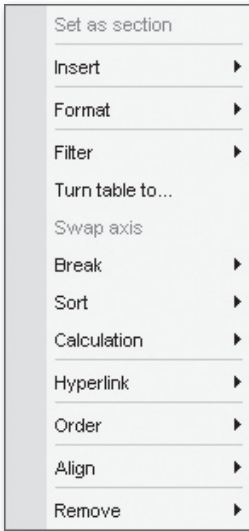


Figure 1.8 Features Available When Right-Clicking on a Vertical Table

- ▶ **Break:** Insert/Remove, Properties
- ▶ **Sort:** None, Ascending, Descending, (Custom Sort and Remove Sort available for dimensional objects), Properties
- ▶ **Calculation:** Sum, Count, Average, Min, Max, Percentage, Default
- ▶ **Hyperlink:** New, Edit, Remove, Read Contents as Hyperlink
- ▶ **Order:** Bring to Front, Send to Back, Bring Forward, Send Backward
- ▶ **Align:** Align Left, Center, Right, Top, Middle, Bottom, Relative Position
- ▶ **Remove:** Row, Column, Table

Note

The Add Input Control feature is only available in SAP BusinessObjects Web Intelligence XI 3.1 SP 2. This powerful analysis feature provides a variety of components to filter result data. This selection is very easy to use and extremely helpful.

PDF View Format

The PDF view format has very little interactive functionality. The primary feature of this viewing format is to open the Web Intelligence report in a PDF. After the document opens, you can print or save the PDF report.

You can view the report in Web view by clicking the View in HTML Format button located in the upper-left toolbar of the report. Figure 1.9 shows this button in PDF view.

PDF reports can be easily shared with users across the enterprise, emailed, posted to an FTP site, or published to the SAP BusinessObjects XI 3.1 InfoView portal.

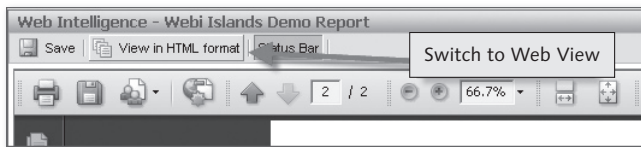


Figure 1.9 Web Intelligence Report Viewed in PDF View

1.3.2 Locale When Viewing a Document

When viewing a Web Intelligence document, the data can be formatted by either the document locale or preferred viewing locale. To set the preferred viewing locale to be different from the default browser locale, follow these steps:

1. Click the Use My Preferred Viewing Locale to Format the Data option under the Web Intelligence preferences.
2. Open the General Preferences section.
3. Scroll down to Preferred Viewing Locale, and change the default from Use Browser Locale to the locale of your choice.

1.3.3 Select the Default Creation/Editing Tool

Four editing tools are available to be used with Web Intelligence documents. Following is a list of those tools with an explanation of each:

- ▶ **Advanced:** The Advanced editing tool launches a Java applet to provide you with a Java report panel for developing and editing reports. This setting requires Java 2 and provides the most comprehensive set of functions.

- ▶ **Interactive:** The Interactive editing tool is a standalone HTML-based editor that doesn't require Java 2 or other external technologies.
- ▶ **Desktop:** The Desktop setting requires the Web Intelligence Rich Client. This is where you can download the Rich Client tool if it isn't already installed. When the Desktop tool is selected as your editing tool of choice, Web Intelligence Rich Client is launched any time you edit or create a Web Intelligence document. The basic viewing of a report within InfoView is unaffected by this setting. This setting also requires that Java is installed on your PC for it to launch.
- ▶ **Web Accessibility:** This editing tool doesn't require Java 2 or any other external technology and is best known for being 508 compliant.

Figure 1.10 shows the editing tool choices available for creating/editing a Web Intelligence document.

Select a default creation/editing tool:

Advanced (Java 2 required)

Interactive (no downloading required)

Desktop (Web Intelligence Rich Client required)

Web Accessibility (508 Compliant)

Select a default Universe:

No default universe

Figure 1.10 Selecting a Default Creation/Editing Tool for Web Intelligence

1.3.4 Drill Option Preferences

In addition to providing drill filters in drill mode, many data tables and charts provide the capability of drilling down with a single click. This type of drilling is available when drill mode is activated and when dimension objects in report elements don't contain formulas.

Three settings are available for selection under Drill Options when setting Web Intelligence preferences. Any combination of these settings can be selected. The recommended combination is to select Prompt When Drill Requires Additional Data and Synchronize Drill on Report Blocks. You also have the choice of either showing or hiding the drill toolbar when opening a report.

The three drill options are listed here:

- ▶ Prompt When Drill Requires Additional Data
- ▶ Synchronize Drill on Report Blocks
- ▶ Hide Drill Toolbar on Startup

You also have the choice of defining where a drill session starts. Just beneath the Drill Options selections are two option buttons that allow you to start drill sessions on a duplicate or existing report. The default selection is On Existing Report. Figure 1.11 shows the available options as they appear in the Web Intelligence Preferences menu.

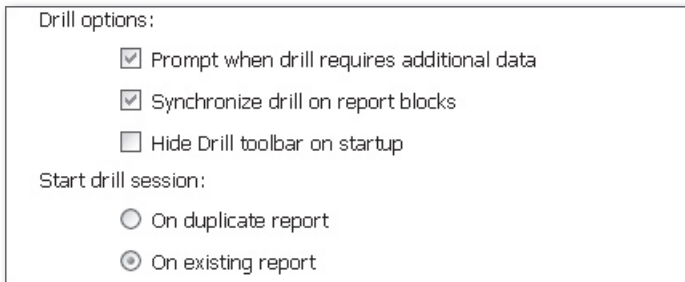


Figure 1.11 Drill Options Settings and Drill Session Start Type

1.3.5 Saving to Microsoft Excel Priority

The final setting in Web Intelligence Preferences is to assign the priority for saving reports to Excel. The default setting is to prioritize easy data processing in Excel.

Following are the two choices:

- ▶ Prioritize the Formatting of the Documents
- ▶ Prioritize Easy Data Processing in Excel

1.4 Reporting Analysis Environments

Web Intelligence reporting is delivered to business users in either a zero-client or thin-client method. Reporting documents are accessed through a web browser by logging on to the InfoView portal or opened in the locally installed Web Intelligence Rich Client tool.

1.4.1 Zero-Client Online Analysis

You don't have to install SAP BusinessObjects software to experience the benefits of Web Intelligence. With just a web browser, you can log on to InfoView to view, create, edit, analyze, schedule, or interact with Web Intelligence reporting documents.

1.4.2 Thin-Client Development

Since the addition of the Web Intelligence Rich Client, analysis has been extended to power users who need to analyze data while being disconnected from the CMS or enterprise portal.

When connected to the CMS, documents can be exported directly to the enterprise system for online analysis. Once published, reports created in Rich Client are easily shared with other enterprise users.

1.5 Viewing and Saving Reports

Web Intelligence reports can be viewed in InfoView with four different viewing modes. Each mode displays data differently and can be easily switched.

Figure 1.12 shows the four modes for viewing a report in Web Intelligence. To change formats, click the small down arrow to the right of the View button to reveal the full list of view modes. Page mode allows you to view the report the way it fits on a page while also having the luxury of drilling into the data.

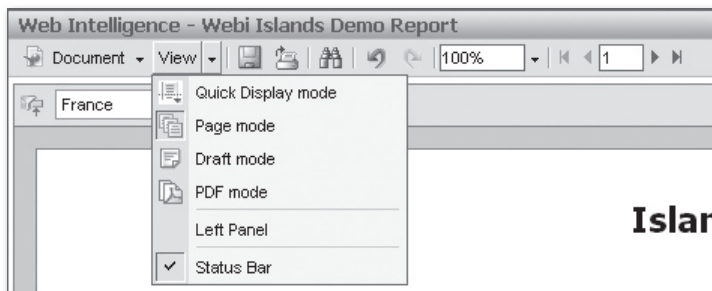


Figure 1.12 View Modes Available in Web Intelligence

1.5.1 Report Viewing Modes

Quick Display mode and Draft mode are very similar when viewing reports and show the data in the report elements the way they exist on the screen rather than optimized for printing. These two sections are very useful when analyzing data that will be either exported to Excel or just viewed.

Quick Display mode shows report headers and footers while Draft mode displays on the report body.

PDF mode is very convenient for viewing data that needs to be formatted for printing in a professional style. In this mode, reports are converted to PDF within the same window. The drawback of PDF mode is that drill filters are no longer present.

Other functions available in Web view are the options to Edit (if proper permissions have been granted), Refresh Data, and Track Changes. If you edit a report, you'll have the opportunity to modify the SQL in the Query Panel and access many features and properties in the Report Panel. Both panels will be discussed in detail over the course of this book.

To close, edit, save, or access the properties of a reporting document, click the Document button in the upper-left corner of the Web Intelligence default toolbar. Figure 1.13 shows the list of actions available when you click the Document button.

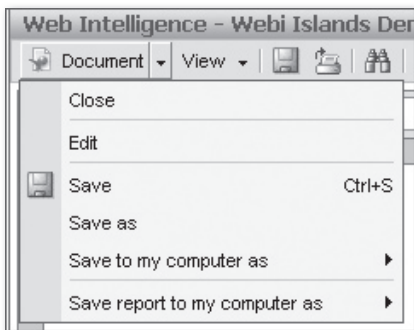


Figure 1.13 Actions Available for an Opened Web Intelligence Document

1.5.2 Saving Web Intelligence Reports

Web Intelligence documents can be saved to the repository of the CMS by clicking Save As in the Document menu. Click Save to My Computer As to export the data to your PC as one of the following file types: XLS, CSV, or PDF.

By clicking Save, you'll overwrite the existing version. Depending on your rights, you can update Web Intelligence documents that reside in the folder structure within InfoView.

1.6 Summary

Web Intelligence provides an extensive set of mature features that combine complex query building with detailed analytical reporting capabilities. This best-in-class reporting tool introduced in 1997 has evolved to become the standard ad hoc analysis and reporting tool for many corporations around the world.

The core functionality of Web Intelligence contains an extensive list of valuable features. Developing complex queries visually without knowledge of the underlying SQL makes report building much easier for business users. The ability to query multiple data sources within the same document and linking the results by merging dimensions is an extremely valuable analytical report development feature.

Web Intelligence reports are easily viewed and analyzed by using only a web browser connected to the InfoView portal. Reporting documents can be shared with selected users across the enterprise and then scheduled to be refreshed and delivered to a user inbox or external email address.

You can take analysis offline with Web Intelligence Rich Client. Report developers now have the capability of saving Web Intelligence documents locally and analyzing data without being connected to the CMS. This functionality is similar to Desktop Intelligence but with all of the advantages of Web Intelligence.

Chapter 2 will introduce you to the patented SAP BusinessObjects semantic layer known as the SAP BusinessObjects Universe.

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