

Oracle® Discoverer 10g Interfaces

By Dan Hotka

Editor's Note: Web interface or desktop interface!? Which is better? What are the differences? Do end users have access to both? Are they easy to implement? When and where do you use one over the other? Can you use both in your Oracle environment? Must they connect to a 10g database? What if you are running 9i? How do you decide? How do you know? Dan Hotka answers all these questions, de-mystifying Discoverer's interfaces, and provides several excellent examples for maximizing your use of these tools.

Introduction

This article will compare the two main interfaces of Oracle Discoverer 10g: the Web interface, Discoverer Plus, and the desktop interface, citing pros and cons about each, and offering a wide variety of tips and techniques. It will start with a description of how each interface works, followed by an overview of the main feature-by-feature differences. Next, illustrations of tips and techniques helpful in day-to-day usage of Discoverer will be provided, and finally a quick peak at the Desktop's command-line interface.

Discoverer Overview

The Oracle Discoverer 10g environment revolves around the End User Layer (EUL). The EUL is a meta-model of the underlying Oracle database environment. The EUL allows for the Oracle database environment to appear to end users as folders and items. The Administrator tool (Windows based only) is used to create and maintain

the EUL. The EUL contains all the information about the underlying Oracle database application for the Discoverer users.

EUL's contain information organized by business units. The business units contain folders (Oracle tables), and the folders contain items (Oracle columns or pre-defined calculations, sorts, etc., called complex items). Relationships among the folders are established using hierarchies. The administrative tool has automated features that can pick up existing application objects and relationships and convert them into the EUL (folders, items, and hierarchies).

The EUL also contains security, permissions, and options on who can see what data, and perform what tasks.

Oracle Discoverer is a read-only view of the Oracle database, which

makes for a perfect drill down tool for data warehouse, financial, and data mart type applications. Discoverer is an easy reporting tool for almost any end-user application.

Users connect to the Oracle environment using either the Web interface or the desktop interface. Both tools allow the users easy access to their assigned data. Both tools must connect to an EUL. Both tools are essentially the same with a few important distinctions that are addressed later in this article.

Figure 1 illustrates how the Web tools, Discoverer Plus and Viewer, require the Oracle Business Application Server for their Java components. The Administrative and Desktop tools are Microsoft Windows based applications. The EUL is a series of fifty plus table objects that contain folders, items, relationships, and permissions.

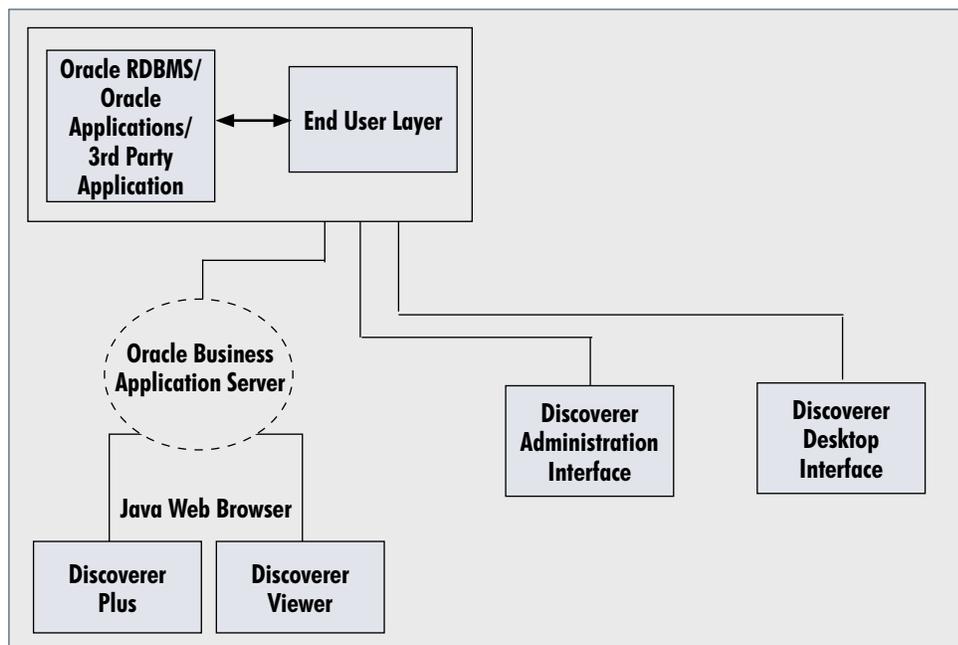


Figure 1: Oracle Discoverer Architecture

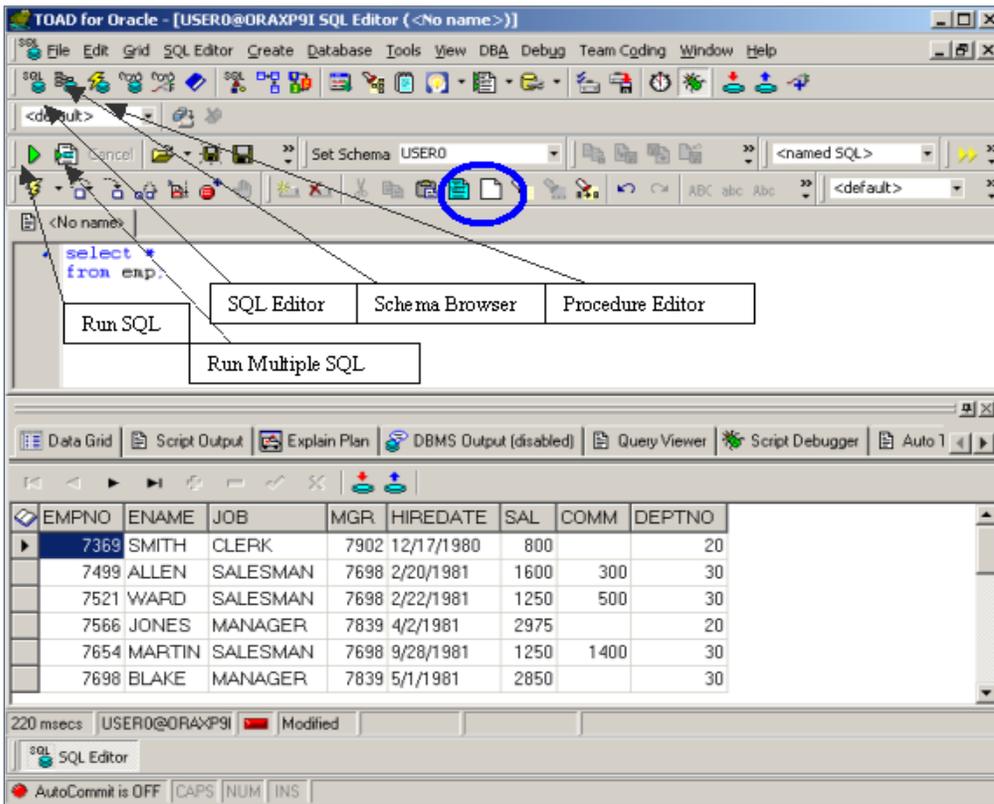


Figure 2: Discoverer Underlying SQL

Discoverer simply creates SQL that is passed to the underlying Oracle database. This SQL can always be viewed via the Show SQL function.

Discoverer Desktop vs. Discoverer Web Interface

The remainder of this article will focus on tips and techniques using Discoverer Plus, the main Web interface, and Discoverer Desktop interfaces.

Table 1 illustrates the main differences between these two interfaces.

As illustrated in Figure 1, both interfaces use the same EUL. For the most part, using either interface will produce quality results with a minimum of effort. There are a few differences and only a few things that one interface does better than the other interface.

Discoverer Sub-Query Processing

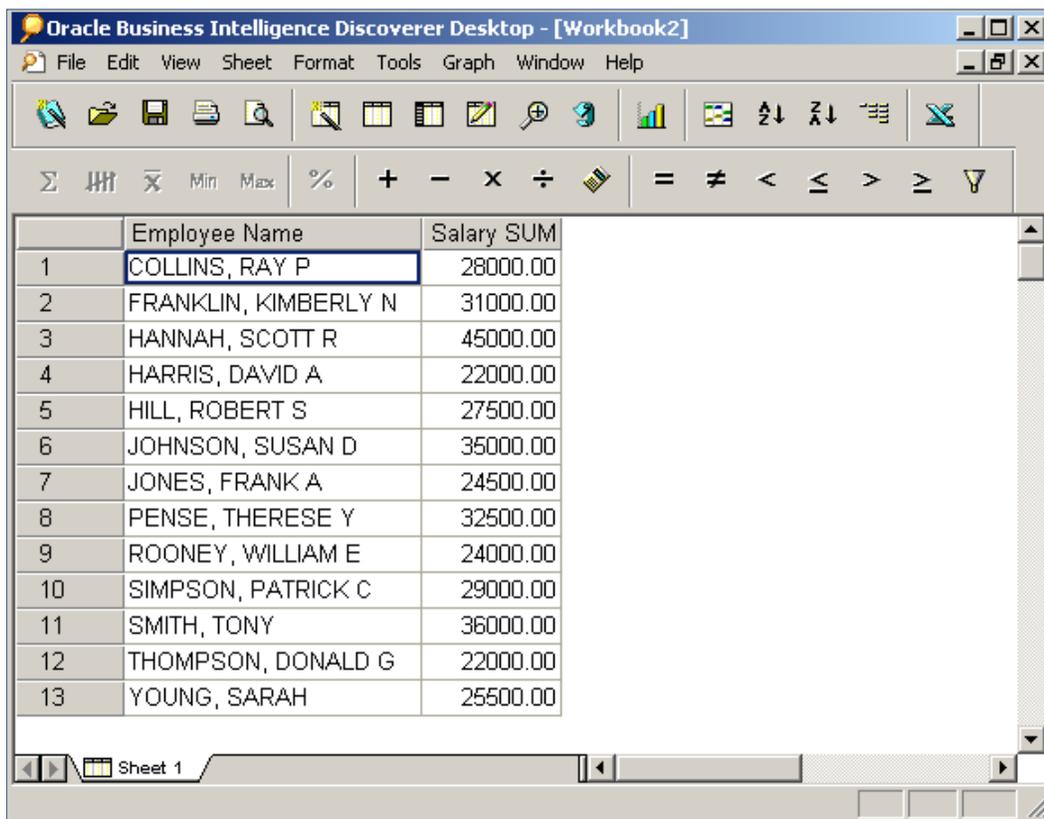
Sub-queries are useful anytime you need to look up an answer to plug into another equation. Only the Desktop interface handles sub-queries.

Let's start with a simple example to demonstrate the prowess of sub-queries. The requirement is to determine which employees earn more than the average salary paid at Company X, as shown in Figure 3. Without a sub-query, it would be very difficult, if not impossible to execute this request in a single step.

Discoverer Desktop Advantages	Discoverer Web Advantages
Can have multiple workbooks open at the same time	Reports easily accessible via any Java-compliant Web browser
Has a clipboard function that allows for column items to be easily shared across workbooks	Export has more options such as Acrobat PDF and Excel Pivot Table formats
Supports bitmap images in titles and data area backgrounds	Has Text Area
Can drill down on graph points	Supports multi-column change support for same data type items (i.e., can add \$ to numeric fields, etc.)
Can drag pie graph slices	More Graphing style options, graphs are integrated with reports
Can send report as an attachment (only available in Viewer)	
Has a command-line interface for batch processing of workbooks	
Can easily make a worksheet a new workbook	
Supports sub-queries in its conditions	
Prompts for saving workbook changes no matter how you exit the application	

Table 1: Interface Comparison

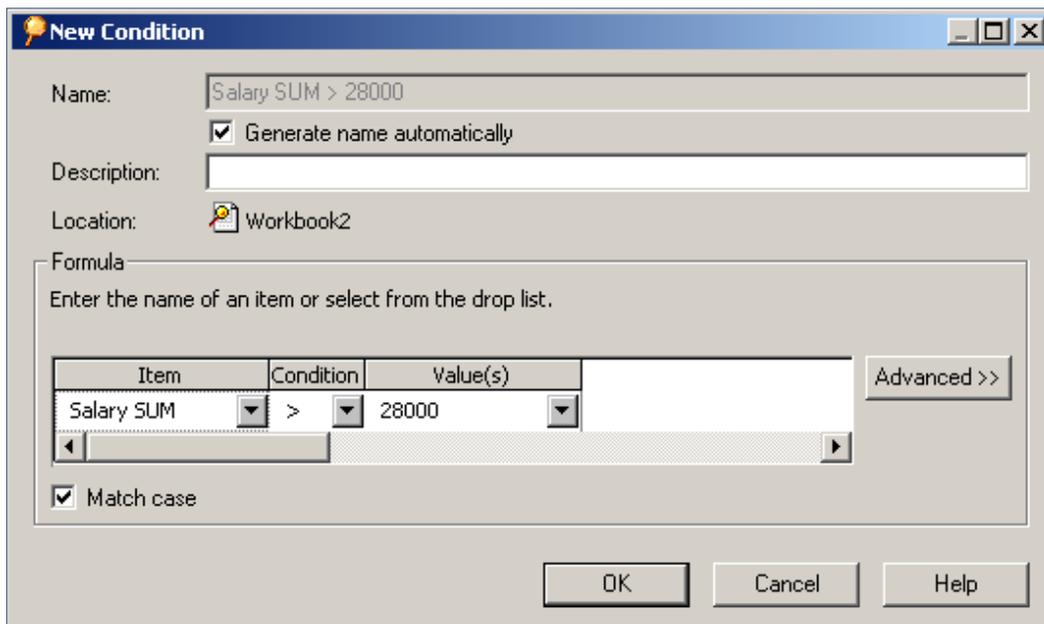
1. To begin, click on the SalarySUM column, then click the ">" button or the menu item Tools > Calculations to invoke the New Condition wizard shown in Figure 4.
2. Next, select Create Subquery in the list of values (LOV) dropdown menu as shown in Figure 5.



The screenshot shows the Oracle Business Intelligence Discoverer Desktop interface. The main window displays a table with 13 rows of employee data. The columns are 'Employee Name' and 'Salary SUM'. The first row is highlighted, showing 'COLLINS, RAY P' with a salary of 28000.00.

	Employee Name	Salary SUM
1	COLLINS, RAY P	28000.00
2	FRANKLIN, KIMBERLY N	31000.00
3	HANNAH, SCOTT R	45000.00
4	HARRIS, DAVID A	22000.00
5	HILL, ROBERT S	27500.00
6	JOHNSON, SUSAN D	35000.00
7	JONES, FRANK A	24500.00
8	PENSE, THERESE Y	32500.00
9	ROONEY, WILLIAM E	24000.00
10	SIMPSON, PATRICK C	29000.00
11	SMITH, TONY	36000.00
12	THOMPSON, DONALD G	22000.00
13	YOUNG, SARAH	25500.00

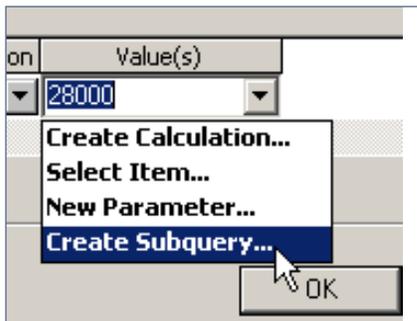
Figure 3: Employees and Salaries



The screenshot shows the 'New Condition' dialog box. The 'Name' field contains 'Salary SUM > 28000'. The 'Generate name automatically' checkbox is checked. The 'Location' is set to 'Workbook2'. The 'Formula' section shows a table with columns 'Item', 'Condition', and 'Value(s)'. The 'Item' is 'Salary SUM', the 'Condition' is '>', and the 'Value(s)' is '28000'. The 'Match case' checkbox is checked. There are 'OK', 'Cancel', and 'Help' buttons at the bottom.

Item	Condition	Value(s)
Salary SUM	>	28000

Figure 4: New Condition Wizard



3. Click on the New button (Figure 6) to start the New Sheet wizard (Figure 7).
4. The requirement is to determine who makes more than the aver-

age salary; therefore select a table format, then Salary AVG from the Employee folder (Figure 7). This will create another sheet in the workbook as shown in Figures 8 and 9.

Figure 5: Values Dropdown Menu

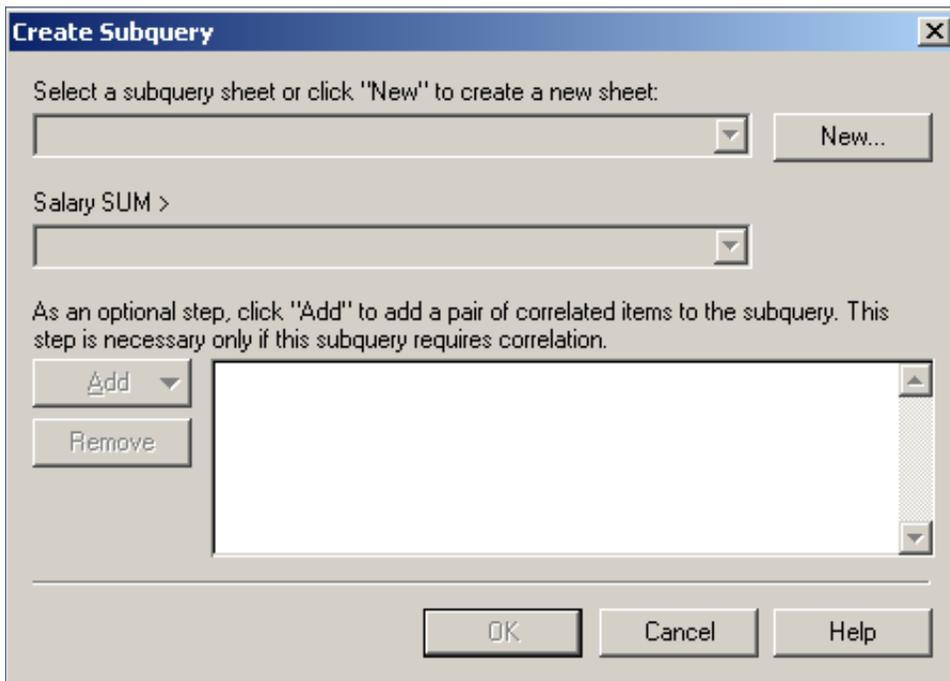


Figure 6: Create Subquery Wizard

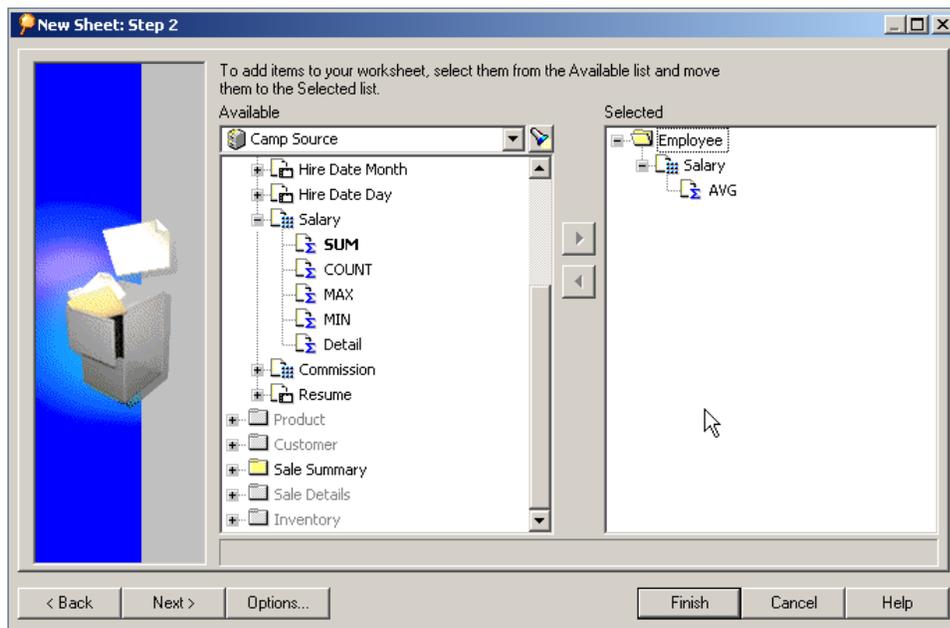


Figure 7: New Sheet Wizard

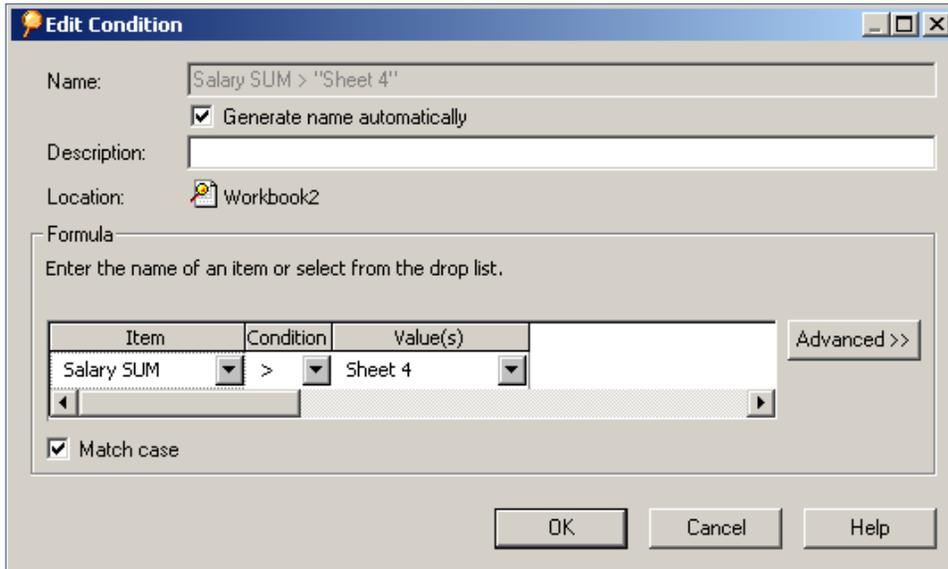


Figure 8: Subquery Wizard for New Sheet.

- Figure 9 illustrates that sheet 4 only contains a single column displaying the average salary for all of these employees. The condition will execute this sheet to get the average salary, which is used in the original condition to satisfy the workbooks requirements, as shown in Figure 10.

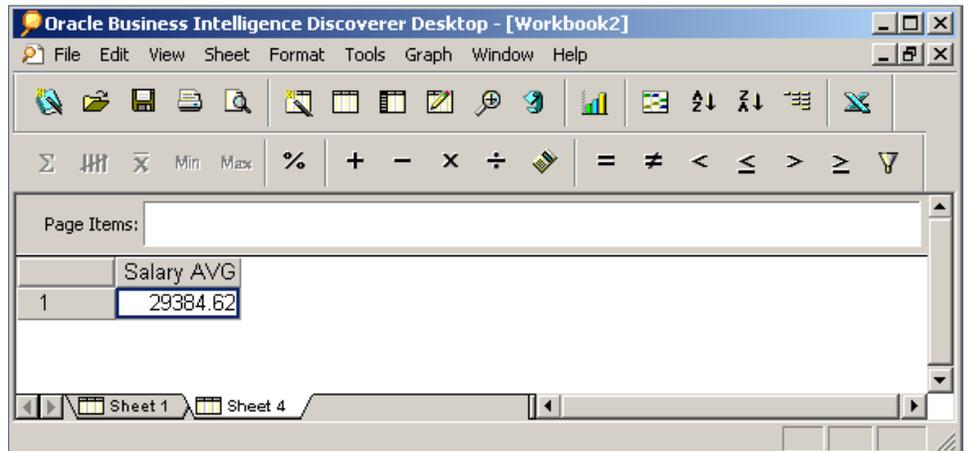


Figure 9: Sheet 4 and the Average Salary

Discoverer Option Settings

Oracle Discoverer has a number of useful options that control the Discoverer environment for the users and features in the EUL itself. The desktop stores its options on the local workstation. The Web interface stores its options in the EUL.

The desktop interface has a few more options than the Web interface, as shown in Figures 11 and 12.

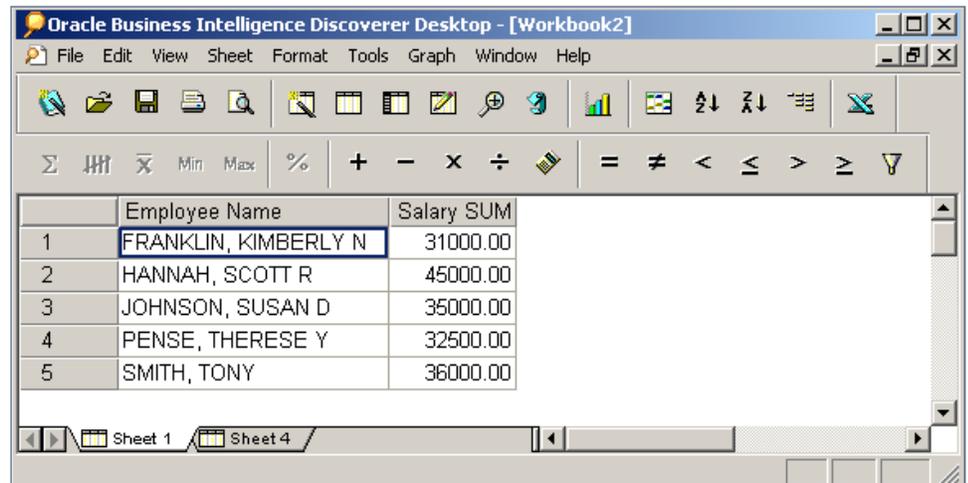


Figure 10: Workbook with Working Condition

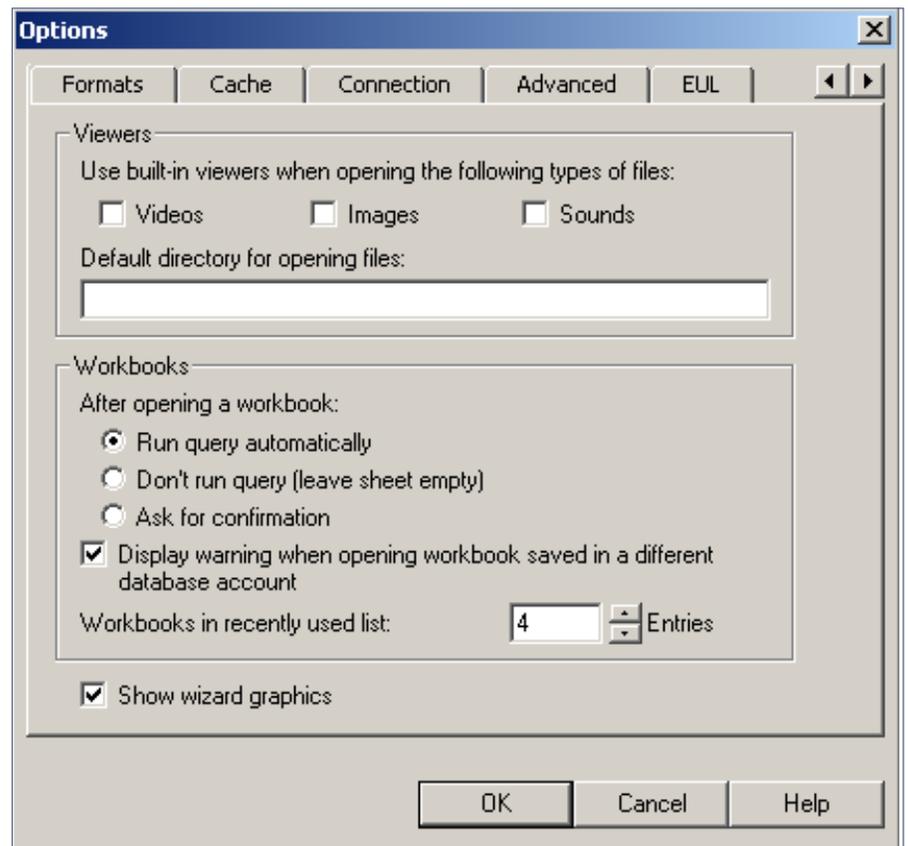
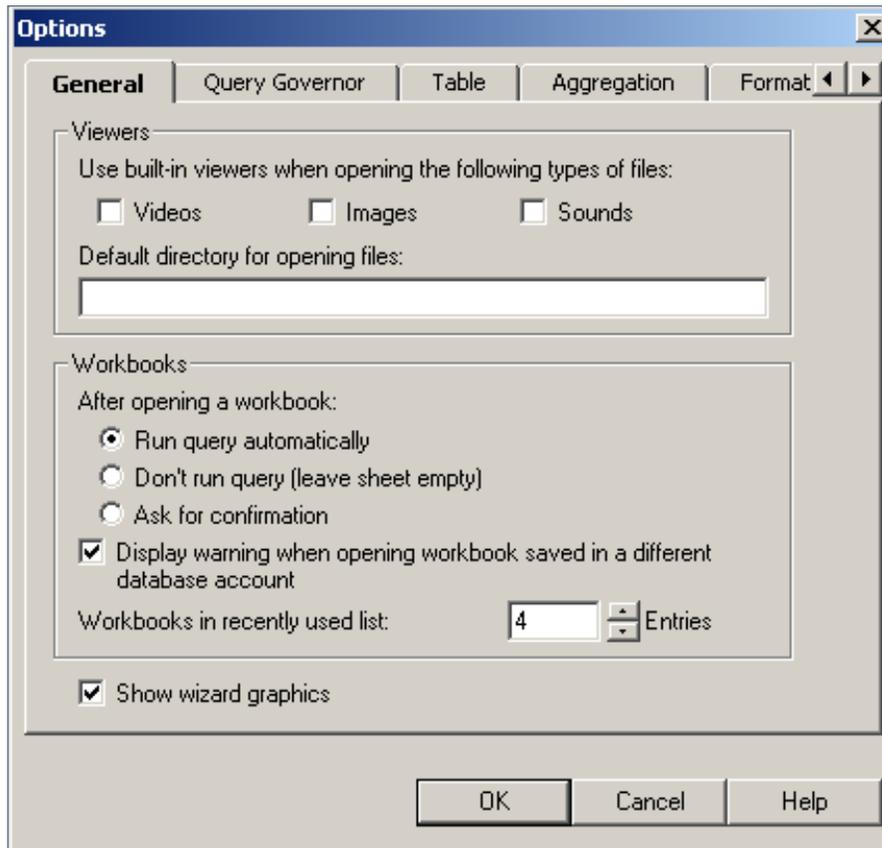


Figure 12: Desktop Options

In contrast, Figure 13 displays the Discoverer Plus Web-based options.

The SHEET tab covers the desktop table and sheet options.

The GENERAL tab contains useful default execution settings. If you typically edit long-running sheets, then perhaps you do not want to run the query first. Pressing the recycle button will always execute the current sheet.

The QUERY GOVERNOR is only available when the underlying Oracle database is 10g or greater and the query governor has to be enabled. Also, the EUL administrator has similar options and the user interface cannot supersede any limits set by the EUL administrator.

The FORMATS tab handles the base column level formats.

The Desktop version has a CACHE tab, where you can define your computer's working directory for Discoverer.

Your EUL administrator will have the correct options selected for the CONNECTION tab. Caution! Do not "play" with these without prior knowledge or permission; things will go from working to not working very quickly!

The ADVANCED tab (Figure 14) is probably the most important of the settings.

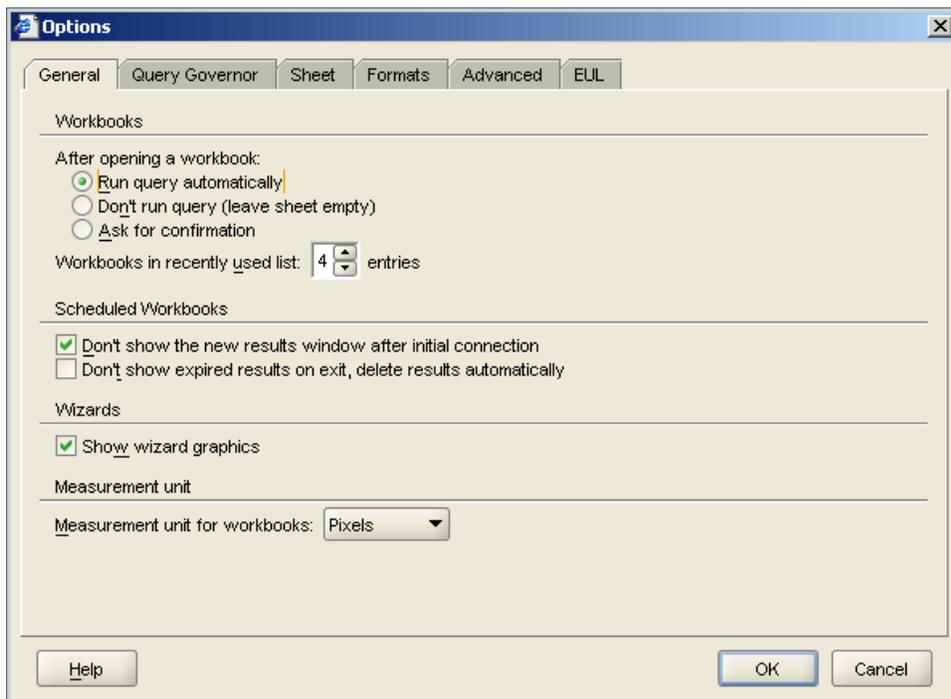


Figure 13: Discoverer Plus Options

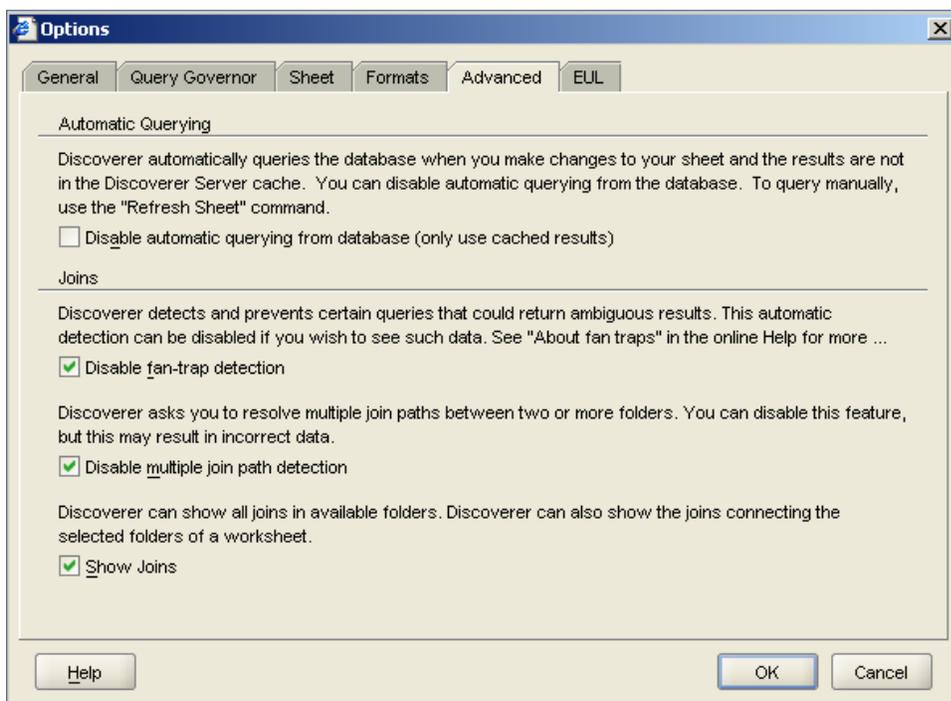


Figure 14: Advanced Option Settings

The first option is easy to follow: It simply asked if you want to always initiate the running of a sheet / query?

Fan-trap and multiple join path detection are related. If you make reference to more than one folder in a sheet and the items relating the two folders together are not selected, you will get an error and the sheet will not run.

Make sure that both of these options are selected.

The final EUL tab really applies to just the desktop version. This tab identifies the EUL that the user is connecting to. This information is given at login time with the Web interface. Changing this item requires the user to reconnect to the database.

Command Line Interface

The desktop and administrative interfaces both have a command line interface. This allows for the sheet to be automatically processed via a script. For end users, just note that anything you do to a sheet such as scheduling it, repeatedly running it, and exporting it to a specific format

can be automated, alleviating you from having to perform redundant tasks.

To view the command line options, start a DOS prompt and enter "DIS51USR /?" as shown in Figure 15.

The commands can be entered, each on a single line, into a command file. The example in Figure 16 will connect to Discoverer in a batch mode, connect to USER20 on a database named ORAXP10g, open a workbook on the workstation named EMPLOYEES, and export the output in an MS Excel format.

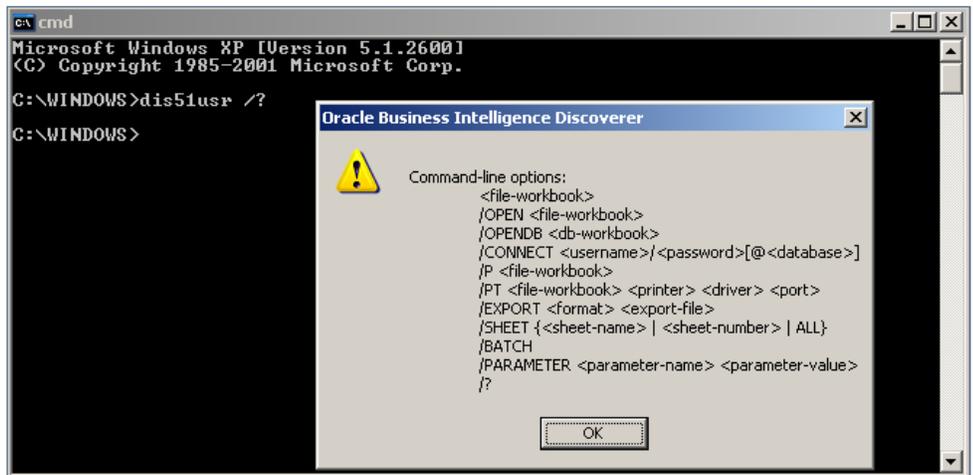


Figure 15: Discoverer Desktop Command Line Interface

Summary

This article covered some of the more obvious and important differences between the two main Oracle Discoverer interfaces. Watch for future articles in coming editions of ORAtips about Oracle Discoverer 10g and other related topics.

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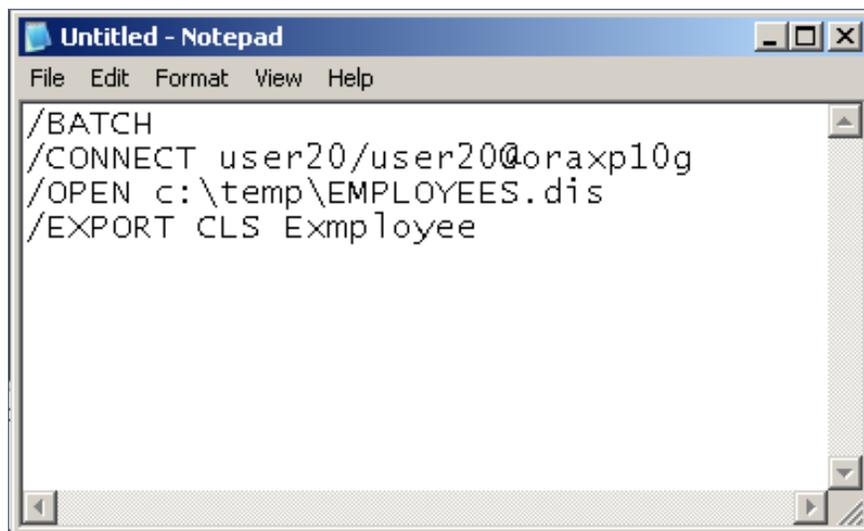


Figure 16: Command Line File for Discoverer Desktop

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