



PeopleTools 8.12 PeopleSoft  
nVision PeopleBook

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PeopleBook

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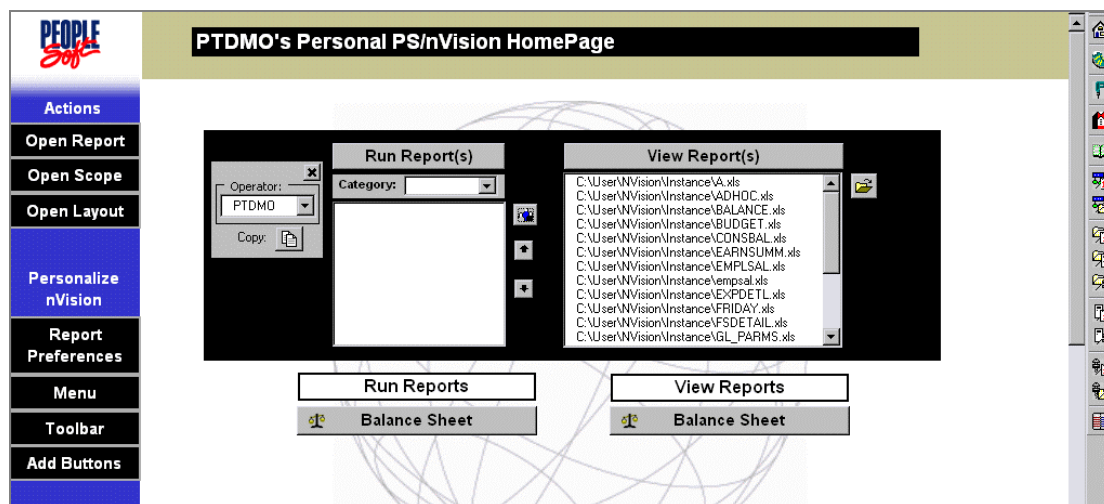
## CHAPTER 1

# Understanding PS/nVision

PS/nVision retrieves information from your PeopleSoft database and places it into a Microsoft Excel spreadsheet—not merely as “raw” data but as information in a form that helps you see the big picture, explore the details, and make decisions. You use familiar Excel commands to format and analyze the data. By using PS/nVision, you can spend your time analyzing results rather than summarizing data and entering it into your spreadsheet. In this chapter we’ll provide an introduction to the sophisticated reporting options available through PS/nVision.

PS/nVision doesn’t just work with spreadsheets—it works *within* them. You access PS/nVision features from a special nVision menu within Microsoft Excel to create your templates (layouts) for data retrieval. You create a layout (.xnv file) for each report format that you want, and all the formatting that you created stays the same every time you run your report until you decide to make changes in your layout.

Your organization can also create a custom “front-end” macro sheet to give your users point-and-click access to reports and reporting functions. The nVision front-end has been designed for easy navigation and has the same look and feel as a Web browser with customizable buttons and displays.



NVSUSER HomePage

Because PS/nVision works from within your spreadsheet, you’ll use the familiar commands Excel offers for inserting formulas, formatting, and graphics. We’ll review some of the more common Excel features in this chapter, but for more detailed information see your *Microsoft Excel User’s Guide* or the Excel online help.

PS/nVision selects data from your PeopleSoft database using ledgers, trees, and queries for use in Microsoft Excel. Queries are useful for extracting data from sources other than ledgers, so you should be somewhat familiar with Query concepts, especially the nature of query “result sets,” before working with PS/nVision. Also, tree data is used to limit the query results, so you should be familiar with the concepts of node and detail values.

## Working with PS/nVision

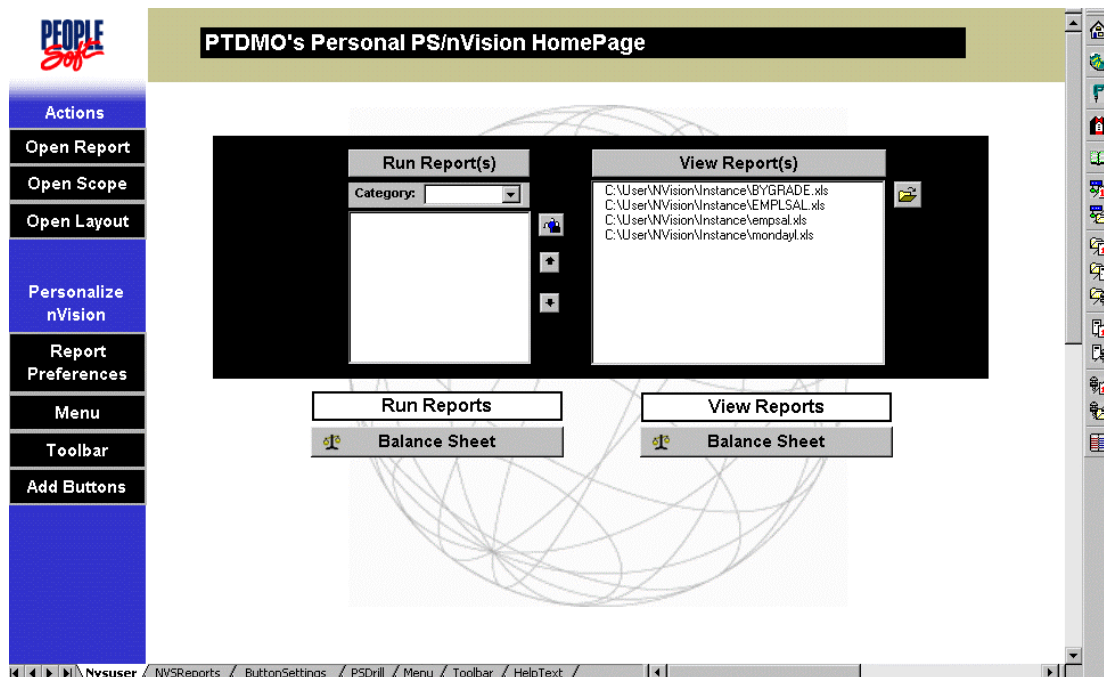
You start PS/nVision from PeopleTools or from a PeopleSoft application by selecting Go, PeopleTools, nVision. Or, you can start PS/nVision directly from Microsoft Windows by double-clicking the PS/nVision shortcut. The PeopleSoft sign on dialog box appears. Enter the database name, user ID, and password as you would to start any PeopleSoft application.

When PS/nVision starts, it automatically opens Microsoft Excel. The PS/nVision program itself will appear minimized on the Windows taskbar. You can click the PS/nVision icon to open the PS/nVision window, but unless a specific PS/nVision dialog box is currently active in Excel, the PS/nVision window will be blank.



**Note.** Don't close this window—it will end your nVision session, even though Excel is still running.

You actually initiate PS/nVision commands using the nVision menu in the Excel menu bar or—depending on your set up—by using a special spreadsheet file, NVSUSER.xls, which opens when you start PS/nVision. When you close Excel, PS/nVision is automatically closed as well.



PS/nVision's Special Spreadsheet File, NVSUSER.XLS



For more information on NVUSER.XLS, see Personalizing NVUSER.XLS.

---

## Report Instances and Report Layouts

We refer to each Excel spreadsheet created with PS/nVision as either a report *instance* or a report *layout*. A report instance contains data that PS/nVision has retrieved from your PeopleSoft database. It is the end result of using PS/nVision. Every report you can create is based on a report layout. When you run a report, PS/nVision uses the specified layout to determine what data to retrieve for the report and how to display it. Therefore, creating a PS/nVision report is a three-step process:

- First, someone must define a *report layout* that specifies what ledgers, criteria, or queries to use for the report and how to format the report. The report layout is really just an Excel spreadsheet. However, it doesn't include any actual PeopleSoft data; it's just the structure of the report—query information, criteria, text, formulas, graphics, formatting, or other information you want to include. This step is only required the first time you create the report; once the layout has been saved, you can use the same layout repeatedly to run your reports.
- Someone must also create a report *request*, specifying the layout and run-time options for the report.
- After defining a report layout and request, you run the report request, using the nVision menu in Microsoft Excel, the Run button on the request dialog box, or a button/macro that calls PS/nVision to run the report. You can produce multiple *instances* of the report as needed. For example, you might provide an inventory report for each location within your organization. Each instance is an individual report with up-to-the-minute data from your database, selected and formatted according to the instructions in the report layout.

The layout and request are all you need to run your report—creating a spreadsheet rich with data. As the report runs, a copy of the layout, called an *instance*, is populated with data and is saved as a normal spreadsheet file.



**Note.** If you're using a scope with your report, you can produce several instances from one layout with one report request.

---



For more information on scopes, see Defining Report Scopes.

---

You may never need to create your own layout. Most PeopleSoft applications deliver a number of typical PS/nVision report layouts (such as Salaries by Department, Balance Sheet, Profit and Loss, and Operations Summary). Once a library of layouts has been created for your organization, you simply select the existing layout that best suits your needs. PS/nVision keeps track of which layout each report uses, so all you need to do to run a report is specify the report request. As with

any spreadsheet, a layout spreadsheet can be cloned and modified; you may rarely need to build one from scratch.

Besides the numerous features that are available to you through PS/nVision, you can use all of Excel's powerful features to personalize layouts (and the resulting reports) to your liking. For example, Excel features dynamically linked charting and drawing tools for creating colorful graphs and diagrams. To help get your message across, you can add your own finishing touches to a layout. Because the layout is the basis for all reports produced from it, you can format and enhance the report once and get the benefits automatically each time the report is run.



**Note.** If you're working with PeopleSoft Financials products, you may be interested in using ledgers with PS/nVision and taking advantage of the TimeSpan feature to define reports that "roll" from period to period without any changes to the layout. Using TimeSpans, the same layout can retrieve year-to-date data based on the "as of" date for which the report is requested.



For more information on TimeSpans and other unique features available when using ledgers with PS/nVision, see *Creating Ledger-Based Matrix Layouts*.

## Layout and Instance Example

To help you visualize the relationship between a report layout and a report instance, we've provided a sample matrix layout below that contains unique data selection criteria for individual rows and columns. Below the layout is an example of a report based on the layout. The Sales and Costs columns specify account numbers, and the rows specify department numbers. In the final report, each cell contains the data for the account number (column) and department number (row) that intersect at that cell.

### Sample Layout

%APN%			
Department	Description	Sales	Costs
Tree Node for Sales Depts.	Label Associated with Department Table	Software License Revenue Account 600000	Sales Expense Accounts 800000 and 801000
Sales Departments		sum	sum

### Sample Report

October			
---------	--	--	--



Department	Description	Sales	Costs
0200	San Francisco	4,800	2,774
0210	Chicago	3,500	1,883
0220	New York	4,800	2,774
0230	Paris	3,800	1,994
0240	Tokyo	5,700	1,778
Sales Departments		23,600	11,203

A sample matrix layout and corresponding report

This sample layout contains several types of information:

- **Text.** This refers to text that appears “as is” in all report instances. In the sample above, the column headings are literal text that will be the same in all reports created from the layout.
- **PS/nVision variables.** PS/nVision replaces these variables with appropriate values when you run a report. The sample layout uses the %APN% variable for the time period reported on. When PS/nVision creates a report with this layout, it replaces the variable with the period covered by the report. If you use a scope to produce multiple instances of a report, you can use variables in the report heading so each reader knows what data the report contains.
- **PS/nVision labels.** PS/nVision examines the tree structure and determines where to obtain the appropriate label for either a tree node or a detail value. In the case of the preceding sample, PS/nVision relates a sales department description to the department table entry for each department corresponding to the “Sales Depts” tree node.
- **PS/nVision selection criteria.** Selection criteria specify what data to retrieve from your PeopleSoft database. For example, the Sales column in the sample layout has criteria associated with it telling PS/nVision to retrieve the data from the sales account.
- **Microsoft Excel formulas.** These perform calculations on the report data. In the earlier sample, the bottom row automatically displays the sum totals of the Sales and the Costs column. You could add a calculated column, Gross Income, calculated via an Excel formula that subtracts Costs from Sales.
- **Formatting.** Formatting information includes attributes such as font size, underlining, column width, print options, and so on. You design your layouts using familiar Excel methods; any formatting and enhancements you place in the layout will appear in all reports created from it.



## Using Excel Features

In addition to the functionality provided by PS/nVision for retrieving data from your PeopleSoft database, you still have all of Microsoft Excel’s familiar features at your disposal, including the ability to insert formulas, add and format text, and so on.

## Inserting Formulas

Formulas allow you to perform calculations, foot or cross-foot columns or rows, compute variances, calculate ratios, and so forth. You can use cell references such as =C2+C3, name references such as =Revenue-Expenses, or worksheet functions (see the Excel documentation or online help for a list of commands). All formulas begin with an = (equals) sign. You can use a number of formula operators for calculations. The most common are the following:

<b>Symbol</b>	<b>Description</b>	<b>Purpose</b>
+	Plus sign	Addition
–	Minus sign	Subtraction
*	Asterisk	Multiplication
/	Slash	Division
:	Colon	Range
	Space	Intersection
,	Comma	Union
–	Hyphen	Negation
%	Percent sign	Percent
&	Ampersand	Text concatenation operator

Entering formulas is fairly straightforward. Simply click in the cell on your worksheet where you want the formula or text to appear, and begin typing. As you type, your cursor will appear in Excel's formula bar (the rectangular box just below the menu bar, above the table). To the left of your cursor will appear the Cancel  and Enter  buttons.



Excel formula bar

## Inserting and Formatting Text

Text is used mainly for column and row headings, captions, and callouts, and Excel has a number of formatting features for enhancing the appearance of text in your worksheet.

Formatting is also fairly straightforward—provided that you know where to look. To resize columns and rows in Excel, either highlight the row or column and drag its border, or select Format, Column Width or Format, Row Height. You can also select Column Width, Best Fit to

automatically set the width for headings. Don't select Best Fit until you have typed the longest line in the column.

If you want the column headings to wrap within a cell, select Format, Cells and then select Wrap Text on the Alignment tab.



**Note.** You can use conventional Excel commands for additional formatting.

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For more information on text formatting, see your *Microsoft Excel User's Guide* or the Excel online help.

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## ABOUT THIS PEOPLEBOOK

This book covers the use of PeopleSoft n/Vision®, a PeopleTool that you use to design and create Microsoft Excel® spreadsheet reports on your PeopleSoft data. Its chapters cover the basic concepts behind PS/nVision, how to run PS/nVision reports, how to create the layouts on which your reports are based, and how to secure and tune PS/nVision.

## Audience

This book is written for decision support team members who want to design or create PS/nVision reports. To take full advantage of the information covered in this book, we recommend that you have a basic understanding of how to use PeopleSoft applications. You should also be comfortable using Microsoft® Windows.

This document assumes that you are familiar with PeopleTools, specifically Tree Manager and Query, and with Microsoft Excel. It also assumes a basic familiarity with relational database concepts and SQL. Finally, some of PS/nVision's functionality is designed to access PeopleSoft ledger data. If you want to use these features, you should be familiar with the PeopleSoft General Ledger application.

## Topics

Understanding PS/nVision describes how PS/nVision works with Microsoft Excel to extract and organize data from your PeopleSoft database.

Running PS/nVision Reports explains how to create and submit a PS/nVision report request.

Understanding Layouts discusses the differences between the two types of PS/nVision report layouts and what each layout type is best used for.

Creating Tabular Layouts explains tabular layouts and how to create them.

Creating Matrix Layouts explains query-based matrix layouts and how to create them.

Creating Ledger-Based Matrix Layouts highlights the differences between creating ledger-based matrix layouts and query-based matrix layouts.

Defining Report Scopes describes how to set up scopes to create multiple instances of the same report.

Using DrillDown explains how to use nVision's DrillDown feature to select a field and show supporting detail.

Using nPlosion gives instructions on using nVision to expand rows or columns containing field criteria.

Advanced PS/nVision Options contains information on advanced PS/nVision concepts such as report scope, DrillDown, and Report Books.

Personalizing PS/nVision provides information on how to modify the PS/nVision directory settings and the NVUSER.XLM Excel interface macro. And, it lists the PS/nVision API functions that you can access through your own Excel macros.

Using the PS/nVision VBA Interface provides a reference to the VBA interface objects and methods that allow you to programmatically call PS/nVision's features for reporting and analysis tasks.

PS/nVision Security discusses how you can control what data PS/nVision users can access, and how to control access to PS/nVision functionality.

PS/nVision Performance Tuning includes information on the SQL that PS/nVision generates, how it interacts with your relational database, and how to tune PS/nVision SQL for best performance.

PS/nVision Reporting on the Web explains how to run, view, and distribute your nVision reports from a browser.

Using Tree Manager to Distribute Reports describes a set of pages that can be used with Tree Manager to allow you to attach routing information to the trees that are used for bursting nVision reports.

## Before You Begin

To benefit fully from the information covered in this book, you need to have a basic understanding of how to use PeopleSoft applications. We recommend that you complete at least one PeopleSoft introductory training course.

You should be familiar with navigating around the system and adding, updating, and deleting information using PeopleSoft windows, menus, and pages. You should also be comfortable using the World Wide Web and the Microsoft® Windows or Windows NT graphical user interface.

## Related Documentation

To add to your knowledge of PeopleSoft applications and tools, you may want to refer to the documentation of the specific PeopleSoft applications your company uses. You can access additional documentation for this release from PeopleSoft Customer Connection ([www.peoplesoft.com](http://www.peoplesoft.com)). We post updates and other items on Customer Connection, as well. In addition, documentation for this release is available on CD-ROM and in hard copy.



**Important!** Before upgrading, it is *imperative* that you check PeopleSoft Customer Connection for updates to the upgrade instructions. We continually post updates as we refine the upgrade process.

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## Documentation on the Internet

You can order printed, bound versions of the complete PeopleSoft documentation delivered on your PeopleBooks CD-ROM. You can order additional copies of the PeopleBooks CDs through the Documentation section of the PeopleSoft Customer Connection Web site:  
<http://www.peoplesoft.com/>

You'll also find updates to the documentation for this and previous releases on Customer Connection. Through the Documentation section of Customer Connection, you can download files to add to your PeopleBook library. You'll find a variety of useful and timely materials, including updates to the full PeopleSoft documentation delivered on your PeopleBooks CD.

## Documentation on CD-ROM

Complete documentation for this PeopleTools release is provided in HTML format on the PeopleTools PeopleBooks CD-ROM. The documentation for the PeopleSoft applications you have purchased appears on a separate PeopleBooks CD for the product line.

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## Typographical Conventions and Visual Cues

To help you locate and interpret information, we use a number of standard conventions in our online documentation.

Please take a moment to review the following typographical cues:

<code>monospace font</code>	Indicates PeopleCode.
<b>Bold</b>	Indicates field names and other page elements, such as buttons and group box labels, when these elements are documented below the page on which they appear. When we refer to these elements elsewhere in the documentation, we set them in Normal style (not in bold).  We also use boldface when we refer to navigational paths, menu names, or process actions (such as <b>Save</b> and <b>Run</b> ).
<i>Italics</i>	Indicates a PeopleSoft or other book-length publication. We also use italics for <i>emphasis</i> and to indicate specific field values. When we cite a field value under the page on which it appears, we use this style: <i>field value</i> .  We also use italics when we refer to words as words or letters as letters, as in the following: Enter the number <i>0</i> , not the letter <i>O</i> .
KEY+KEY	Indicates a key combination action. For example, a plus sign (+) between keys means that you must hold down the first key while you press the second key. For ALT+W, hold down the ALT key while you press W.
Jump links	Indicates a jump (also called a link, hyperlink, or hypertext link). Click a jump to move to the jump destination or referenced section.
Cross-references	The phrase For more information indicates where you can find additional documentation on the topic at hand. We include the navigational path to the referenced topic, separated by colons (:). Capitalized titles in <i>italics</i> indicate the title of a PeopleBook; capitalized titles in normal font refer to sections and specific topics within the PeopleBook. Cross-references typically begin with a jump link. Here's an example:  For more information, see <u>Documentation on CD-ROM in About These PeopleBooks</u> : Related Documentation.
• Topic list	Contains jump links to all the topics in the section. Note that these correspond to the heading levels you'll find in the Contents window.
 Name of Page or Dialog Box	Opens a pop-up window that contains the named page or dialog box. Click the icon to display the image. Some screen shots may also appear inline (directly in the text).





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Text in this bar indicates information that you should pay particular attention to as you work with your PeopleSoft system. If the note is preceded by **Important!**, the note is crucial and includes information that concerns what you need to do for the system to function properly.

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Text in this bar indicates For more information cross-references to related or additional information.

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Text within this bar indicates a crucial configuration consideration. Pay very close attention to these warning messages.

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PeopleTools Product Documentation Manager  
PeopleSoft, Inc.  
4460 Hacienda Drive  
Pleasanton, CA 94588

Or send comments by email to the authors of the PeopleSoft documentation at:

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While we cannot guarantee to answer every email message, we will pay careful attention to your comments and suggestions. We are always improving our product communications for you.



## CHAPTER 2

# Running PS/nVision Reports

Most end-users will use the PeopleSoft Internet Architecture to run, distribute, and view their reports using Report Manager. To take advantage of this new functionality, use PIA to work with your reports. This chapter is written for developers who use the Windows environment to create the reports that most end users will be running on the Web.



For more information on PS/nVision reporting on the Web, see PS/nVision Reporting on the Web.

---

Running a PS/nVision report is a very simple process. However, before you run a report, you may want to make certain modifications, such as changing the report scope or changing the file destination.

## Understanding Report Requests

Before you can run a PS/nVision report, you must create a corresponding report request. Each report request is a collection of report-specific information such as request name, report title, associated layout, scope, and so on. You use the Report Request dialog box to open, create, modify, or delete report requests.

When defining a report request, you can use the Scope feature to create multiple instances of a report from a single request, as shown in the figure below.

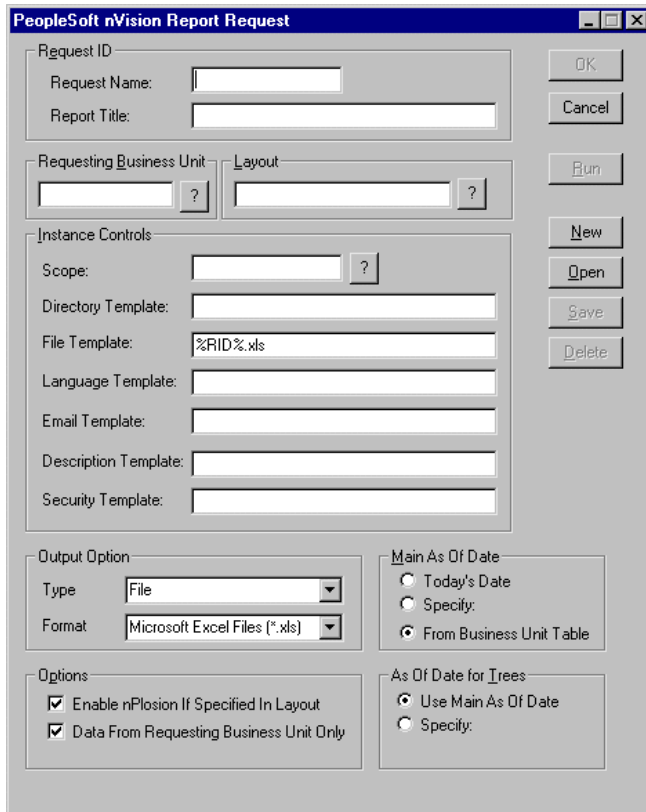


For more information on the Scope feature for report requests, see Defining Report Scopes.

---

## Creating a Report Request

You access the Report Request dialog box by selecting nVision, Report Request.



The dialog box is titled "PeopleSoft nVision Report Request". It contains several sections for configuring a report request:

- Request ID:** Fields for "Request Name:" and "Report Title:".
- Requesting Business Unit:** A dropdown menu with a "?" button.
- Layout:** A dropdown menu with a "?" button.
- Instance Controls:**
  - Scope:** A dropdown menu with a "?" button.
  - Directory Template:** A text field.
  - File Template:** A text field containing "%RID%.xls".
  - Language Template:** A text field.
  - Email Template:** A text field.
  - Description Template:** A text field.
  - Security Template:** A text field.
- Output Option:**
  - Type:** A dropdown menu set to "File".
  - Format:** A dropdown menu set to "Microsoft Excel Files (\*.xls)".
- Main As Of Date:**
  - ☐ Today's Date
  - ☐ Specify:
  - ☒ From Business Unit Table
- Options:**
  - ☒ Enable nPlosion If Specified In Layout
  - ☒ Data From Requesting Business Unit Only
- As Of Date for Trees:**
  - ☒ Use Main As Of Date
  - ☐ Specify:

On the right side of the dialog box, there are buttons for "OK", "Cancel", "Run", "New", "Open", "Save", and "Delete".

Report Request dialog box

When running a report for the first time, use this dialog box to enter specific information about the report you're running, such as what layout to use, what time period to report on, and where to store the reports. This information makes up a report request, which you can save and reuse. You also use this dialog box to open previously saved requests, to modify, save or delete them, or to kick off a report.

While you run the report, its layout file is opened in read-only mode to protect the layout from any accidental changes while the report runs. If you want to modify the layout file, you can do so by opening the layout from the nVision menu, from the Open Layout button on NVUSER HomePage, or by clicking OK on the Report Request once the report is loaded.

## Request ID

### Request Name

This name identifies your report request. When creating a new report request, you should enter a unique name that describes the contents of the report. By naming and saving report requests, you can retrieve all the information in the Report Request dialog box—rather than re-entering it—the next time you want to run the report. You can also use the %RID% variable to have the name display on an instance of the report.

### Report Title

This is the description that appears on the prompt lists allowing you to select a report. Use the %RTT% variable within a layout to display this title on a report instance. For this reason, you may want to enter a title that reflects the specific scope of your report.

### Requesting Business Unit

This is the business unit that the report belongs to. You can retrieve data for this business unit alone or for several business units. Use the %RBN% variable on your layout to show the description of the requesting business unit on a report instance. To show the value of the requesting business unit, use the %RBU% variable.

### Layout

Select the report layout (the .XNV file) to use for this report. The layout is what defines the format, structure, and data values used for the report. The directory for saving layouts is found in Configuration Manager. Use the %LYN% variable on your layout to show the layout name on a report instance.



For more information on using variable in your layouts, see Adding Variable Criteria.

---

## Instance Controls

Most report layouts enable you to create multiple instances of a report using a single report request. For example, you might run three instances of an expense report that differ only in which division they report on. All three reports share the same layout, but each contains the expenses of only one division. To produce multiple instances of a report from this request, you need to select a scope from the Scope list box.



**Note.** If you are entering a list of values in any of the template fields, make sure to use a *semicolon* to separate each item.

---

## Scope

The scope definition specifies what data each report instance includes and how many instances PS/nVision creates. For example, you can select a scope if you want to create multiple instances of a report based on specific values for a field, such as instances for business unit, department, or product. Use the %SCN% variable on your layout to show the scope name on the report instance.

Because PS/nVision may create multiple report instances when you run the report—one for each value in the scope—you might not want to enter a unique directory and file name. If you did, each new instance would overwrite the previous one. Instead, you can specify a template for which PS/nVision will generate names on each instance it creates. So, if you're running a report for multiple business units, you can have the business unit appear as part of the file name, or you can opt to save each instance into a different directory.



For more information on report scopes, see Defining Report Scopes.

---

## Directory Template

Enter a directory name from the nVision report server for your instances. Use variables to create unique directory names. If a directory does not exist, nVision will create one. If this field is blank, nVision uses the directory specified in Configuration Manager.

Examples: *Q:\Reports\%SFV%-%RID%.htm* or  
*C:\%FY4%%RTT%\*



**Note.** Any value you enter in the Directory Template field will override the Report Instance path setting in Configuration Manager. If you leave this field blank, PS/nVision will use the Configuration Manager setting.

---



For more information on the Configuration Manager PS/nVision settings, see Changing PS/nVision Options with Configuration Manager.

---

You can also include such variables as %BUV% and %APA% in the **Directory Template** field to yield directories indicating the business unit and “as of” accounting period for which the report was produced, as shown in the following example.

#### Directory Template Variables

C:\User\nVision\**%BUV%**\**%APA%**  
                   |                  |  
                   Business      As of Date  
                   Unit                  

#### Directories Created

C:\User\nVision\M03\OCT  
 C:\User\nVision\M04\OCT  
 C:\User\nVision\M03\NOV  
 C:\User\nVision\M04\NOV  
 C:\User\nVision\M03\DEC  
 C:\User\nVision\M04\DEC  
                   |                  |  
                   Business      As of Date  
                   Unit                  

#### Using variables to create directories

You create directory or file names based on the data contained in each instance by including PS/nVision variables in the file and directory templates. In fact, the default file template value is %RID%.XLS. The %RID% variable instructs PS/nVision to use the **Request Name** value as the file name, with the .XLS extension common to Excel spreadsheets.

**File Template**

Enter a file name for your instances, using variables to create unique report file names. If this field is blank, nVision uses the layout name as the default file name with the appropriate extension according to your output format. If the field is blank, nVision uses the layout name as the default file name with the appropriate output-type extension.

Examples: *expense.xls* or *%RID%.htm* or *%FY4%%RTT%.xls*

In the **File Template** box, enter the file name you want to give to your report instances. You can include nVision variables in the directory of file template fields to dynamically create file and directory names at runtime. Use the %IFN% variable to use the file name in the layout.

If the more descriptive variables don't uniquely identify each report instance, you can add the instance counter variable %ICT% to the file name template. It causes each instance to be consecutively numbered. For example, for a report named OPSUM, the template %RID%%ICT% would create files named *OPSUM1.XLS*, *OPSUM2.XLS*, and so on.

**Language Template**

Enter an alternate language code for automatic translation on the report instances. This is available only if alternate language design features are included in the layout design.

Examples: *ENG* or *%DES.DEPTID.LANGUAGE\_CD\_CD%*

If you are applying a scope to the report request, you can enter a string containing one or more PS/nVision variables (just as you do with the **File Template** and **Directory Template**).

**Email Template**

Enter a list of email addresses using scope variables to specify who will receive your report instances when the report runs. Use the %DES% variable.

Examples: *username@xxx.com* or *%DES.DEPTID.EMAILID.EMAILID%*

**Description Template**

Enter a description of the report instances for identification in Report Manager. Use variables to create the descriptions dynamically.

Examples: *Stmt. Rev & Exp* or *Vacation Register - %SFV%*



**Security Template**

Enter user IDs or variables to give specific users or role IDs access to report instances in Report Manager. To authorize a user ID, enter a U followed by a colon before the user ID. To authorize a role, enter an R followed by a colon before the role ID. If this field is blank, the report is automatically distributed to the user running the report.

Examples: *R:VP1* or *U:SMITHJ* or  
*%DES.DEPTID.OPRID.OPRID%*

**Output Options**

These options allow you to send report instances directly to a printer or to create a file. You may also choose the type of file format you want the report to use.

**Type**

Choose between sending output to a file or sending it to a local printer. Email and Web output types are not valid choices unless you are running a report from your browser.

**Format**

Select an Excel file (.xls) or HTML file format (.htm).

**Main As Of Date**

The **Main As Of Date** options enable you to set the reporting period for this report. Many report layouts associated with PeopleSoft Financials applications report on data over a given accounting period, such as the current quarter or year-to-date. PS/nVision uses the **Main As Of Date** to determine the meaning of any TimeSpans used in the layout. The date you choose is compared to the calendar to determine the current period, and TimeSpans are then evaluated relative to that period.

**Today's Date**

You can opt to use today's date.

**From Business Unit Table**

This option uses the date as specified on the business unit table.

**Specify**

You can specify another date for the report.



For more information on TimeSpans, see TimeSpans.

---

## Options

### Enable nPlosion If Specified In Layout

PS/nVision has an “nPlosion” feature that enables you to create reports that include both summary information and the supporting details. When PS/nVision retrieves the data for a summary row, it adds each detail row (for an individual detail value such as an account or product) to the report as well. Select the **Enable nPlosion If Specified In Layout** check box to enable the nPlosion feature. If you don’t select this check box, nPlosion will be disabled—even if the layout definition uses it.

### Data From Requesting Business Unit Only

When this box is selected, the report reflects only data from the requesting business unit. If you do not select this box, nVision extracts data for all business units having the criteria specified within the layout unless the business unit is specified in report scope.



For more information on the nPlosion feature, see Using nPlosion.

---

### Translate Summary Ledgers to Detail

Use this option to retrieve data from the underlying detail ledger whenever you specify a summary ledger in a layout. This option is not available if the Selected Summary ChartField Nodes method was used in the layout to retrieve the summary ledger balances.

## As Of Date for Trees

The **As Of Date for Trees** options enable you to use trees that are in effect as of the reporting date by selecting **Use Main As Of Date**. Or you can Specify a different date and use a set of trees in effect on that date. For example, you may have a reporting structure set to go into effect in three months (remember that trees are effective-dated). You can choose to run the report using the new tree structure by specifying the future effective date of the new tree.

### Use Main As Of Date

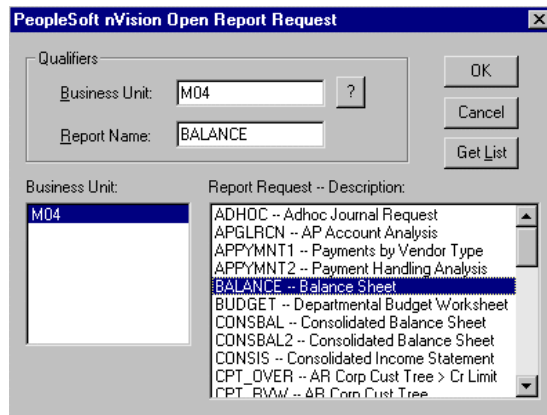
nVision uses this date to determine the meaning of relative TimeSpans used in the layout. When a relative TimeSpan is encountered in the layout, the **Main As Of Date** is compared to the calendar for the applicable ledger belonging to the requesting business unit to determine the current period. You can use the **Main As of Date** in the layout by using the %ASD% variable.

### Specify

Selecting **Specify** displays a date field for you to enter the date you want to report on.

## Using an Existing Report Request

There may be times that you need to modify some of the information for a specific report. Use the Report Request dialog box to open an existing report request.



Open Report Request dialog box

To open an existing report request:

1. Click **Open** on the Report Request dialog box.
2. Type in a **Business Unit** or use the prompt button to select one.
3. Type in a **Report Name** and click **Get List** to see a list of requests in the list box.

After you click the **Get List** button, if the **Report Request** list is too long to scroll through, enter a partial **Report Name** and click **Get List** again.

4. Click or highlight a report request and click **OK**, or double-click a report name in the list.

The Open Report Request dialog box closes and the report request information appears in the Report Request.

To delete a report request:

1. Select nVision, Report Request.
2. Open the report request you want to delete.
3. Click Delete.

You'll be prompted to confirm the deletion.

## Organizing Multiple Report Instances using Variables

When you are creating reports with multiple instances, it is very important to give each instance a unique directory or file name so that you don't overwrite the other instances you've created with the report request. If you do not use a variable in the directory template, nVision will store the reports in the default directory specified in Configuration Manager.

For instance, if you run five instances of the same report, but fail to give each instance a unique file name or directory, only the last instance that is generated will be saved—the other instances will be overwritten by each succeeding instance. When using scopes to generate multiple instances, *always* use variables in the file and directory template fields on the report request to differentiate between instances and to ensure that each file will be saved.

---

## Running Reports

Your finished Report Request combines a layout, a scope (if you've chosen one), and other critical information nVision needs to run the report. nVision uses this information to extract data from your database and create an instance of the report. You can run a report from the Report Request or you can run a report from the NVSUSER HomePage.

As PS/nVision runs the report, it will do the following:

- Create a copy of the layout for each instance of the report.
- Call the database to extract information that you defined in the layout of the report, replacing the selection criteria with specific values.
- Look to the report request, scope, and accounting calendars to transform the PS/nVision variables into values.

Excel will then perform the calculations you entered on the layout. On your screen you will see the finished report: a normal Excel spreadsheet with the familiar .XLS extension. This spreadsheet is also saved in the directory you specified.

If you produced multiple instances of a report, each instance is saved in the specified directory and all but the last instance are closed to save Excel memory.



For more information about running a report from your NVSUSER HomePage, see [Running a Report from the NVSUSER HomePage](#).

---

## Running a Report from a Report Request

When you run a report from the Report Request dialog box, nVision opens the layout for you, checks the detail values and trees that you've specified as valid, extracts the data from your database, and enables Excel to run its functions. The report that appears on your screen is the last instance generated for that report request.

To run a report from the Report Request:

1. Select nVision, Report Request from the menu.

The Report Request dialog box appears.

2. Open or create a new report request.



For more information on report requests, see Using an Existing Report Request or Creating a Report Request.

---

3. Modify the report request as necessary.
4. If you want to save your changes, click Save.

When you run the report, the dialog box will close and unsaved changes will be lost.

5. Click Run.

To run the last opened report request:

1. Select nVision, Run Current Report.

The report request last opened in the Report Request dialog box will be run automatically.

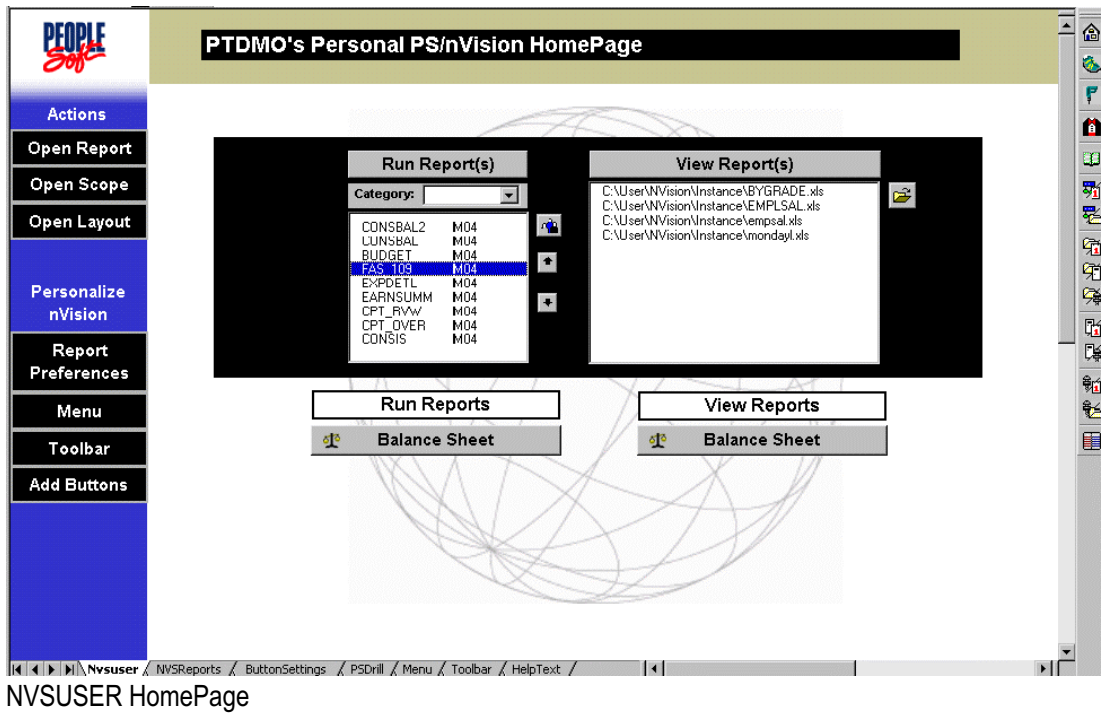
### Running a Report from the NVSUSER HomePage

There are several ways that you can run a report from the NVSUSER HomePage. If you have a report layout open on your screen, click . The report will run and the results will appear on your screen.

To run a report from your Preferences list:

1. From the NVSUSER HomePage, select any number of Report Requests from your Report Request List.
2. Click the arrow buttons to move the reports to other positions in the queue, if necessary.
3. Click Run Report(s).

The reports will be run in sequential order from top to bottom.



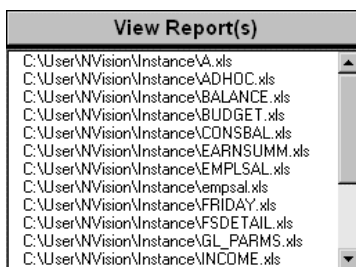
NVSUSER HomePage



For more information about using Report Preferences, see Setting Up Your Report Request Preferences

## Working with Report Instances

After running a report, the last report instance created will remain open. If other report instances were also created, you can select File, Open to review those reports. For reports you view frequently, you can create buttons in the NVSUSER HomePage to open these report instances with one mouse click. NVSUSER now displays a list of recently run files in the View Reports list. This list comes from the directory that you specify in Configuration Manager.



View Reports list with current instances



For more information on the NVSUSER HomePage, see Personalizing NVSUSER.XLS.

The layout upon which a report instance is based is never modified when the report is run. You can return to the layout by selecting it from the Window menu, or if it is not open, selecting nVision, Open Layout.

You print a report instance just as you would print any other Excel spreadsheet, by selecting File, Print. If you prefer, you can select Print Preview to review your results before printing. If you had selected the Print Each Instance option when you requested the report, your reports would have been printed as they were generated.

## Using Report Books in Windows

To take full advantage of the new Web reporting features including email and Web output, you must use the PeopleSoft Internet Architecture in your browser.



For more information about using Report Books on the Web, see *Applying Scopes to Your Reports*.

---

PS/nVision provides the ability to group multiple report requests into a single Report Book. A *Report Book* is simply a list of multiple report requests with some additional features to enhance flexibility:

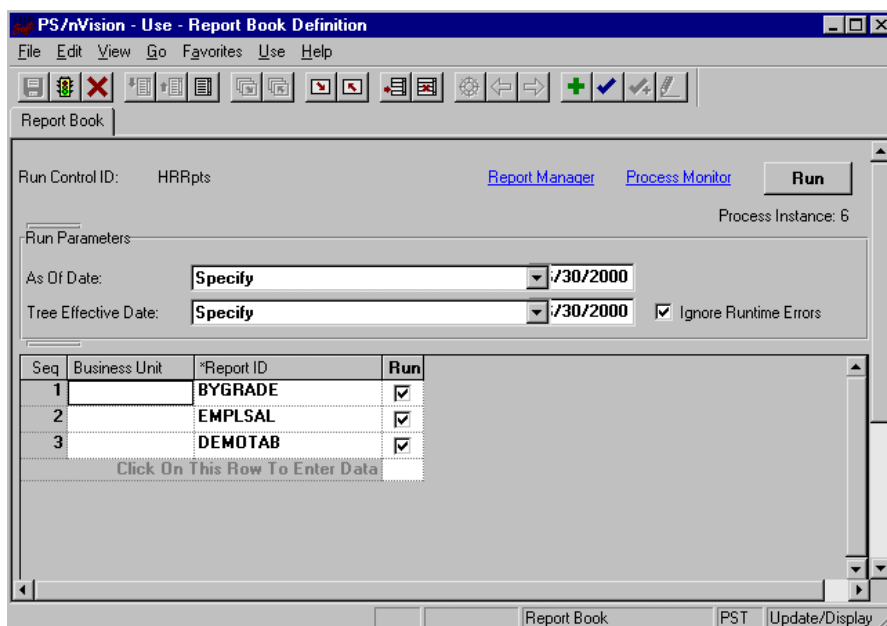
- **An interface to Process Scheduler Manager.** This means that the running of Report Books can be scheduled to run on specified client machines acting as “PS/nVision servers.” Offloading PS/nVision requests to high-powered, dedicated workstations can improve performance and frees up users’ client machines. Report Books run on Windows NT—including database servers running on Windows NT—and Windows 95. Database servers capable of supporting Report Books are limited to those running on Windows NT, because Report Books require the ability to run Windows background process (like PS/nVision and Excel).
- **An Effective Status associated with each request in the Report Book.** Users can choose to set individual report requests within a Report Book as “inactive.” Inactive report requests will remain part of the Report Book but will not be run as part of a request.
- **A method for individual report requests to inherit dates from the Report Book.** This enables users to run an entire Report Book using the same AsOfDate, without changing any individual component requests.



**Note.** Date and time variables are resolved based on the calendar being used by the workstation that runs the report.

---

You open a Report Book by selecting Go, PeopleTools, Report Books. Then from PS/nVision you select Use, Report Book Definition and either Add or Update/Display.



PS/nVision – Use – Report Book Definition page

Report Books allow more robust batch processing of PS/nVision report requests, including message logging. Users can generate an entire set of reports without the process being interrupted due to an error condition.

## Defining Report Books

Before creating a Report Book, make sure you have report requests defined for all the reports you want to include in the book. The Report Book is a list of requests, not a substitute for the request. You might also want to review the requests you plan to use to ensure they use the desired scope and layout.



PS/nVision - Use - Report Book Definition

File Edit View Go Favorites Use Help

Report Book

Run Control ID: HRRpts [Report Manager](#) [Process Monitor](#) **Run**

Process Instance: 6

Run Parameters

As Of Date: Specify /30/2000

Tree Effective Date: Specify /30/2000 ☒ Ignore Runtime Errors

Seq	Business Unit	*Report ID	Run
1		BYGRADE	<input checked="" type="checkbox"/>
2		EMPLSAL	<input checked="" type="checkbox"/>
3		DEMOTAB	<input checked="" type="checkbox"/>

Click On This Row To Enter Data

Report Book PST Update/Display

Report Book Definition page

To define a Report Book:

1. From any PeopleSoft window, select Go, PeopleTools, Report Books.
2. From the Use menu, select Report Book Definition, Add or Update/Display.



**Note.** Your organization may create its own menu to access Report Books.

3. Enter a **Run Control ID** when prompted.

The book definition will be stored on the database under this name. The Report Book Definition page appears. You use this page to define the list of reports you want to run, in sequence, and to set the run parameters.

4. Define the Book Entries for this Report Book.

Add the business **Unit** and **Report ID** of the report requests for this Report Book. To reorder your entries, insert or delete rows as necessary.

The check box in the **Run** column should be selected for all reports you want to run when this book is requested, but the book can include inactive reports. For example, you may define a book of reports to be run at month end, and include a report that is only run quarterly, but select its **Run** indicator only at quarter-end.

5. Define the Run Parameters.

The **Run Parameters** section allows you to override the date controls in the individual report requests. For production reports normally run in background, you don't need to update the

individual requests' **As Of Dates**.

dates; you can enter a single **As Of Date** on the Report Book definition by selecting the User-Specified option. In this case, PS/nVision uses the date you specify, as if you had entered it on each the report requests in the book. This date will override the date from the report request.



**Note.** When you specify a date for the Report Book, you will not be able to see the entire date field. Simply click the date field and you will be able to see the month, date, and year.

---

Alternatively, you can select the Use Business Unit Reporting date option, telling PS/nVision to treat each request as if the corresponding option were selected. Or you can have PS/nVision default to the date controls in each individual request.

Similarly, you can control the **Tree Effective Date** used by all the report requests in the book, either setting a specific override, defaulting to the individual requests, or defaulting to the **As Of Date** on each request.

The **Ignore Runtime Errors** option tells PS/nVision whether or not to stop the Report Book processing when an error is encountered. If this option is clear, and one of the reports has an error (for example, a layout refers to an invalid tree node), the process will stop at that point. If this option is selected, PS/nVision will log the error and continue with the next report.

6. Save your changes.
7. Run the report book, if desired.

---

## Running Report Books



Report Books are run through Process Scheduler from the same page used to define them. Use Process Monitor to track the progress of your request. Remember that if you selected Ignore Runtime Errors on the Report Book definition, the completion status will be "Success," even though one or more reports may have had errors. You may want to note the Process Instance number assigned to your request.



**Note.** If you want to run the Report Book on your client workstation, first make sure PS/nVision isn't already running, as Process Scheduler will start it in batch mode.


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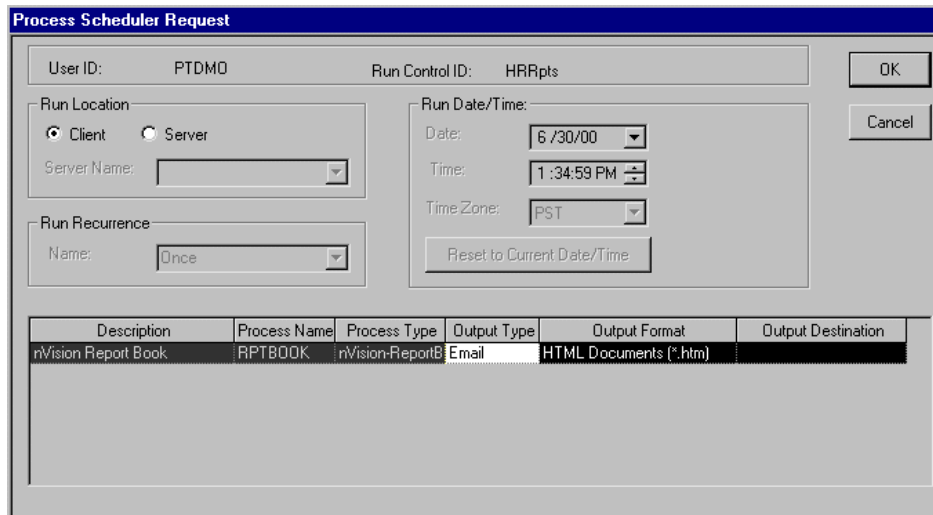
**Warning!** Always use the  button to run your Report Book when using Windows. The  button and the blue links for Report Manager or Process Scheduler are not supported in Windows.

---

To run a report book from Windows:

1. Open the report book you want to run.
2. Click the  button.

The Process Scheduler Request page appears.



The dialog box is titled "Process Scheduler Request". It contains the following fields and controls:

- User ID:** PTDMD
- Run Control ID:** HRRpts
- Run Location:**
  - ☒ Client
  - ☐ Server
  - Server Name:** (dropdown menu)
- Run Date/Time:**
  - Date:** 6 /30/00
  - Time:** 1 :34:59 PM
  - Time Zone:** PST
  - Reset to Current Date/Time:** (button)
- Run Recurrence:**
  - Name:** Once
- OK** and **Cancel** buttons.
- Table:**

Description	Process Name	Process Type	Output Type	Output Format	Output Destination
nVision Report Book	RPTBOOK	nVision-ReportB	Email	HTML Documents (*.htm)	

Process Scheduler Request page

3. Select your settings and click **OK**.



For more information on running a report from Process Scheduler, see Process Scheduler Basics.



**Note.** Depending on your security access, you may not be allowed to run background processes on your workstation. In this case, the Client radio button is disabled.

## Running Multiple Report Books

Generally, only one Report Book should be initiated and run at a time. If you want to submit multiple Report Book jobs to the same report server, you need to put them in a queue so that the next job will not start until the prior job completes. For this to work properly, you must ensure that your Process Server is defined properly in the Process Scheduler.

To define your process server to handle multiple Report Book jobs:

1. Select Go, PeopleTools, Process Scheduler Manager, Use, Server Definitions, Server Definition, Update/Display.

2. Enter the server name you're using for your Report Books (generally, this will be PSNT).

On the lower half of the page you'll see all of the **Process Types** that can run on this server. The one called *nVision-ReportBook* controls Report Books.

Process Scheduler Manager - Use - Server Definitions

File Edit View Go Favorites Use Process Help

Server Definition | Distribution | Notification

Server Name: PSNT

Description: NT Server Agent

\*Sleep Time: 15 Seconds

\*Heartbeat: 60 Seconds

Max API Aware: 5 Concurrent Tasks

\*Operating System: NT Server

Purge Options

Days Before Purge: 1

Purge Process Files ☐

Process Types run on this Server

*Process Type	*Priority	*Max Concurrent
SQR Report	Medium	3
SQR Report For WF Delivery	Medium	3
Winword	Medium	3
nVision-Report	Medium	3
nVision-ReportBook	Medium	3

Server Definition PST Update/Displ

Server Definition page

3. Make sure **Max Concurrent** is set to 1.

This allows multiple Report Book jobs to queue up one after the other. No Report Book job will be processed until the one before it finishes.

## Troubleshooting Report Books

There are several things you can do when a Report Book doesn't run, or when it runs and produces errors.

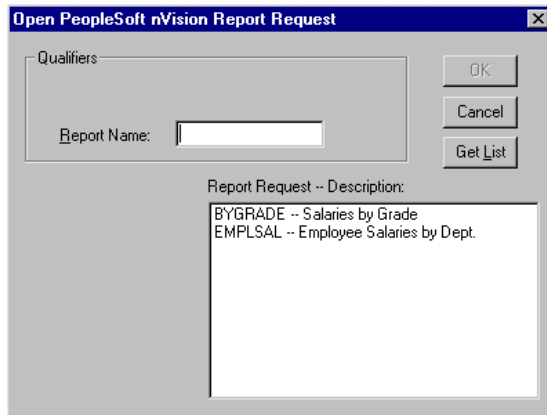
---

### Report Requests and Report Books

Whenever Report Books do not run successfully, the first thing you should do is make sure the Report Requests that are specified in Report Books will run on their own from NVSUSER.

To check for a bad Report Request:

1. Open NVSUSER HomePage.
2. Instead of opening the layout you want to run, click Open Reports and select the report that was specified in the Report Book.



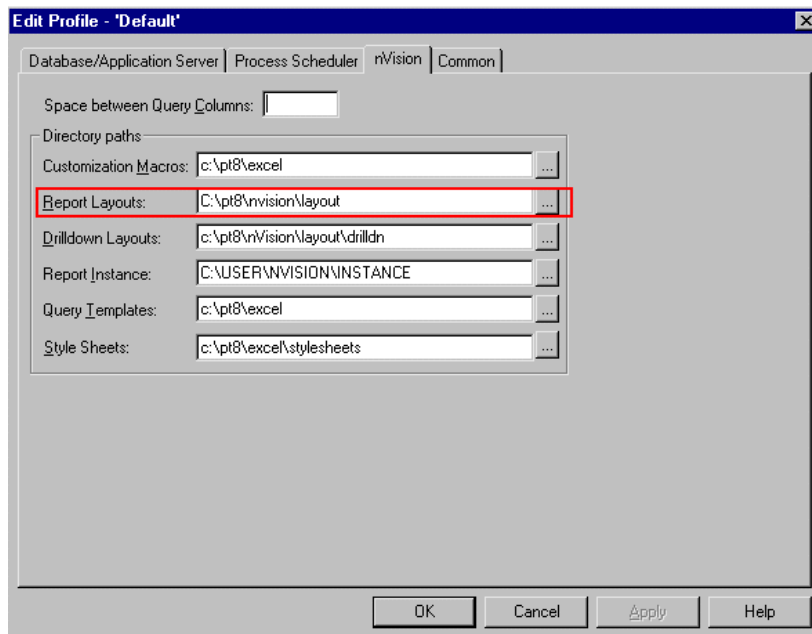
Open PeopleSoft nVision Report Request page

3. Click **OK** to open the Report Request.
4. Press Run to see if it runs without any errors.

If it has errors, then the problem is not with Report Books but with the associated Report Request. More than likely, it is because the layout specified in the Report Request is not in the correct location. The location for report layouts is entered in Configuration Manager.

To check the location of report layouts in Configuration Manager:

1. Open the Configuration Manager and select the Profile tab.
2. Select the appropriate profile and click Edit.
3. Then select the **nVision** tab. In the **Report Layouts** field, add the appropriate layout location.



Edit Profile – Default page

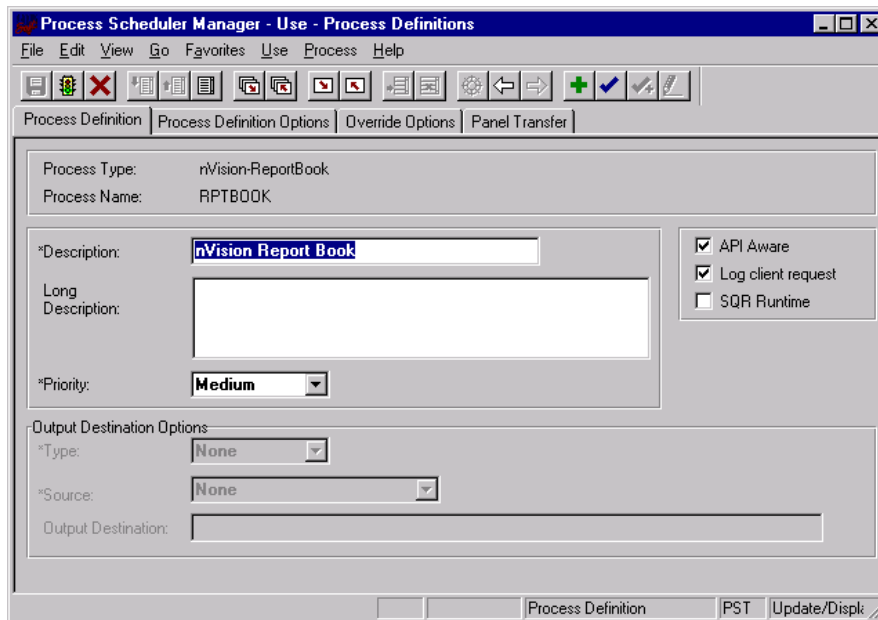
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## Process Scheduler Settings and Report Books

Incorrect Process Scheduler settings will also cause Report Books to fail to run. You can check your Process Scheduler settings to avoid these errors.

To check for correct Process Scheduler settings:

1. Select Process Scheduler Manager, Use, Process Definitions, Process Definition, Update/Display.
2. Select the Process Type, which is nVision ReportBook.
3. Select the Process Name that matches your Report Book from the list of valid values.
4. If the Process Name does not appear to exist, select Use, Process Definitions and verify that there is an nVision-Report Book (RPTBOOK) Process Definition that corresponds to your Report Book.



**Process Scheduler Manager - Use - Process Definitions**

File Edit View Go Favorites Use Process Help

Process Definition | Process Definition Options | Override Options | Panel Transfer

Process Type: nVision-ReportBook  
Process Name: RPTBOOK

\*Description: **nVision Report Book**  
Long Description:  
\*Priority: **Medium**

☒ API Aware  
☒ Log client request  
☐ SQR Runtime

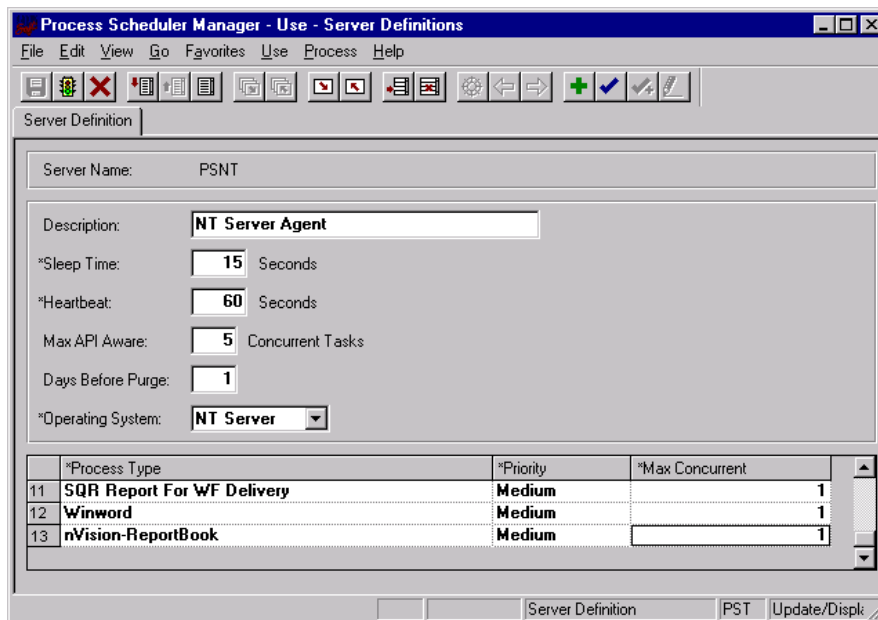
Output Destination Options  
\*Type: **None**  
\*Source: **None**  
Output Destination:

Process Definition PST Update/Displ

Process Definition page

5. If the Process Definition appears to be valid, select Process Scheduler Manager, Use, Server Definitions, Server Definition, Update/Display.
6. Enter your Server Name.

For PSNT, make sure you have a **Process Type** titled *nVision-ReportBook* in the Process Type list. If not, add it.



**Process Scheduler Manager - Use - Server Definitions**

File Edit View Go Favorites Use Process Help

Server Definition

Server Name: PSNT

Description: **NT Server Agent**

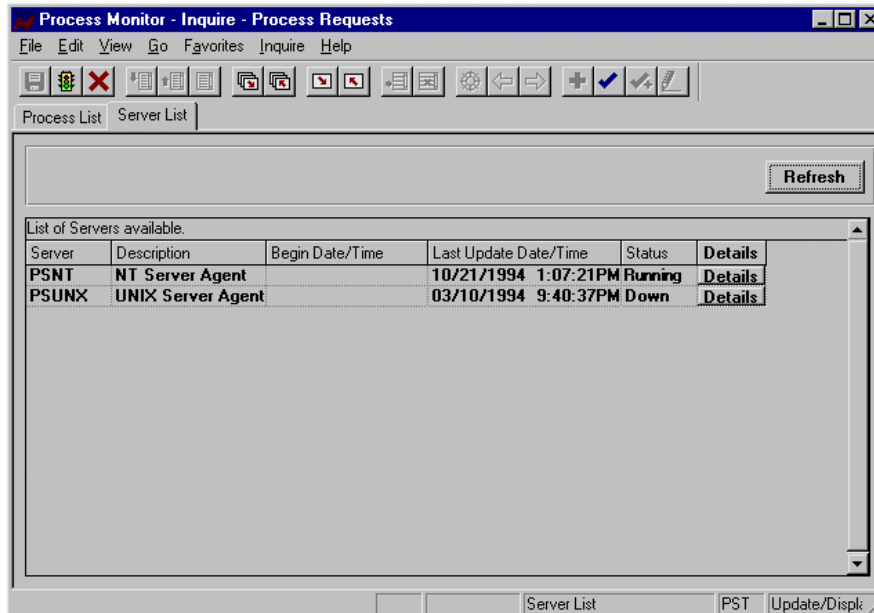
\*Sleep Time: **15** Seconds  
\*Heartbeat: **60** Seconds  
Max API Aware: **5** Concurrent Tasks  
Days Before Purge: **1**  
\*Operating System: **NT Server**

	*Process Type	*Priority	*Max Concurrent
11	SQR Report For WF Delivery	Medium	1
12	Winword	Medium	1
13	nVision-ReportBook	Medium	1

Server Definition PST Update/Displ

Server Definition page

7. If those settings are correct make sure PSNT exists as a server on the system by selecting Go, PeopleTools, Process Monitor, Inquire, Process Requests, Server List. Make sure **PSNT** exists and that it has a status of **Running**.



Process Monitor – Inquire – Process Requests page

8. If **PSNT** is **Down**, use PSADMIN to start the server.



For more information on these settings or on starting a Process Scheduler Server, see The Process Scheduler Server Agent.



**Note.** If you are not using PSNT as your server and have created your own, make sure that you have physically started the Process Scheduler or the Server will not show up on the list of servers.

## Error Logs

If errors are encountered when running a Report Book, PS/nVision logs them in a file called “nVisionTracennn.TMP” in the TEMP directory of the computer that runs the Report Book. The nnn portion of the file is the Process Instance number assigned by Process Scheduler. The log file contains one line per error message, with the same message information you would have seen in a dialog box if you had run the report interactively. Other helpful messages about the report startup are also logged into this file.



## CHAPTER 3

# Understanding Layouts

PS/nVision provides a seamless link between your data and Microsoft Excel. It enables you to import information directly from your database into an Excel spreadsheet, so you can spend your time analyzing results rather than summarizing your data and entering it into your spreadsheet.

To specify what data you want to bring into Excel, you use a report layout. A report layout is an Excel spreadsheet used as a template to define how a report will look and what type of information will go into the spreadsheet's different cells. A layout does not contain data from the database. Rather, it specifies what data should be mapped directly into your report.

You don't need to create a new layout every time you run a report. Once you have created a library of report layouts, you need only select the existing layout that best suits your current needs. PS/nVision keeps track of the layout used in any given report, so to run an existing report you simply select nVision, Report Request and specify the report name or simply click the Run Reports button from the NVUSER HomePage. The correct layout will be loaded automatically.



For more information on running reports, see [Running PS/nVision Reports](#).

---

## Comparing Tabular Layouts, Matrix Layouts, and QueryLink

PS/nVision offers two kinds of report layouts: tabular layouts and matrix layouts. This is one of the first decisions that you must make in designing your report—whether it will be a tabular layout or a matrix layout. The major difference between them is how they specify the data to retrieve from the database. In general, tabular layouts lend themselves to detailed transaction reporting, while matrix layouts are more appropriate for summarized reporting and analysis. In this chapter, we'll provide a brief discussion of both layout types.



For more information on PS/nVision report layouts, see [Creating Tabular Layouts and Creating Matrix Layouts](#).

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**Tabular layouts** are the simpler of the two layout types. They use a query defined in PeopleSoft Query to retrieve data. The columns in the report correspond to the fields returned by the query; the rows in the report correspond to the rows in the query result set. You can specify a heading row, a first result row, and a totals row (if you need one). You can also use scopes in a tabular layout to filter your results.

**Matrix layouts** have data selection criteria based on the intersection of columns and rows in the spreadsheet, creating a criteria matrix. The data retrieved for an individual cell is determined by a combination of the criteria for its column and its row. Unless you are specifying a query in the matrix layout, all matrix layouts must have at least one TimeSpan, at least one ledger, and at least one ChartField as criteria.

You can specify a ledger, a query, or both a ledger and a query to retrieve data. For PeopleSoft Financials applications, matrix layouts most often use ledgers for data retrieval. nVision knows automatically the tables to access and the fields to retrieve based on the ledger definition.

**QueryLink** is the PeopleSoft Query feature that enables you to send the results of a query directly to an Excel spreadsheet, bypassing the need for a PS/nVision layout. Any query results sent to Excel through QueryLink are based on the QUERY.XLT Excel template. Therefore, if you want to make any permanent changes to spreadsheets derived through QueryLink, make the changes to QUERY.XLT.

The table below shows some of the key differences between tabular and matrix layouts, as well as differences between these layouts and QueryLink.



For more information on using QueryLink, see QueryLink.

<b>Feature/Function</b>	<b>Matrix Layout</b>	<b>Tabular Layout</b>	<b>sQueryLink</b>
Data sources	Multiple queries and/or ledgers; labels.	Single query.	Single query.
Data	Numbers in matrix, text in labels and variables.	Text and numbers.	Text and numbers.
Data delivery	Matrix intersections of field criteria, and/or queries (amounts) of label and field criteria (text).	Selected query result columns, one data row per spreadsheet row.	All query result columns, one data row per spreadsheet row.
Layouts	One per workbook.	Multiple worksheets per workbook.	None: produces one sheet in template workbook (QUERY.XLT).

<b>Feature/Function</b>	<b>Matrix Layout</b>	<b>Tabular Layout</b>	<b>sQueryLink</b>
Selection criteria	Scope Business Unit Effective Dates Query/Ledger TimeSpan Field Label String	Scope Query	Query
PS/nVision variables	Yes	No	No
Scope	Multiple instances from the layout workbook.	Multiple instances from the layout workbook.	None
nPlosion	Rows and columns.	None	None
Drilldown from instance	Yes	No	No
TimeSpans	Yes, with data keyed by year, period.	No	No
Number of layout sheets allowed	One	Many	One

## Working with Layouts

Several of the following sections are dedicated to showing you how to define specific types of layouts. These processes will vary, depending on what type of layout you want to define. However, there are some basic tasks that are common among all layout types. Also, the methods of choosing a layout type and navigating within a layout are the same for all layouts.

---

### Specifying Criteria

Data selection, or data retrieval, is the heart of the PS/nVision layout. The database values retrieved for a matrix-based report are the results of various intersecting criteria defined in the matrix layout. These criteria tell PS/nVision exactly what database values to retrieve and where to put them. The values retrieved from a tabular layout are not row and column intersections but are the results of a query. Each instance is a list file representing either a partial or complete answer set for that query.

You can specify data selection criteria at the level of the entire spreadsheet, a row or column, or an individual cell. Generally, you specify criteria at the highest level it applies to. So, if you have criteria that apply to the entire worksheet, you specify them at the worksheet level; if you have criteria that are unique to a single cell, you apply them to that cell only.

If there is a conflict between row and column criteria, the row will override the column criteria. Cell criteria override all other criteria, followed by row, column, and finally worksheet criteria at the lowest level of the hierarchy.



For more information on working with criteria, see [Understanding Criteria](#).

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## Using nPlosion (Matrix Layout Only)

nPlosion is a feature you can specify within your field criteria. If a field criterion uses a tree node value, nPlosion will automatically add rows or columns that contain the sublevels (while subtotaling) as well as detail values found under the tree nodes that you specify. This creates a group of rows or columns that can be summarized—showing just the tree node value—or expanded to show the detail values *and* the summarized value.

You can also use nPlosion to show detailed TimeSpan information.



For more information on the nPlosion feature, see [Using nPlosion](#).

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## Setting a TimeSpan

TimeSpan is an option that limits query or ledger results to those from a particular time span. Although you can use TimeSpan in a query-based matrix layout, it's more commonly used in ledger-based layouts.



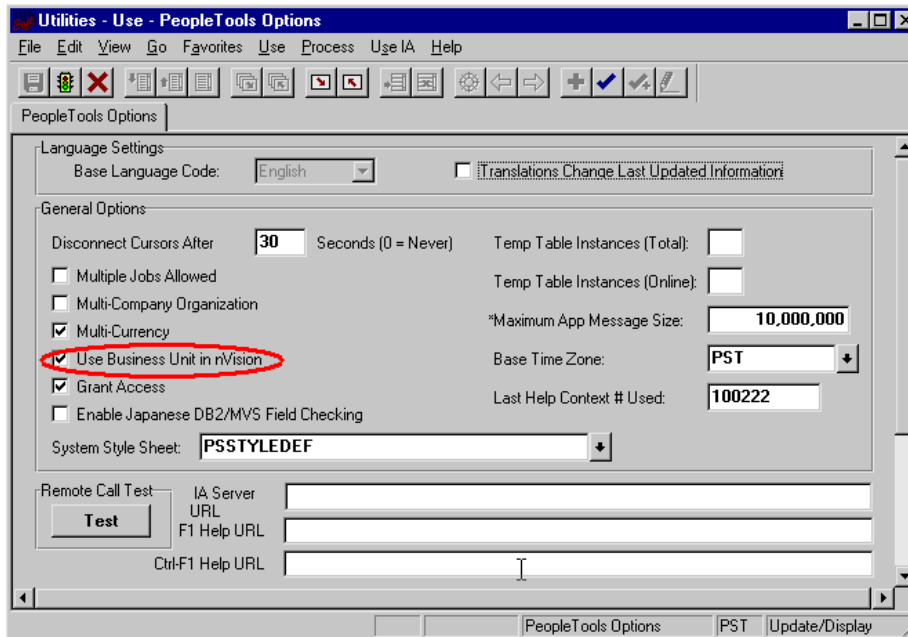
For more information on this option, see [TimeSpans](#).

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## Specifying SetIDs and Business Units

PS/nVision uses the SetID you specify when creating a matrix layout to determine your available choices when you define your layout criteria. If the Use Business Unit in nVision option is off, the SetID can be omitted, but it is recommended that you specify one. If one is entered, it must be valid. To set the Use Business Unit in nVision option on or off, select Go, PeopleTools, Utilities, Use, PeopleTools Options.



PeopleTools Options page

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## Entering Effective Dates

When you define a matrix layout, you must always enter an effective date. Like SetID, this controls which values are available for you to select when defining your criteria. For some criteria, you can override the global effective date. Generally, it's a good idea to use an effective date that is equal to the date of your oldest tree in the layout; otherwise, your layout will not recognize that tree.

## Getting Started

Before you begin to define a layout online, you should do some planning and outlining on paper so you fully understand what data you want to retrieve, what you want the resulting reports to look like, and so on. The following checklist is a good way to cover your bases before you start defining a layout.

- Outline your report specifications on paper showing desired rows, columns, and headings.
- Examine existing layouts and copy or *clone* them, if possible, instead of starting from scratch.
- Determine the naming convention for your layout, scope, report request, and instances.
- Determine at which levels (worksheet, column, row, or cell) you should specify the queries/ledgers, fields, and labels you want to use as your criteria.
- Identify existing PeopleSoft queries that may support your query criteria. If they don't exist, you'll have to create them. Do you want to use TimeSpans?

- Identify existing PeopleSoft trees that may support your field criteria, because it's simpler to use tree nodes than to specify detail values as your field criteria. Do you want to use nPlosion?

---

## Creating Your Layout

After you have drawn a blueprint of your report, decided whether your layout is tabular or matrix, and mapped the necessary criteria, you are ready to begin developing your nVision report online. You can open an existing layout to copy or *clone* the report and then make minor changes to it, or you can begin a new report from scratch.



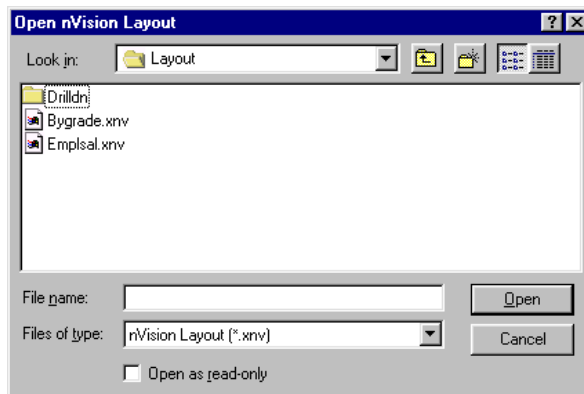
**Note.** Excel reports in HTML format are sensitive to column width and do not allow text to "bleed" into adjacent empty cells. If you merge the cell (containing the text that is cut off) with the adjacent cells, the text will not be cut off when the worksheet is converted to HTML format..

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To open an existing layout:

1. Select nVision, Open Layout or click Open Layout from NVSUSER.

The Open nVision Layout dialog box appears.



Open nVision Layout dialog box

You use this dialog box to choose which layout you want to open.

2. Select a layout (.xnv) file.

The directory this dialog box opens to is defined in Configuration Manager.



For more information see Changing PS/nVision Options with Configuration Manager.

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3. Specify whether you want to create the layout as read-only or not.



For more information see Creating Read-Only Layouts.

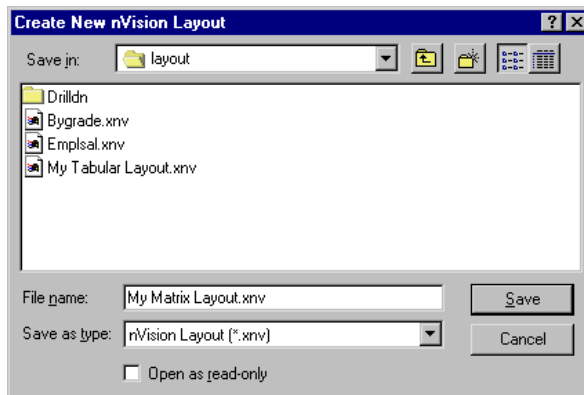
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4. Click **Open**.
5. Once the file is open, select Save as Layout from the nVision menu and give the layout a new name.

To create a new layout:

1. Select nVision, New Layout.

The Create New nVision Layout dialog box appears.



Create New nVision Layout dialog box

2. Enter a name in the **File name** field.

PS/nVision supports file names up to 50 characters in length. You cannot change the default .xnv extension. If you change the default .xnv extension, nVision automatically appends the file name with .xnv.

3. Specify whether you want to open the new layout as read-only.



For more information, see Creating Read-Only Layouts.

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4. Click **Save**.

The new layout will be created, saved, and opened for you to define.

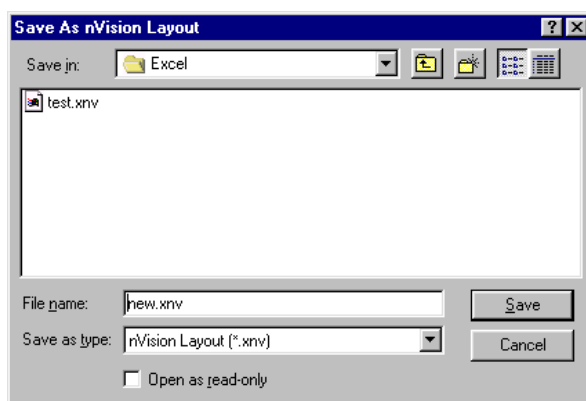


For more information about defining layouts, see [Choosing a Layout Type](#).

To save an Excel spreadsheet or layout as a new layout:

1. From nVision, open the spreadsheet using File, Open.
2. Select nVision, Save As Layout.

The **Save As nVision Layout** dialog box appears.



Save As nVision Layout dialog box

You use this dialog box to save an open Excel spreadsheet (.xls file) as an nVision layout (.xnv file), or to save an open layout as a new layout.

3. Type in a File name and click **Save**.

An Excel spreadsheet will open in nVision.

4. Enter any text, such as headings in the columns and rows, that you will need to type in manually.

### Creating Read-Only Layouts

In the **Create New nVision Layout** dialog box and **Open nVision Layout** dialog box, you'll notice the **Open as read-only** check box. Selecting this option enables you to open layouts in read-only mode. Of course, this option applies only if you have write access to begin with. If you have write access to the layout, then selecting this check box will protect shared layouts from accidental changes and eliminate Excel messages indicating that the layout is in use (or resides on a read-only network drive). Changes made to a read-only layout are not saved and are not reflected in the report instances produced.



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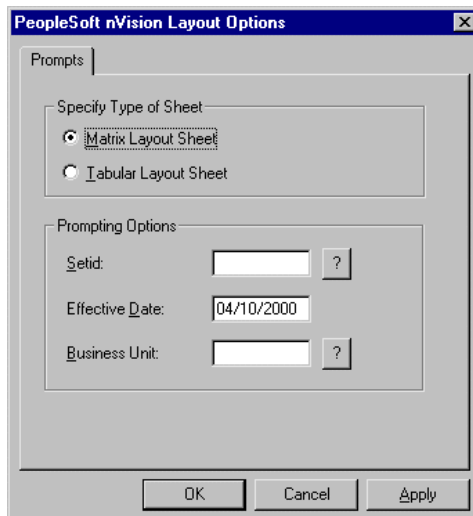
## Choosing a Layout Type

When you first create a new layout, the type—matrix or tabular—isn't yet defined. You must choose which type you want your layout to be.

To specify a layout type:

1. Select nVision, Layout Definition.

The **PeopleSoft nVision Layout Options** dialog box appears.



PeopleSoft nVision Layout Options dialog box

You use this dialog box to specify the layout type.



For more information on layout types, see [Comparing Tabular Layouts, Matrix Layouts, and QueryLink](#).

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2. Select either Matrix Layout Sheet or Tabular Layout Sheet.
3. Enter a Setid, Effective Date, and Business Unit.

You must enter a valid **SetID** and **Effective Date** before continuing. A SetID is a value used to identify the TableSet you want to work with and corresponds to the Set Control Value used in establishing TableSet Sharing within the PeopleSoft database.

You can either enter a SetID in the **Setid** field or click the prompt button to choose from a list of SetIDs.

The **Effective Date** is used to determine which values in PeopleSoft tables are valid at the time you develop the report. The **Effective Date** is not the same as the As of Date that is

entered in the report request. (The As of Date determines the current period for data retrieval.)

The **Business Unit** is the unique identifier for a part of your corporation that is independent with regard to one or more operational or accounting functions. PeopleSoft General Ledger business units typically comprise individual entities for accounting purposes.



**Note.** The values you enter here do not determine what SetID and effective date are used for the reports—run-time controls are specified on the report request. Instead, PS/nVision uses the SetID and effective date you enter here to determine the data you can choose from during the creation of your layout.

#### 4. Click **OK**.

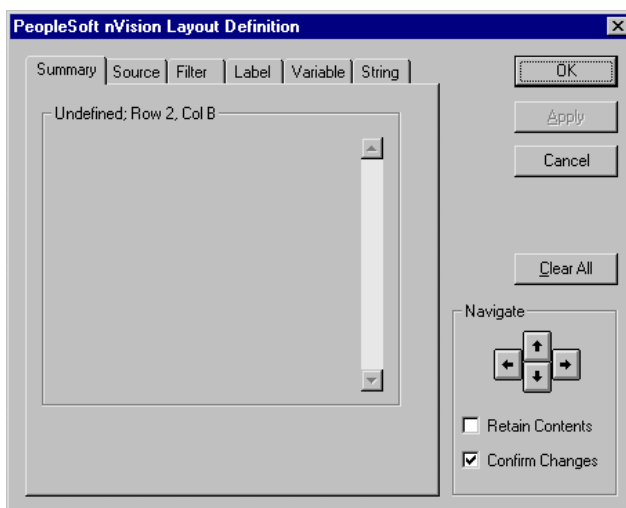
A new dialog box will be displayed, prompting you to define your layout further.

## Specifying Your Layout Definition

You use the various layout options for your report using the nVision Layout Definition dialog box. The tabs at the top of the dialog box may vary depending on the type of layout you are creating—if an option is not available for your type of layout, then the tab will not appear. Click on a tab to select layout criteria or special nVision functionality for your worksheet.

### Informational Group Boxes

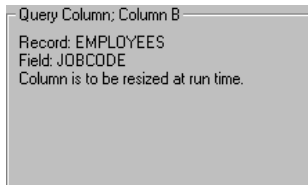
The Layout Definition dialog box has a group box in the upper left corner of the Summary tab that displays information about the contents and location of the selected cells.



Layout Definition dialog box – Summary tab

When there is no PS/nVision information stored in the current selection, the group box will appear as it does in this illustration. The box will be entitled **Undefined**, followed by the location of the cells selected. If you have an entire row selected, just the name of that row will appear; the same applies to columns. If you have the entire worksheet selected, the location text will be *Sheet Defaults*.

If the current selection does contain PS/nVision information, the title of the group box will reflect that fact. Also, the details about that information will be displayed as the contents of the group box, as shown below.




Informational group box displaying PS/nVision cell contents

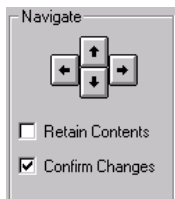


**Note.** When you view a PS/nVision layout, you'll notice that Row 1 and Column A are always hidden. This is because PS/nVision reserves them to store control information, such as data selection criteria; you therefore cannot use Row 1 or Column A in your layout. The first available column is B, and the first available row is 2. Whenever you open a new layout definition, the cell pointer is automatically placed at cell B2—the leftmost and uppermost cell available for use in the layout.

## Navigating Within Layouts

To move between cells and columns, use the **Navigate** buttons on the dialog box. You use the controls in this group box to help you move your cursor around the layout.

For example, clicking the right arrow  moves the cell pointer in Excel one cell to the right. You can select individual cells, or you can select entire rows and columns by navigating to the uppermost and leftmost sides of the layout. You can also select the entire worksheet by navigating to the top left corner of the layout. The new cell selection will be displayed in the informational group box title.



Navigate group box

Select the **Retain Contents** option if you want to preserve the currently displayed information in the informational group box when you navigate elsewhere. You can then apply the same information to the new cells and make only minor changes, if necessary.

Clear the **Confirm Changes** check box if you don't want to be prompted to save your changes each time you change the PS/nVision information and navigate elsewhere. This can save time and mouse clicks if you're creating a new layout. When this option is cleared, changes you've made to the current row, column, and so on are *automatically* saved when you use the arrow keys.

## Dialog Box Control Buttons

The **OK** button will close the dialog box, allowing you to access the Excel menus or to enter text into the worksheet manually. The **Clear All** button removes any existing criteria from the current selection. When you click **Clear All**, the **Apply** button becomes available, allowing you to apply your changes. You can also click **Cancel** to exit the sheet without clearing criteria.



**Note.** If you have clicked **Clear All** and you navigate to another cell or other area of the layout, your criteria will be *permanently* deleted unless you click **Cancel** before you move the cursor.

## Layout Option Tabs

There are six tabs at the top of most **Layout Definition** dialog boxes. Not all layout types require the same information, so not all of these tabs appear with each type of layout.



Layout Definition tabs

Using these tabs, you can specify options for your worksheet and for rows and columns. The controls on the dialog box will vary depending on whether you have a cell, row, column, or the entire worksheet selected.

To select criteria or place additional nVision functionality on your report layout, use the following tabs:

<b>Summary</b>	Displays the information about the contents and location of the selected cell.
<b>Source</b>	Allows you to choose Query, Ledger, and TimeSpan criteria as well as some nPlosion options.
<b>Filter</b>	Identifies specific detail values from PeopleSoft trees. These act to limit query, ledger, and label criteria.

**Label**

Retrieves descriptive field values from either tree nodes or detail values. Like queries and ledgers, these criteria also perform the role of a data source—although the data is always textual rather than numeric.

**Variable**

Displays information that is specific to each report request and report instance—for example, scope instance number, reporting period, and other information that can change when you use a different scope.



## CHAPTER 4

# Creating Tabular Layouts

Tabular layouts use PeopleSoft queries to retrieve data. Unlike matrix layouts, tabular layouts don't rely on the intersection of rows and columns to retrieve data. The columns in the report correspond to the fields selected by the query. The rows display the entire query result set, although you can use a scope to limit the results. By using Query criteria, you can retrieve data from almost any table in your PeopleSoft database.

When defining a tabular layout, you select a query, then select which query columns to use and which layout columns to map them to.



For more information on matrix layouts, see [Creating Matrix Layouts](#).

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### Creating Tabular Layouts

In this section, we'll show you the *general* steps involved in creating a tabular layout in PS/nVision. Some of these steps will point you to more detailed procedures documented elsewhere, but this should give you a good overview of what's involved in defining a tabular layout and in what order you should complete each task.

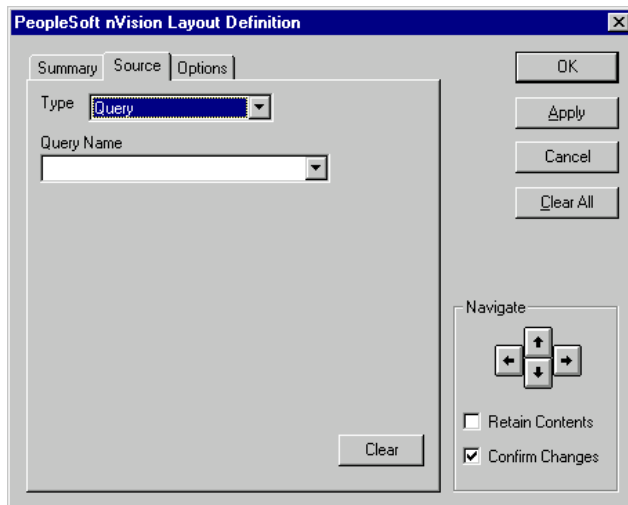
To create a tabular layout (overview):

1. Create a new layout.
2. Define the layout as a tabular layout.
3. Select nVision, Layout Definition.  
The **Layout Options** dialog box appears.
4. Select Tabular Layout Sheet and click OK.

You can also optionally select a **SetID**, **Effective Date**, and **Business Unit** to be used as prompts when searching for your layouts.

The **Layout Definition** dialog box appears.

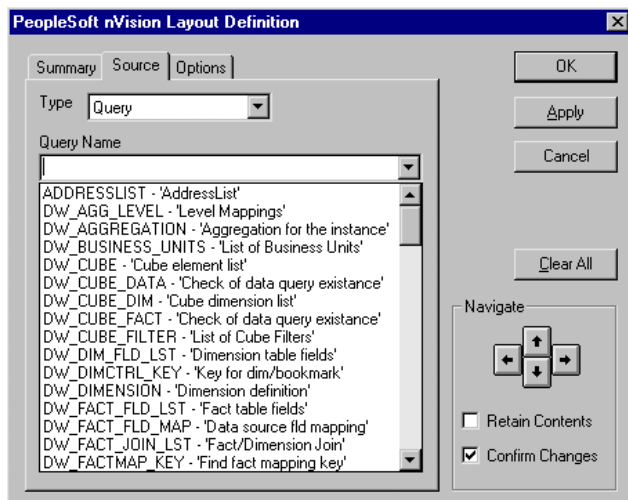
5. Click the **Source** tab to specify the **Query Name** you want to use.



Layout Definition dialog box – Source tab

6. Select a **Query Name** from the drop-down list and click **OK**.

Because you've chosen to create a tabular layout sheet, PS/nVision knows that you'll be basing this layout on a query. Therefore, the only option available in the **Type** drop-down list is **Query**.



Queries from the drop-down list

7. Map the layout columns to query columns.



For more information on layout columns, see Mapping Tabular Layout Columns.

8. Define options for your worksheet, row, and column.





For more information on these options, see *Specifying Options for Rows and Non-Query Columns*.

## Mapping Tabular Layout Columns

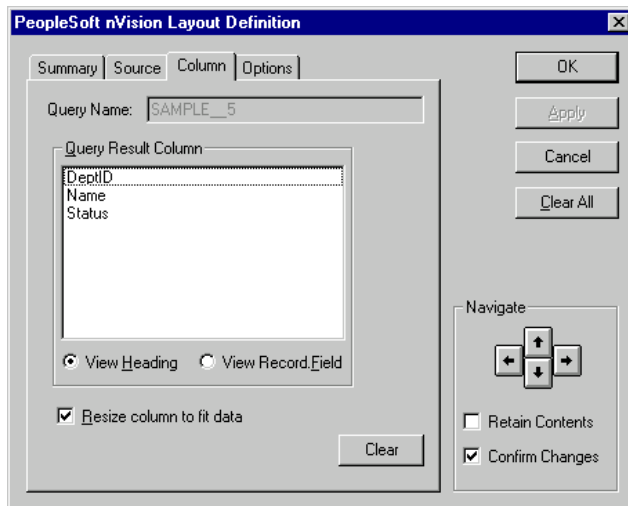
The crucial step in defining a tabular layout is making sure that the layout columns are mapped to the appropriate query columns. When a report based on the layout is run, these columns will contain the data returned by the query.

To map layout columns to query columns:

1. From the **Layout Definition** dialog box, select a layout column to map to a query column.

Use the **Navigate** buttons to select the first desired result column in the layout. The column appears as dark gray when selected, and the column tab appears on the Layout Definition dialog box.

2. Click the **Column** tab that appears on the **Layout Definition** dialog box.



Layout Definition dialog box – Column tab

You use this tab to map a query result column to the selected layout column.

3. Select a Query Result Column.

The list box shows the output columns associated with the selected query. By default, the list box displays the headings assigned to the result columns in PeopleSoft Query and **View Heading** is selected by default. If you'd rather see the names of the record fields associated with each result column, select the **View Record Field** radio button.

4. Select **Resize column to fit data**, if desired.

Enabling this option will use Excel's "AutoFit" command to adjust the column width at runtime. This makes the column as wide as the defined field length when a report is run.

5. Click **Apply** to save your changes and map a different query column to a different layout column, or click **OK** to save your changes and close the dialog box.

The name of the column you selected will be inserted into the third cell of the selected column as a temporary label. When you run a report, this label will not appear. However, you *can* define a row to display column headings in the report.



For more information on row and column options, see Specifying Options for Rows and Non-Query Columns.

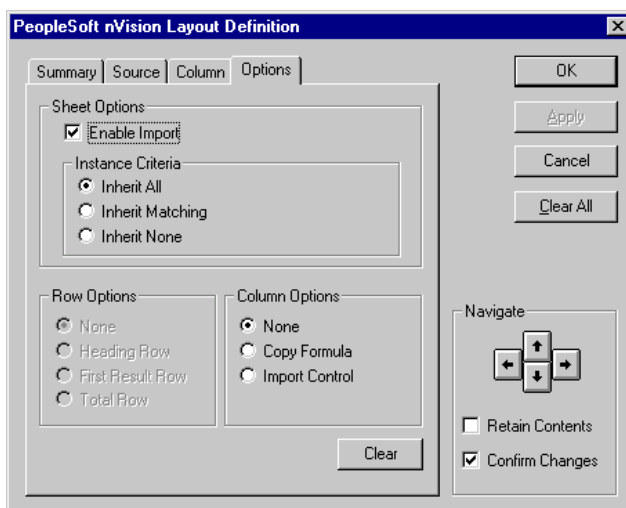
If you clicked **Apply**, navigate to a new column and repeat Steps (3) and (4) to map another query result column. If you click **OK**, the dialog box closes.

## Specifying Options for Rows and Non-Query Columns

After you've mapped your layout columns to query columns, you can specify some advanced settings for the entire layout, and for each row and non-query column. Some of these settings are mandatory; some are optional.

### Defining Layout Options

You define the various layout options using the **Layout Options** dialog box, which you access by clicking the **Options** tab on the **Layout Definition** dialog box.



Layout Definition dialog box - Options tab - Tabular Layouts

Using this dialog box, you can specify options for the entire worksheet, as well as for rows and columns. The controls available on the dialog box will vary, depending on whether you have a cell, row, column, or the entire worksheet selected.



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**Note.** If the **Options** tab doesn't appear, you may have to deselect a column or the worksheet.

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## Sheet Options

These options apply to the entire layout.

**Enable Import** is a special option that enables you to transfer data from an Excel spreadsheet into your PeopleSoft database. Certain PeopleSoft applications—such as General Ledger—use this feature.

**Instance Criteria** options dictate how PS/nVision will apply the scope specified in the report request.

- **Inherit All** dictates that all criteria specified in the scope definition will apply to the layout. If nVision doesn't find any scope definition criteria in the query's table, it displays an error message.
- **Inherit Matching** specifies that only the scope definition criteria found in the query are inherited. nVision ignores all scope definition criteria not found in the query's table.
- **Inherit None** indicates that nVision should not use the assigned scope when processing the query.

With a tabular layout, PS/nVision implements scope by adding selection criteria to the query that the layout uses. For each report instance, it adds a criterion that restricts the returned values to those where the current value of the scope variables.



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For more information on scope, see [Defining Report Scopes](#).

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## Row Options

These options are available only if you've selected a layout row. The options are the following:

- **None.** No special functionality will be applied to the row. This is the default.
- **Heading Row.** A row defined as a heading row will display the heading of each query column in the layout. If you don't choose a heading row, the layout will use Row 3 as the heading row.
- **First Result Row.** This row will contain the first row of data returned by the query. The rest of the data rows will be inserted immediately below this row.



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**Note.** You must define one **First Result Row** in your layout.

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- **Total Row.** This row can contain Excel formulas that perform calculations on the result rows in the column. You define the **Total Row** in position relative to the **First Result Row**; in the report instances, the total row will actually appear relative to the last data row. For example, if you leave one blank row in the layout between the **First Result Row** and the **Total Row**, there will be one blank row between the end of the query data and the totals.



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For more information on layout row options, see *Defining Layout Options*

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## Column Options

These options are available only if you've selected a layout column. Your choices are the following:

- **None.** No special functionality will be applied to the column. This is the default.
- **Copy Formula.** Any Excel formula found at the intersection of this column and the **Total Row** will be copied to all rows in the column. This allows you to easily create columns that perform calculations based on the other layout columns. For example, if your query returns projected and actual budget data, you might want to add a column that displays the variance.



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For more information on layout column options, see the section on *Defining a Calculated Column*.

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- **Import Control.** This column type acts as change control for PS/nVision's import feature. When a report instance is generated, all cells in this column will contain the value **U**, meaning unchanged. When updating spreadsheet data for import into your database, change this value to **C** for the rows you want included in the import. All rows containing **U** in the **Import Control** column will be ignored.

To define the layout scope logic:

1. At the **Layout Definition** dialog box, select any layout cell.

Use the **Navigate** buttons.

2. Click the **Options** tab.
3. Choose an **Instance Criteria** option.

The default selection is **Inherit All**.

4. Click **OK**.

The dialog closes and you're returned to the **Tabular Layout Definition** dialog.

To define a heading row:

1. At the **Layout Definition** dialog box, click the **Options** tab.
2. Navigate to the row you want to display column headings in and click **Heading Row**.
3. Click **OK**.

To define a first result row:

1. At the **Layout Definition** dialog box, click the **Options** tab.
2. Navigate to the row for which you want to display the first row of query results and click **First Result Row**.
3. Click **OK**.

To define a total row:

1. At the **Layout Definition** dialog box, click the **Options** tab.
2. Navigate to a row below the **First Result Row** that will contain Excel formulas to operate on your results rows.
3. Click **Total Row**, then click **OK** to close the **Layout Definition** dialog box.
4. Manually enter the Excel formulas you want in your total row.

All PS/nVision dialog boxes must be closed before you can manually insert cell contents.

If a formula is to operate on an entire column, be sure to specify a range starting with the **First Result Row** and ending one row down from there. When reports are run, the range will be expanded to include all the inserted result rows.

To define a calculated column:

1. Define a **Total Row** for the layout.
2. At the **Layout Definition** dialog box, click the **Options** tab.
3. Navigate to the intended calculated column and select **Copy Formulas**.
4. Click **OK** to close the **Layout Definition** dialog box.

All PS/nVision dialog boxes must be closed before you can manually insert cell contents.

5. Highlight the cell at the intersection of the **Total Row** and the calculated column.
6. Manually enter the Excel formula you want to use for the column.

When reports are run using this layout, this formula will be copied into all result rows in this column.

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## Creating a Report Title in a Tabular Layout

Since you can't insert variables into a tabular layout, you can't generate report titles automatically as you would using a matrix layout. To create a report title in a tabular layout, you first need to insert a second sheet into your Excel workbook and create a matrix layout. Use the %RTT% variable to create the report title in the matrix layout, and do an intra-sheet reference in Excel; the report title will appear on your tabular report.



For more information on intra-sheet references, see your Excel documentation.

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# Creating Matrix Layouts

PS/nVision provides two types of layouts to use for the creation of reports: tabular layouts and matrix layouts. The major difference between them is how they specify what data to retrieve from the database. Generally, tabular layouts are most useful for transaction reporting, while matrix layouts are more suitable for financial and analytical reporting.



For more information on tabular layouts, see [Creating Tabular Layouts](#).

Typically, the PeopleSoft data you want to report on is in the form of one or more large tables with lots of details—usually ledgers. Using a PS/nVision matrix layout, you can fashion that raw data into a summarized form that gives you a more meaningful picture of the data.

Matrix layouts are so named because they have data selection criteria associated with columns and rows in the spreadsheet, creating a criteria *matrix*. The data retrieved for and displayed in an individual cell is determined by combining the criteria for its column and its row.

## Example

To illustrate the purpose of a matrix layout, let's take a simple example. Assume a table on the database appears as follows:

<b>Office</b>	<b>Product</b>	<b>Sales</b>
CHICAGO	PAPER	1,000
BOSTON	SODA	2,000
BOSTON	BOXES	1,200
TORONTO	PAPER	1,500
VANCOUVER	BOXES	5,000
COPENHAGEN	PAPER	2,000
PARIS	SODA	1,200
TOKYO	PAPER	4,000
SINGAPORE	SODA	1,000
SINGAPORE	PAPER	2,000

Of course, a table like this one could get very large in a typical business—too large to tell the manager of sales how the enterprise is doing. Therefore, some slicing and grouping is in order.

From this very large and detailed table, PS/nVision can build a report that summarizes sales by region and product category, with the option to break these down into offices and individual products, respectively.

Assuming that the company defines a tree that groups offices into a hierarchy of sales districts, countries, and international regions, we could use that tree to define rows of a PS/nVision report, with one row for each region. Similarly, we could use a tree of products to put different types of products—office supplies, consumer products, and so on—into separate columns. The table below shows an example of how the summarized report might look.

<b><i>Region</i></b>	<b><i>Beverages</i></b>	<b><i>Office Supplies</i></b>
Asia Pacific	1,000	6,000
North America	2,000	8,700
Western Europe	1,200	2,000

---

## Matrix Layout Components

To create our example report, we need to define criteria for the columns and rows. For example, the Beverages column displays sales data where the product type is a beverage. Likewise, the Office Supplies column displays data where the product type is an office supply. The row criterion limits the displayed data even further. The first row displays only the data for the Asia Pacific region. The second row displays only the data for the North America region, and so on.

The following overview explains the important components of nVision matrix layouts and how they are used to maximize the benefits of nVision reporting.

### Overview of Matrix Layout Criteria

The database values retrieved for a matrix-based report are the results of various intersecting criteria defined in the matrix layout. These criteria tell PS/nVision exactly what database values to retrieve and where to put them. You can specify data selection criteria at the level of the entire spreadsheet at a global level, or at the level of a row, column, or individual cell. Generally, you specify criteria at the highest applicable level to for maximum efficiency. That way, you are only specifying it once rather than repeating it again at the individual rows, columns, or cells. So, if you have criteria that apply to the entire worksheet, (for example, a ledger or a TimeSpan are common global criteria), you specify them at the worksheet level (cell A1). If you have criteria that apply to a row, the criteria are entered in column A for that specific row. Column criteria are entered in Row 1 in the applicable column, and criteria that are unique to a single cell are entered in that cell only. (Cell criteria impact the efficiency of the report, so they should be used only when necessary).



For more information on criteria for matrix-based reports, see Understanding Criteria.

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## nPlosion

nPlosion is a feature you can use in your field criteria. If a field criterion uses a tree node value, nPlosion will automatically add rows or columns that contain the detail values found under that tree node in the format you specify in your layout. This creates a group of rows or columns that can be summarized—showing just the tree node value—or expanded to show the detail values *and* the summarized values.

You can also use nPlosion to show detailed TimeSpan information.



For more information on using nPlosion for field criteria, see nPlosion.

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## TimeSpan

TimeSpan is an option that limits query or ledger results to those from a particular time period. Although you can use TimeSpan in a query-based matrix layout, it's more commonly used in ledger-based layouts.



For more information on using the TimeSpan option, see TimeSpans.

---

## SetIDs and Business Units

PS/nVision uses the SetID you specify when creating a matrix layout to determine your available choices when you define your layout criteria. If the **Use Business Unit in nVision** option is off, the SetID can be omitted, but it is recommended that you specify one. If one is entered, it must be valid. To set the **Use Business Unit in nVision** option on or off, select **Go, PeopleTools, Utilities, Use PeopleTools Options**.

## Effective Dates

When you define a matrix layout, you must always enter an effective date. Like SetID, this controls which values are available for you to select when defining your criteria. For some criteria, you can override the global effective date.

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## Getting Started

Before you begin to define a matrix layout online, you should do some planning and outlining on paper so you fully understand what data you want to retrieve, what you want the resulting reports to look like, and so on. The following checklist is a good way to cover your bases before you start defining a layout.

- Outline your report specifications on paper showing desired rows, columns, and headings.

- Examine existing layouts and *clone* one, if possible, instead of starting from scratch.
- Determine the naming conventions for your layout, scope, report request, and instances.
- Determine at which levels (worksheet, column, row, or cell) you should specify the queries/ledgers, fields, and labels you want to use as your criteria.
- Identify existing PeopleSoft queries that may support your query criteria. If they don't exist, you'll have to create them. Do you want to use TimeSpans?
- Identify existing PeopleSoft trees that may support your field criteria, because it's simpler to use tree nodes than to specify detail values as your field criteria. Do you want to use nPlosion?

---

## Creating Matrix Layouts

In this section, we'll show you the *general* steps involved in creating a matrix layout in PS/nVision. Most of these steps will point you to more detailed procedures documented elsewhere, but this should give you a good overview of what's involved in defining a matrix layout and in what order you should complete each task.



**Note.** As you create a matrix layout, it's a good idea to run an occasional report request based on the layout. This gives you some indication that the layout will work as you expect.

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To create a matrix layout (overview):

1. Create a new layout by selecting **nVision, New Layout**.
2. Give your layout a name.

It will be saved as an .xnv file.



For more information on creating layouts, see [Creating Your Layout](#).

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3. Enter some descriptive titles as appropriate in the rows and columns that you plan to use.

These titles are not necessarily required, but they can be helpful as navigation aids—marking the rows and columns for which you will define criteria.

4. Select **nVision, Layout Definition** to display the Layout Options dialog box.
5. Define your layout as a matrix layout, and define your prompting options.
6. Click **OK**.
7. Open your criteria row and column by selecting **nVision, Options, Show Row and Column Criteria**.

8. Place your cursor in the criteria cell where you want to add criteria.
9. Double-click the cell or select **nVision, Layout Definition** to display the Layout Definition dialog box.
10. Add your worksheet-level criteria first. This will always be cell A1.

If you are adding row criteria, you will place your cursor on column A, rows 2 through xxx.

If you are adding column criteria, you will place your cursor on row 1, columns B through xxx.

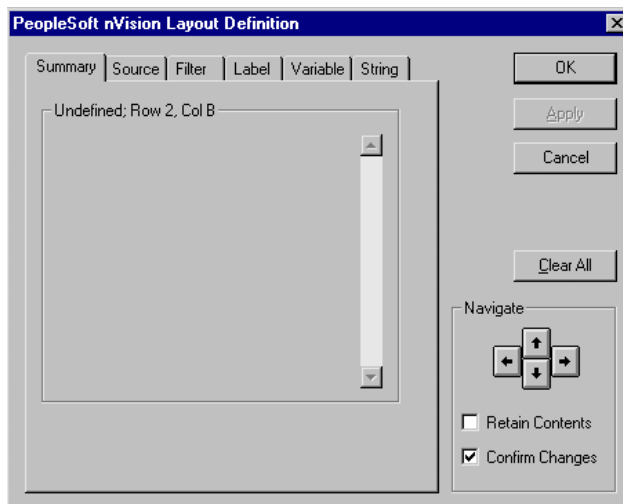
If you are adding cell criteria, you can place your cursor anywhere within the spreadsheet that you want the result to appear.

11. Continue adding all criteria for the layout.



For more information on defining a matrix layout, see [Choosing a Layout Type](#).

The type of criteria you want to define will determine which tabs on the Layout Definition dialog box you will use.



Layout Definition dialog box

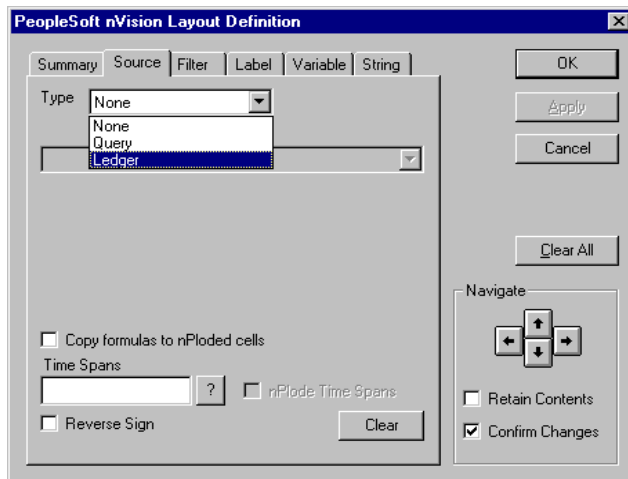
To define matrix layout criteria:

1. Select the **Source** tab.

In most cases, you'll select the **Source** tab first to define your worksheet-level criteria (cell A1). The options here allow you to define the data source and the general TimeSpan for the layout. Applying criteria at the worksheet level helps make the report run more efficiently because you do not have to restate the general criteria in the rows, columns, or cells. You can

assign any criteria at the worksheet level that you wish (including data from the **Filter** tab). Whatever you assign in cell A1 can be overridden in the row, column, or cell criteria.

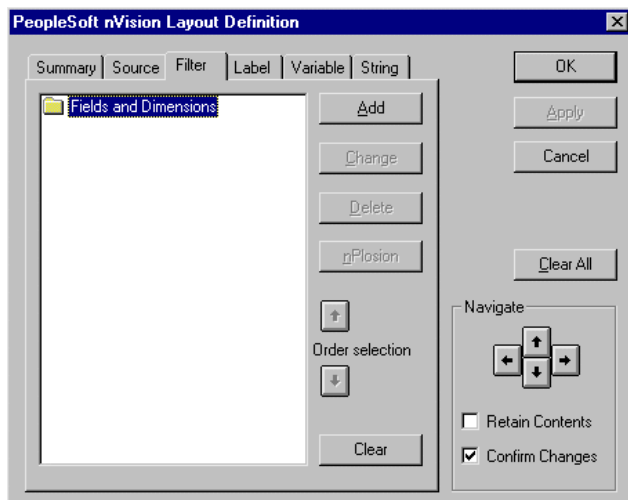
Remember the restriction on returning infinite cell values. If you define query or ledger criteria at the worksheet level, you'll be able to display results only by using cell-level intersections. Row-, column-, or worksheet-level intersecting criteria will be ignored.



Layout Definition dialog box – Source tab

## 2. Select the **Filter** tab.

Use the options on this tab to establish criteria based upon ChartFields as well as to define nPlosion for the ChartFields you have selected. This tab is used most often for defining row, column, or cell criteria.



Layout Definition dialog box – Filter tab

You use this dialog box to establish criteria for each cell in the layout.



**Note.** Based on the current cell selection, and layout criteria previously applied, some of the buttons on the **Filter** tab may be disabled.

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3. Define nPlosion defaults.

Setting nPlosion defaults can save you time when defining your row and column criteria. You set these defaults using the **nVision Layout Options** dialog box, which you get to by selecting **nVision, Layout Options**.

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For more information on nPlosion defaults, see Using nPlosion.

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4. Define column, row, and cell criteria—in that order.

Use the **Navigate** buttons to select each desired column, row, or cell. Then apply the criteria type(s) you want by selecting the appropriate tabs.

At the column level—with no previously defined criteria—your valid options are the tabs **Summary** and **Label**. At the row level—with no previously defined criteria—your valid options are **Summary**, **Source**, **Filter**, and **Label**. At the cell level—with no previously defined criteria—your valid options are **Summary**, **Source**, **Filter**, **Label**, **Variable**, and **String**.

By defining worksheet, column, row, and cell criteria—in that order—you define layout criteria in ascending order of precedence. At the cell level, any criteria you enter will override conflicting criteria defined at lower levels. So, if you've defined column-level query criteria and you define a different query for a cell in that column, the query criteria for the cell will override the column criteria. Remember that if you define field criteria at the cell level, they will not be combined with any other field criteria defined at lower levels.

5. Define any other desired layout features.

You may want to provide additional text and/or Excel formulas to the report layout. This is also a good time to get creative and spruce up the report with all the fonts and formatting that you'd like to apply to any report instances based on this layout.

To enter cell information manually, you must close the **Layout Definition** dialog box.

6. Save the new layout.

Click the **Save** button on Excel's toolbar, or select **File, Save**, to save the layout under the name you established earlier.

7. Run a test report.

You should run a report request based on this layout to verify that the report layout works properly. When you make the report request, you should see PS/nVision go to work populating a report instance with data from your PeopleSoft database.



For more information on report requests, see Understanding Report Requests.

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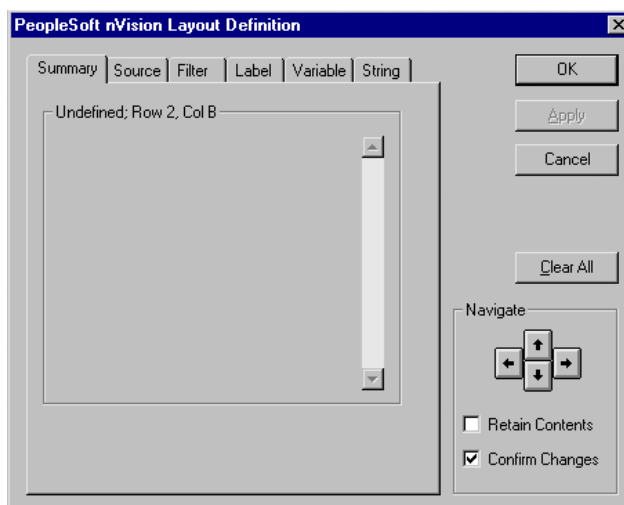
## Using the Layout Definition Dialog Box

The main dialog box used for defining criteria is the **Layout Definition** dialog box, which you access by selecting **nVision, Layout Definition**. If you haven't already specified a layout type and prompting options, another dialog box will appear before the **Layout Definition** dialog box appears.



For more information on the various options and components of the **Layout Definition** dialog box, see Understanding Layouts.

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Layout Definition dialog box

You use this dialog box to navigate around the layout and to select which types of criteria you want to define for each cell in the layout.



For more information on defining layout criteria, see Navigating Within Layouts.

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## Tabs

The various tabs on the Layout Definition dialog box—**Summary**, **Source**, **Filter**, **Label**, **Variable**, and **String**—directly correspond to the different types of criteria you can choose from.

Not all of the tabs will be available all the time. Their availability depends on whether a cell, column, row, or worksheet is selected, and on what criteria have already been defined for the

selection. For example, you can't define variable or string criteria at the row level. If the current selection is a row, the **Variable** and **String** tabs will be disabled.

## Understanding Criteria

Data selection, or data retrieval, is the heart of the PS/nVision layout. The database values retrieved for a matrix-based report are the result of various criteria defined in the matrix layout. These criteria tell PS/nVision exactly what database values to retrieve and where to put them.

You can specify data selection criteria at the level of the entire spreadsheet, or at the level of a row, column, or individual cell. Generally, you specify criteria at the highest level they apply to. So, if you have criteria that apply to the entire worksheet, you specify them at the worksheet level; if you have criteria that are unique to a single cell, you apply them to that cell only.

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### Criteria Types

There are six types of matrix-layout criteria:

- **Query criteria.** These retrieve an aggregate results column from a PeopleSoft query. The criteria act as data sources for the selected cells.
- **Ledger criteria.** Using ledger criteria is an alternative to using query criteria as a data source. While you can use both ledger and query criteria in the same layout, you'll typically use one type or the other.



We discuss ledger-based layouts in another chapter. However, you should have a good understanding of the concepts in this chapter before moving on. For more information see *Creating Ledger-Based Matrix Layouts*.

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- **Label criteria.** These retrieve descriptive field values from either tree nodes or detail values. Like queries and ledgers, these criteria also perform the role of a data source—although the data is always textual rather than numeric.
- **Field criteria.** These identify specific detail values from PeopleSoft trees. These criteria act to limit query, ledger, and label criteria.
- **Variable criteria.** Because you can generate many different report instances from one layout—using report scopes—hard-coded text is not an effective way of labeling a layout. Using PS/nVision variables, you can display information that is specific to each report request and report instance (for example, scope instance number, reporting period, and so on).
- **String criteria.** You can include strings from the PeopleTools Strings Table in a matrix layout. These strings are language sensitive and will automatically be translated to an operator's selected language when the report runs.

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## Using Criteria

Four kinds of criteria—query, ledger, field, and label—can be combined with other criteria to retrieve specific values. In fact, two of these types—field and label—return nothing when used alone. They *must* be combined with another criteria type for any data to be retrieved and displayed. The two remaining criteria types—variable and string—can *only* be used alone. The criteria types can be used in the following ways:

- **Query/ledger only.** When you use only a query or only a ledger as criteria, the retrieved data for the specified cell will be the same as if you ran the query externally. All values for the specified column are aggregated and displayed.
- **Query/ledger with field.** This criteria combination is the most commonly used. It allows you to *limit* the values retrieved from the data source (the query or ledger criteria). Essentially, the field criteria act as a SQL WHERE clause, limiting the data source results to just the rows in which a particular field is found to have the values you specify. You can specify more than one field or field value, in which case the cell will display the combined value of all the query/ledger results that match the field criteria.
- **Label with field.** As with query and ledger criteria, field criteria act as a SQL WHERE clause to limit label criteria to specific values. You use this combination to retrieve descriptive data that can be used to identify rows or columns in a report. If you specify more than one field value in this criteria combination however, the results are not combined. Instead, only one value (label) appears.
- **Variable only.** Variable criteria can be defined only at the cell level—one variable per cell—and only for cells containing no other criteria.
- **String only.** String criteria can only be defined at the cell level—one string per cell—and only for cells containing no other criteria.

In addition to the rules defined above, there is a further restriction on criteria usage. For criteria to be valid, they must not return values for an infinite number of cells. For example, you can define query criteria alone at the cell level because the results are displayed in just one cell. But query criteria in a *column* with no intersecting field criteria would—if they were allowed to—return cell after cell of the same value, throughout the entire column. For this same reason, you can't define criteria at the worksheet level and intersect them with criteria in a row or column. Again, the results would be displayed in an entire row or column.

PS/nVision does not prevent you from defining your criteria in this way, but it will not return any data for these situations. If you define a row or column of non-intersecting criteria, *no data will be returned*, because that row or column would contain an infinite number of cells of retrieved data. Thus, if you want to define criteria at the worksheet level, you have to define the intersecting criteria at the cell level, assuring data retrieval for a *finite* number of cells.



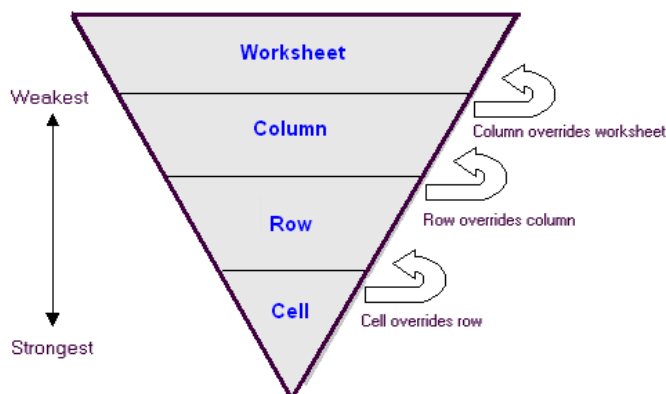
For combined criteria, the valid level combinations are the following: worksheet and cell, row and cell, column and cell, cell and cell, row and column.

## Criteria Inheritance Rules

Cells specified by intersection or by single-cell criteria inherit their selection criteria according to the following rules:

- Criteria defined at the worksheet level are used to specify defaults for the entire worksheet. Criteria at the worksheet level are combined with criteria for columns, rows, and cells except where the row, column, or cell criteria give a different value for the same criterion. In this case, the worksheet criteria are overridden.
- For the intersection of row and column criteria, the criteria are combined where possible. For example, if a row with Vendor ID field criteria intersects with a column using query criteria, both criteria are used to determine the resulting cell value. But, if a row and column conflict—for example, if *both* specify a Training Location—the row overrides the column criteria.
- Cell criteria are combined with row and column criteria unless the cell criteria conflict with the other criteria. In this case, the cell criteria override any other criteria. For example, query and label criteria conflict; they cannot both be defined in the same row, column, or cell. In a situation where a column is defined with label criteria and a cell in that column is defined with field and query criteria, the cell will display the field plus query combination. The columnar label criteria are ignored for that cell.
- If any field criteria are specified in an individual cell, all field criteria should be specified in that cell; no field criteria are inherited from the row, worksheet, or column.

The illustration below summarizes these inheritance rules:



Criteria inheritance from cell to worksheet

## Putting It All Together

The following table shows you how each criteria type can be used at each level.

### Query Criteria

<b>Level</b>	<b>Used at this level?</b>	<b>Used alone?</b>	<b>Combined with other criteria?</b>	<b>Restrictions</b>
Cell	Yes	Yes	Field	When used alone, field criteria return query column totals. When combined, the field criteria must be defined in same cell.
Row	Yes	No	Field	Field criteria can be defined in cells or intersecting columns.
Column	Yes	No	Field	Field criteria can be defined in cells or intersecting rows.
Worksheet	Yes	No	Field	Field criteria can be defined in cells only.

### Ledger Criteria

<b>Level</b>	<b>Used at this level?</b>	<b>Used alone?</b>	<b>Combined with other criteria?</b>	<b>Restrictions</b>
Cell	Yes	Yes	Field	When used alone, returns ledger amount column total. When combined, the field criteria must be defined in same cell.
Row	Yes	No	Field	Field criteria can be defined in cells or intersecting columns.
Column	Yes	No	Field	Field criteria can be defined in cells or intersecting rows.
Worksheet	Yes	No	Field	Field criteria can be defined in cells only.

**Label Criteria**

<b><i>Level</i></b>	<b><i>Used at this level?</i></b>	<b><i>Used alone?</i></b>	<b><i>Combined with other criteria?</i></b>	<b><i>Restrictions</i></b>
Cell	No	n/a	n/a	n/a
Row	Yes	No	Field	Field criteria can be defined in cells or intersecting columns.
Column	Yes	No	Field	Field criteria can be defined in cells or intersecting rows.
Worksheet	No	n/a	n/a	n/a

**Field Criteria**

<b><i>Level</i></b>	<b><i>Used at this level?</i></b>	<b><i>Used alone?</i></b>	<b><i>Combined with other criteria?</i></b>	<b><i>Restrictions</i></b>
Cell	Yes	No	Query, Ledger, and Label .	Query/ledger criteria can be defined in same cell, intersecting rows or columns, or entire worksheet.  Label criteria can be defined in intersecting rows or columns.
Row	Yes	No	Query, Ledger, and Label .	Query, ledger, and label criteria can be defined in intersecting columns.
Column	Yes	No	Query, Ledger, and Label	Query, ledger, and label criteria can be defined in intersecting rows.
Worksheet	Yes	n/a	n/a	n/a

**Variable Criteria**

<b><i>Level</i></b>	<b><i>Used at this level?</i></b>	<b><i>Used alone?</i></b>	<b><i>Combined with other criteria?</i></b>	<b><i>Restrictions</i></b>
Cell	Yes	Yes	None	Variables can only be used alone and at the cell level.

<b>Level</b>	<b>Used at this level?</b>	<b>Used alone?</b>	<b>Combined with other criteria?</b>	<b>Restrictions</b>
Row	No	n/a	n/a	n/a
Column	No	n/a	n/a	n/a
Worksheet	No	n/a	n/a	n/a

### String Criteria

<b>Level</b>	<b>Used at this level?</b>	<b>Used alone?</b>	<b>Combined with other criteria?</b>	<b>Restrictions</b>
Cell	Yes	Yes	None	Strings can only be used alone and at the cell level.
Row	No	n/a	n/a	n/a
Column	No	n/a	n/a	n/a
Worksheet	No	n/a	n/a	n/a

## Defining Query or Ledger Criteria

You use the different options on the **Source** tab to assign Ledger or Query criteria to your report layout. Select a query to use a PeopleSoft Query for a criteria source or select a ledger to retrieve information from your ledgers.

Each source—either query or ledger—will have different fields available on the dialog box. Enter your choices for the type of data that you want to receive in your report.

---

### Choosing Ledger Criteria

To choose ledger criteria for your layout, select **Ledger** from the drop-down box. Like query criteria, you can apply ledger criteria at the worksheet, column, row, or cell level.

Layout Definitions dialog box – Source tab

<b>Ledger Name</b>	The name of the ledger you want to use.
<b>Ledger Amount Column</b>	Lists the amount columns available on the ledger.
<b>TimeSpans</b>	Limits the amount of information returned in your report.
<b>Reverse Sign</b>	Changes the sign of the amounts returned from the database.



For more information on Ledger-Based Matrix Layouts, see [Creating Ledger-Based Matrix Layouts](#).

## Choosing Query Criteria

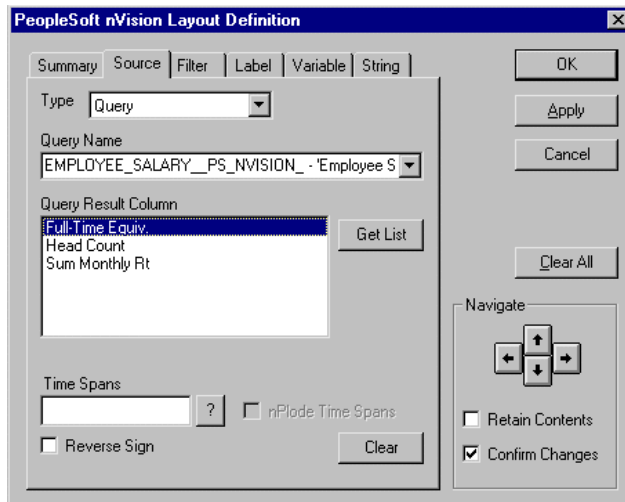
You use a query created with PeopleSoft Query to specify the data to be returned to the matrix. Query criteria specify both a query and a particular query column. You can choose only columns that are the result of a SQL aggregate function, such as SUM or COUNT.

You can apply query criteria at the worksheet, column, row, or cell level.

To define query criteria:

1. From the **Layout Definition** dialog box, select the row, column, or cell to which you want to apply query criteria.  
Use the **Navigate** controls to select the column.
2. Click the **Source** tab to view the **Query** criteria options.

The Source tab of the Layout Definition dialog box appears. Use it to specify the aggregate query column that you want to use as a data source.



Layout Definition dialog box – Source tab

3. Select Query as the **Type** of criteria source.

You can also choose *None*.

4. Specify the **Query Name** and click the **Get List** button to retrieve a list of aggregate columns, which will appear in the **Query Result Column** list box.

To choose from available queries, open the drop-down list.

5. Select an aggregate column from the list in the **Query Result Column**.

Only aggregate columns are displayed in the list box. If the query contains no aggregate columns, you'll see (*no entries*) displayed in the list box.

An aggregate query column is either:

- A data column with an aggregate function (such as Sum or Count).
- An expression containing an aggregate function, with the **Aggregate** box selected.



For more information on aggregate columns, see Understanding Aggregate Functions.

---

6. Choose a **Time Span** to limit the query **data**, if desired.



TimeSpans are optional in query-based matrix layouts. For more information, see TimeSpans.

---

7. If you want to have columns or **rows** containing TimeSpan details automatically inserted, select **nPlode TimeSpans**.



For more information on nPloding TimeSpans, see Using nPlosion.

8. If you want to reverse the **sign** of the amounts returned from the database, select **Reverse Sign**.

For example, you may want to see revenue reported as a positive number. This is normally set for query criteria at the cell, row, or column level rather than at the worksheet level.

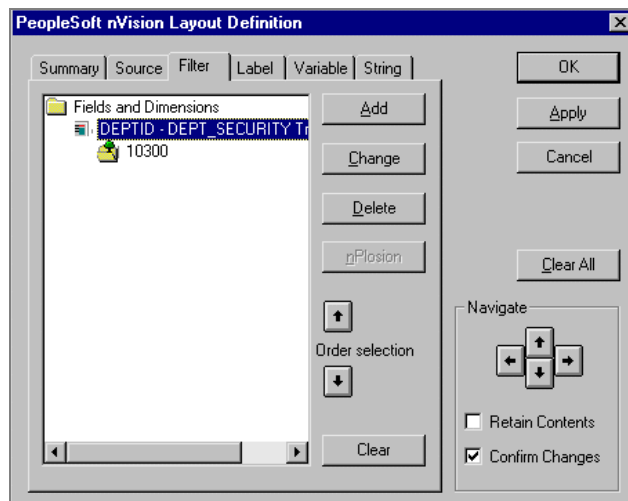
9. Click **Apply** to save your **changes** and define query criteria for a different group of cells, or click **OK** to save your changes and close the dialog box.

If you clicked **Apply** and you want to reuse all or part of the criteria you just applied, select the **Retain Contents** check box. This will preserve all the dialog box information when you navigate to a new cell selection. Then, repeat the procedure to define more query criteria.

## Applying Filter Criteria

Filter criteria comprise field or dimension criteria combined with query/ledger criteria to display a particular value from the query column results. You can also combine filter criteria with label criteria to display a particular tree node or detail value as a descriptive label. Using nPlosion, one row or column of filter criteria can generate multiple detail rows or columns.

You can apply filter criteria at the column, row, or cell level.



nVision Layout Definition – Filter Criteria

Filter criteria consist of one or more tree detail values. If you select more than one value for your filter criteria, the total of all specified values is used to limit intersecting query or ledger criteria,

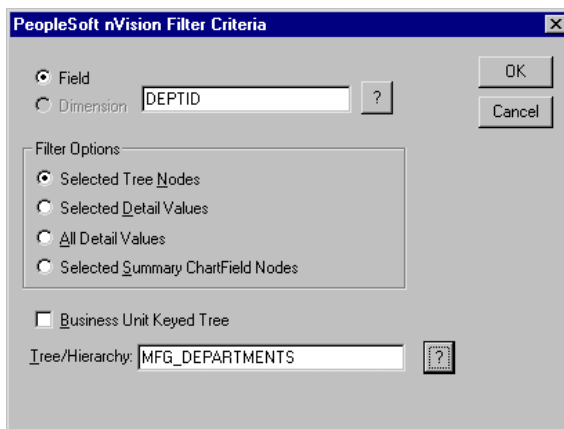
and the results are displayed as one consolidated value. However, where multi-value filter criteria intersect with label criteria, the label values cannot be combined. Only the first label retrieved appears.

When defining filter criteria, you can choose to use detail values summarized under particular tree nodes, all detail values in a detail values table, or selected detail values from various detail values tables. Consequently, there are a number of different PS/nVision dialog boxes and procedures involved in defining filter criteria, depending on the source of the detail values you want to use.

---

## Selecting Filter Criteria Options


To define filter criteria, click the Add button on the Filter tab of the Layout Definition dialog box. The Filter Criteria dialog box appears.



nVision Filter Criteria dialog box

You use this dialog box to select which fields and field values to use as filter criteria.

The list box to the right of the **Field** radio button displays fields that will be used as criteria.

You add fields to this list by clicking the **Search** button  and selecting field names from the **Valid Values** dialog box. To choose from a list of fields, type in a partial name and click the prompt button.

The list box to the right of the **Field** radio button will then display your selected values. It displays values for only one field at a time—whichever field is selected in the upper list box.



For more information on selecting field criteria, see Field Criteria.

---

You use the **Filter Options** radio buttons to specify the source of the field values you want to add to the field criteria. The options are **Selected Tree Nodes**, **Selected Detail Values**, and **All Detail**



**Values.** If your database contains ledgers, you'll see a fourth radio button, **Selected Summary ChartField Nodes**, on this dialog box.

The **Selected Tree Nodes** option is selected by default. When you select **Selected Detail Values**, the **Tree/Hierarchy** field and prompt button disappear. When you select **All Detail Values**, the **Tree Table** field and prompt button appear.

If you choose **Selected Summary ChartField Nodes**, the **Tree** field appears on the dialog box, prompting you to choose a tree from which you will select node values to use as criteria. You can choose any tree that uses the specified field for its node values and is defined for the **SetID** and **Effective Date** associated with the layout.



For more information on summary ChartField nodes, see Field Criteria.

---

When you choose **Selected Detail Values** and click **OK**, a new dialog box appears where you can pick which detail tables and field values you want to add.

When you select **All Detail Values**, the **Value Table** field appears on the dialog box, prompting you to choose one detail table. All values of the **Field** in this table will be used as criteria.



**Note.** If the Field is a DrillDown child layout, you can choose all detail values from a *tree node*. The **All Detail Values** option is used primarily with nPlosion and DrillDown features.

---



For more information, see Using DrillDown.

---

To define filter criteria (overview):

1. On the **Layout Definition** dialog box, select the row, column, or cell to which you want to apply field criteria.
2. Click the **Filter** tab and click the **Add** button.

The **Filter Criteria** dialog box appears (see above).

3. Add fields and values.

When you add a field you can opt to use detail values from particular tree nodes in one tree or use an entire tree as the source for detail values. Or you can select detail values individually from various trees.

4. Click **Apply** to save your changes and define field criteria for a different group of cells, or click **OK** to save your changes and close the dialog box.

If you clicked **Apply** and you want to reuse all or part of the criteria you just applied, select the **Retain Contents** option. This will preserve all the dialog box information when you

navigate to a new cell selection. Then repeat Steps (3) through (4) to define more field criteria.

To add a field and tree node values to filter criteria:

1. On the **Filter Criteria** dialog box, click the prompt button to the right of the **Field** radio button.

You can choose from a limited list of fields by typing in a partial name and then clicking the prompt button.

The **Valid Values** dialog box appears.

2. Select a field name and click **OK**.
3. Enter a partial **Tree** name in the **Tree/Hierarchy** field and click the prompt button.

You can choose from a limited list of trees by typing in a partial name and clicking the prompt button.

4. Select a tree from the Valid Values dialog box and click **OK**.

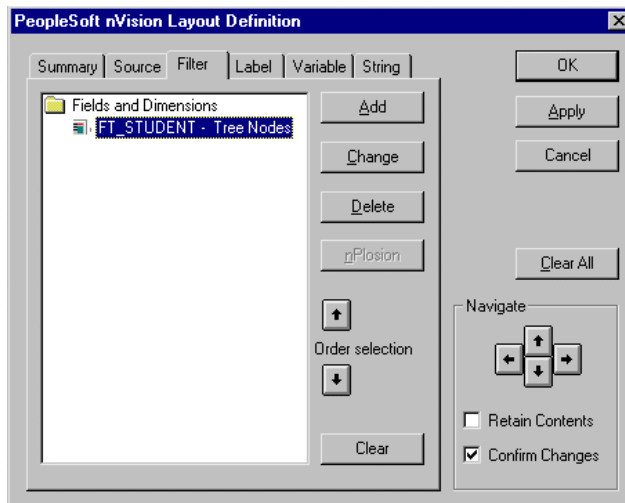
The **Tree Nodes** dialog box appears, prompting you to select the tree nodes you want to add.

Tree Nodes dialog box

You use this dialog box to specify which tree nodes you want to add to your field criteria.

5. If you know the exact node you want to add, enter it in the **Tree Node** field and click **OK**.

The dialog box will close and you'll be returned to the **Filter** tab of the Layout Definition dialog box, where you'll see the added node in the **Filter** tab's list box.



Layout Definition dialog box – Filter tab

6. Apply a node list filter, if desired.

If you want to limit your node choices to a particular level, use the prompt button to choose a valid **Tree Level**. If you want to limit your node choices to a particular tree branch, enter the **Tree Node** at the top of the branch.

7. Display the node list.

To see an alphabetical listing of the tree nodes, click **By Name**. Use this button if you've specified a **Tree Level**. If you've also specified a **Tree Node**, it must be a valid node in the level or no nodes will be displayed in the list.

To see the hierarchical node structure of the tree—similar to what you'd see in Tree Manager—click **By Position**. Use this button if you've specified a **Tree Node**. If you've also specified a **Tree Level**, it will be ignored.



**Note.** You can use the two list filtering buttons together to help you find the nodes you want. For example, you might first want to see nodes at a particular **Tree Level**, displayed alphabetically—using **By Name**—to find the higher-level node you want. Then you can specify that **Tree Node** and use **By Position** to see the portion of the tree headed by that node.

8. Highlight all the nodes you want to add.

Click a node to highlight it.

9. Click **OK** to add the highlighted nodes.

The **Field Nodes** dialog box closes. You can now see the new node values listed in the **Filter** tab's tree control list box.

To add a field and detail values to field criteria:

1. At the **Filter** tab, click the **Add** button.

The **Filter Criteria** dialog box appears.

2. Enter a **Field** name.

You can choose from a limited list of fields by typing in a partial name and clicking the prompt button.

3. Select either **Selected Detail Values** or **All Detail Values**.

4. If you selected **All Detail Values**, enter a Value Table name.

You can choose from a limited list of tables by typing in a partial name and clicking the prompt button.

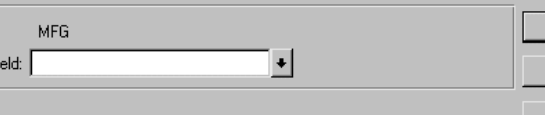
5. Click **OK**.

If you selected **All Detail Values**, the **Field Name** dialog box closes and the **Filter** tab appears again. You can skip the rest of this procedure.

If you chose **Selected Detail Values**, the **Criteria Values** dialog box appears.

Criteria Values dialog box

You use this dialog box to specify which tree detail values you want to add to your field criteria.



Valid Values

SetID: MFG

ChartField:  ▼

OK

Cancel

Search

SetID	Ledger	ChartField
-------	--------	------------

No Matching Entries Found.

Valid Values dialog box

PeopleSoft nVision Filter Criteria

☒ Field  
☐ Dimension

ACCOUNT ?

OK Cancel

Filter Options

☒ Selected Tree Nodes  
☐ Selected Detail Values  
☐ All Detail Values  
☐ Selected Summary ChartField Nodes

☐ Business Unit Keyed Tree

Tree/Hierarchy: ACCTROLLUP ?

### Filter Criteria dialog box

PeopleSoft nVision Criteria Values

Qualifiers

Field: ACCOUNT

Values Table: ACCT\_TYPE\_TBL ?

Effective Date: 05/05/2000

OK

Cancel

Select Values: ?

Current Value List:

Enter Individual Value:

Blank Value

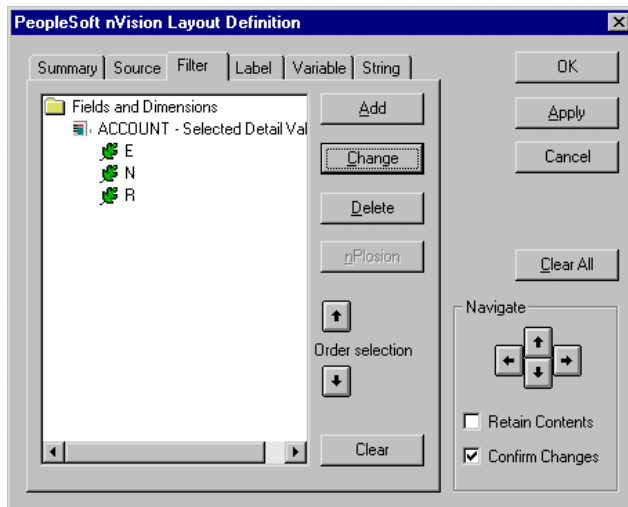
Add to List

E

N

R

### Criteria Values dialog box



Layout Definitions dialog box – Filter tab

6. In the Qualifiers group box of the **Criteria Values** dialog box, specify a **Values Table**.

Use the prompt button to display a list of tables.



**Note.** The **Field Values** dialog box is unavailable if you opted to use **All Detail Values**, because there are no more values to add.

7. Enter a new **Effective Date**, if desired.

If you don't enter a new **Effective Date**, the date will default to the one you specified at the **Criteria Values** dialog box.

8. Select the values you want to add.

If you know the value you want, enter it in the **Enter Individual Value** field and click **OK**. Otherwise, use the prompt button to display a list of detail values from the **Values Table** you specified. You can select multiple values before clicking the **Add to List** button.

9. Select the **Add Blank Value** checkbox—with the **Enter Individual Value** field empty—if you want to include a null value—and click the **Add to List** button.

When you click the **Add to List** button, a null value is added to the list, represented graphically by **(None)** in the **Current Value List** text box. The null value is added to the top of the list in the list box, but the actual null value is inserted at the bottom of the list on the **Filter** tab.

You can change the order of a value by using the **Order selection** controls on the **Filter** tab:



10. Click **OK** to save your changes and close the **Layout Definition** dialog box.

To add additional criteria values:

1. On the **Filter Criteria** dialog box, select one of your **Specified Fields**.

If you haven't specified any fields, you must do so now. During that procedure you'll be prompted to add criteria values.

2. Click the **Add** button.
3. At the new dialog box, add your values.

To remove a field and its values from field criteria:

1. On the **Filter Criteria** dialog box, select the field you want to remove.
2. Click the **Delete** button.

To cancel the deletion, click **Cancel** to exit the **Layout Definition** dialog box without saving your changes.

To remove a field value from field criteria:

1. On the **Filter Criteria** dialog box, select the field whose value you want to remove.
2. Click the **Delete** button.

To cancel the deletion, click **Cancel** to exit the **Layout Definition** dialog box without saving your changes.

## Using Label Criteria

You can use label criteria to add descriptive information that corresponds to field criteria you've defined in the rows and columns of the layout. When you define label criteria, you specify whether you want to use a tree node name or a detail value as the label source. PS/nVision uses this information to generate row and column labels automatically at runtime from detail or tree node records in the database. When you run the report, the rows and/or columns appear with their labels. Report labels are particularly useful with nPloded rows and columns, since these are generated by PS/nVision and you don't have a chance to label them yourself.

You can define label criteria at the row or column level. They cannot be defined in any row or column that already contains other criteria types. If you want to label field criteria entered in the rows of the layout, specify the label criteria in an intersecting column; if you're labeling field criteria columns, put the label criteria in a row.

To define label criteria:

1. On the **Layout Definition** dialog box, select the row or column to which you want to apply field criteria.

Use the **Navigation** buttons to make your selection.

2. Click the **Label** tab.

The **Label** dialog box appears.

Layout Definition dialog box - Label tab

You use this dialog box to specify where the label text will be retrieved from.

3. Specify where you want to retrieve the label text from in the **Retrieve Label** group box.

If you're labeling field criteria that are based on detail table values, use the **Field on Detail Value Table** field to specify a label source. You should also use this field if you want to label the nPloded rows/columns of node-based field criteria. Enter either the field name itself or a descriptive field from the detail value table—which is defined in the tree structure.



**Note.** If you're using fiscal-year TimeSpans, you can also specify a special label for nPloded TimeSpans by entering **ACCOUNTING\_PERIOD** as the **Field on Detail Value Table**.

If you're labeling field criteria based on tree node values, use the **Field on Tree Node Table** field to specify a label source. For detail or summary tree node values, enter either **TREE\_NODE** or **DESCR**, as these are the only descriptive fields on the TREE\_NODE\_TBL (as delivered).

For node-oriented trees, enter either the field name itself or another descriptive field from the table that supplies the node values—as defined in the tree structure. For example, for field criteria based on nodes in the DEPT\_SECURITY tree, you might use **DEPTID**, **DESCR**, or



## SHORTDESCR.



For more information on the different types of trees, see [Using Different Types of Trees](#).

- Choose your **Runtime Options** by entering a name in one of the two fields.

The **RuntimeOptions** box appears on the **Label** tab.

Runtime Options group box

The **Runtime Options** group box is not visible until you enter a field name in the dialog box. If you select **Put labels in blank cells only** you are assured that the labels won't overwrite any text, PS/nVision variable, or strings you've inserted in the layout.

If you've selected a column, you can also select **Resize column for labels**. This automatically applies Excel's "AutoFit" command to the column at runtime. This makes the column as wide as the widest label.

- Click **Apply** to save your changes and define label criteria for a different row or column, or click **OK** to save your changes and close the dialog box.

If you clicked **Apply** and you want to reuse all or part of the criteria you just applied, select the **Retain Contents** option. This will preserve all the dialog box information when you navigate to a new cell selection. You can then repeat the process to define more label criteria.

## Adding Variable Criteria

You insert PS/nVision variables into the layout to display heading information that might change from report to report, or between report runs. For example, you could use a variable to automatically insert the report ID so you don't restrict this layout to a single purpose. Instead, this

variable will insert the Report ID you specify in the Report Request dialog box. Remember that your layout may be used with a scope that changes its contents, which could make a hard-coded title misleading.

You can define variable criteria at the cell level only—one variable per cell—and the variable must be the only element in that cell.



**Note.** In addition to using PS/nVision variables in your layouts, you can also use some of these variables in the **Instance Controls** section of the **Report Request** dialog box.



For more information on using variables in reports, see *Organizing Multiple Report Instances using Variables*.

When inserting a variable into a cell, you select it from the **Variable** tab of the **Layout Definition** dialog box. Because there are many different variables to choose from, the dialog box displays them by category. Each of the following three sections describes one of those categories and contains tables with information on the variables in that category.



**Note.** When you choose a variable from the **Variable** dialog box, you select its three-letter code. However, when a variable is used in a layout or report request, its code must be enclosed in percent signs (for example, %RID%). The tables in the following sections omit the percent signs from around these variables.

## Report Request Variables

Most of the values returned by these values are defined on the Report Request dialog box.

<i><b>Variable</b></i>	<i><b>Returned Value</b></i>	<i><b>Sample Value</b></i>	<i><b>Remarks</b></i>
DTS	Detail or Summary (nPlosion enabled or disabled)	S	Defined on the Report Request dialog box. S=Summary (nPlosion disabled). D=Detail (nPlosion enabled).
ICT	Instance Counter	1	Starts at 1 and is incremented by 1 for each additional instance
IDN	Instance Directory Name	C:\USER\NVISION\INSTANCE	Full path. Defined on the Report Request

			dialog box (by the Directory Template field).
IFN	Instance Output File Name	<varies>.XLS	Defined on the Report Request dialog box (by the File Template field). The .XLS extension is included.
LAN	Language Template	ENG	Defined on the Report Request dialog box.
LYN	Layout Name	<varies>	Defined on the Report Request dialog box. (Does not include the .XNV extension.)
OPC	Operator Class	ALLPANLS	Provided by the PeopleSoft security tables.
OPL	Operator Language	ENG	Provided by the PeopleSoft security tables.
OPR	Operator ID	WPS004	Provided by the PeopleSoft security tables.
RID	Report Name	<varies>	Defined on the Report Request dialog box.
RBK	Report Book Name		
RTT	Report Title	<varies>	Defined on the Report Request dialog box.

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## Date and Time Period Variables

These values help you label layouts where different accounting periods are reported in each instance.

<i><b>Variable</b></i>	<i><b>Name</b></i>	<i><b>Sample Value</b></i>	<i><b>Remarks</b></i>
APA	Period Abbreviation	DEC	
APN	Period Name	December	

ASD	As of Reporting Date	1995-12-31	Defined on the Report Request dialog box.
AST	As of Tree Date	1996-01-01	Defined on the Report Request dialog box.
FY2	Year (YY)	95	
FY4	Year (YYYY)	1995	
PED	End Date of Current Period	1995-12-31	
PER	Accounting Period	12	

---

## Scope-Related Variables

These values help you label layouts for which you've defined a report scope. A scope is used to define multiple instances of a report based on different field values. For example, you could produce an instance of an expense report for each department, or an operations summary for each business unit.



For more information on scope, see Defining Report Scopes.

---

<b>Variable</b>	<b>Name</b>	<b>Sample Value</b>	<b>Remarks</b>
BUV	Business Unit Name	M04	Defined on the Report Request dialog box.
BUN	Business Unit Description	US1 Manufacturing	
SCN	Scope Name	DEPARTMENT	
SCD	Scope Description	Sales Departments	
SFN	Scope Field Name	DEPTID	
SFV	Scope Field Value	FINDEVELOP	
SFD	Scope Field Description	Financial Development	
STN	Scope Tree Name	FUNCROLLUP	
STD	Scope Tree Description	Functional Organization	
SLN	Scope Tree Level Name	DIVISION	

SLD	Scope Tree Level Description	Instances for each Division	
DES	Scope Descriptive Field	FINDEVELOP	A user-defined variable that retrieves descriptive information from a field in either the detail value table or the tree node table.

## Defining Variable Criteria

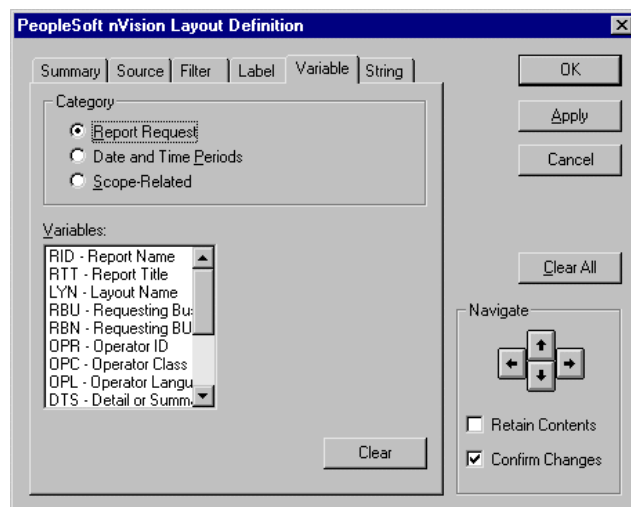
To define variable criteria:

1. On the **Layout Definition** dialog box, select the cell to which you want to apply variable criteria.

Use the **Navigate** buttons to make your selection.

2. Click the **Variable** tab on the **Layout Definition** dialog box.

The **Variable** tab appears.



Layout Definition dialog box – Variable tab

You use this dialog box to insert a PS/nVision variable into a matrix layout.

3. Select the appropriate **Category**, then make your choice from the list of **Variables**.



For more information on your choices, see Report Request Variables or Date and Time Period Variables or Scope-Related Variables.

4. If you selected one of the **Date and Time Periods** variables, you must specify a **Ledger**.

When you select **Date and Time Periods**, and you click once on a variable in the **Variables** list, the **Ledger** field appears below the Variables box. You can enter a ledger name or click the **Prompt** button to choose from a list of available ledgers.

5. If you selected one of the **Scope-Related** variables, fill in the **Scope Field** field, if necessary.

When you select any **Scope-Related** variable except *SCN* or *SCD*, the **Scope Field** text box appears to the right of the **Variables** field. If the layout uses a scope that has multiple fields, use the **Scope Field** box to specify the scope field on which to base the variable you want to insert. For example, if you defined a scope using the Department and Product fields, and wanted a descriptive field from the Department table to appear on your report, you would enter DEPTID as the **Scope Field**. You can enter a scope field name or click the **Prompt** button to choose from a list of available scope fields.



**Note.** If you don't specify a **Scope Field**, PS/nVision defaults to the first field defined in the Scope.

6. If you selected the *DES* variable, indicate where to retrieve the descriptive information.

Layout Definition dialog box – Variable tab with *DES* field

The Descriptive Field (*DES*) variable is user-defined, and retrieves text information from either the Tree Node table or Detail Value Table associated with a field in the scope. For example, if your scope is based on DEPTID, and creates an instance for each tree node at the Division level, you can use variables to identify each instance with the division name and related information from the tree node.

Use the **Field on Detail Value Table** field to retrieve descriptive information from any text field on the detail values table that is associated with the **Scope Field**. So, if you were

generating instances of a report using a scope based on detail values of the Department field, you could enter the name of any descriptive field on the Department table and the text contained in that field will appear on each department's instance of the report.

For example, this variable could be used to retrieve the text in the Manager\_Name field on the Department table for each instance of a departmental expense report.

Use the **Field on Tree Node Table** field to retrieve descriptive information from any text field on the Tree Node table (usually named TREE\_NODE\_TBL) when using a tree-based scope. For example, if you have added a field for the manager responsible for each node in your tree, you could retrieve this information by specifying the field name, such as Mgr\_Name, from the Tree Node table.

7. Click **Apply** to save your changes and define field criteria for a different cell, or click **OK** to save your changes and close the dialog box.

If you clicked **Apply** and you want to reuse all or part of the criteria you just applied, select the **Retain Contents** option. This will preserve all the dialog box information when you navigate to a new cell selection. Then, repeat Steps (3) through (6) to define additional variable criteria.

## String Criteria

Layouts typically contain a fair amount of constant text, such as the column headings “Last Year to Date” or “Current Budget.” PS/nVision provides the option to build multi-lingual layouts where these text strings are replaced by specially formatted strings whose user-language equivalent are retrieved from a table in the database. These string names are somewhat like user-defined PS/nVision variables.

String criteria are inserted into layout cells with the following format:

```
%.<name>,R<program>%
```

where *name* is the string name as described in the following table and *program* is the program ID group that contains the string definition. For example:

```
% .STDHDG_PAGE_NO, RSTDHDGTR%
```

In this example, the string name is STDHDG\_PAGE\_NO and the program ID is STDHDGTR.

When you select a string to insert, you have the option of choosing only from strings created specifically for use with PS/nVision, that is, string with a program ID of NVISION. If you insert one of these strings, the program name does not appear in the string. For example:

```
% .DATE_LABEL%
```



For more information on creating strings, see Strings Table.

---

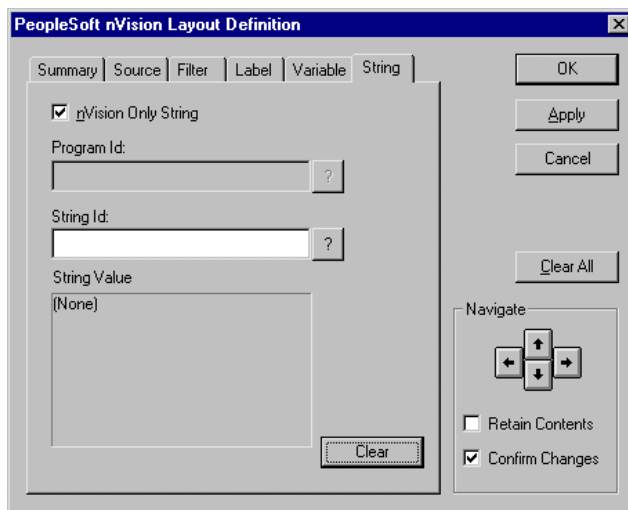
To define string criteria:

1. On the **Layout Definition** dialog box, select the cell to which you want to apply string criteria.

Use the **Navigate** buttons to make your selection.

2. Click the **String** tab.

The **String** tab on the **Layout Definition** dialog box appears.



Layout Definition dialog box – String tab

You use this tab to insert a string from the Strings table into a cell in your layout.



For more information on the Strings table, see Strings Table.

3. Clear the **nVision Only String** check box if appropriate.

By default, this tab will show you only those strings that were created for use with PS/nVision—those with a program ID of NVISION. If you want to be able to select from all available strings, clear the **nVision Only String** check box.

4. If nVision Only String is cleared, choose a Program Id.
5. Choose the **String Id** of the string you want to insert.

You'll be able to choose from the strings assigned to the **Program Id** that you specified.



Note. If nVision Only String is selected, the Program ID is NVISION.



6. Click **Apply** to save your changes and define string criteria for a different cell, or click **OK** to save your changes and close the dialog box.

If you clicked **Apply** and you want to reuse all or part of the criteria you just applied, select the **Retain Contents** option. This will preserve all the dialog box information when you navigate to a new cell selection. Then, repeat Steps (3) through (5) to define additional string criteria.



## CHAPTER 6

# Creating Ledger-Based Matrix Layouts

A ledger is a special type of query in PS/nVision, with an implied aggregate operation (SUM) and record and field names specified through the ledger definition. In PS/nVision, a ledger-based layout is essentially a matrix layout that uses the ledger table in place of a query. Typically, you will use ledger-based layouts with applications such as PeopleSoft General Ledger or Enterprise Performance Management. While ledgers and queries can be used in the same report, ledger and query specifications are mutually exclusive for a row or column, because a row, column, or cell can have only one data source.

This chapter discusses *only* what is different about working with ledger-based layouts and reports versus query-based matrix layouts.



For more information on other types of matrix layouts, see [Creating Matrix Layouts](#).

---

## Ledger Criteria

When you define ledger criteria, you can choose the same options as with query-based matrix layouts. As with query criteria, you can apply ledger criteria at the worksheet, column, row, or cell level.

To define ledger criteria:

1. On the **Layout Definition** dialog box, select the row, column, or cell to which you want to apply ledger criteria.

Use the **Navigate** controls to select the location.

2. Click the **Source** tab and select **Ledger** as the source **Type**.

The **Source** tab displays the Ledger options.

Layout Definitions dialog box – Source tab: Ledger options

You use this dialog box to specify the ledger that you want to use as a data source.

3. Specify the ledger you want to use by selecting from the available ledgers in the **Ledger Name** drop-down list.
4. Choose the **Ledger Amount Column** you want to use by clicking the **Get List** button and clicking the available columns that are displayed.
5. Choose a **TimeSpan** to limit the ledger data.



For more information, see TimeSpans.

---

6. If you want to have columns or rows containing TimeSpan details automatically inserted, select **nPlode TimeSpans**.

The **nPlode TimeSpans** option will appear on the dialog box only if you have a row or column selected.



For more information, see nPllosion.

---

7. If you want to reverse the sign of the amounts returned from the database, select **Reverse Sign**.

For example, you may want to see revenue reported as a positive number. This is normally set for query criteria at the cell, row, or column level, not the worksheet level.

8. If the ledger contains separate credit and debit columns, they will appear in the **Ledger Amount Column** and you should select the amount that you are interested in reporting on.

9. Click **Apply** to save your changes and define ledger criteria for a different group of cells, or click **OK** to save your changes and close the dialog box.

If you clicked **Apply** and you want to reuse all or part of the criteria you just applied, select the **Retain Contents** option. This will preserve all the dialog box information when you navigate to a new cell selection. Then repeat the procedure to define more ledger criteria.

## TimeSpans

TimeSpans express fiscal-year and accounting-period ranges relative to the **Main As Of Date** specified in the report request. TimeSpans control the periods for which data is extracted from the database. Many TimeSpans are expressed relative to the current period, so that they automatically adapt the content of a report to the report **As Of Date**. TimeSpans are required when you are using ledgers, but are optional with queries.

An example of using TimeSpans, is an Earnings Summary report that compares earnings from the end of 1995 to the end of 1996, broken down by four quarters. Revenue from operations and Net Earnings are listed down the left side of the report, while quarterly earnings are displayed across the top of the report as column headings. You select the appropriate QTR TimeSpan for each quarter at the column level. Then you specify the ACCOUNTS ledger in the criteria for the entire spreadsheet. For the rows, specify the individual accounts whose earnings you want to report on.

## Field Criteria

As with other matrix layouts, you use field criteria to specify which character field values (such as ACCOUNT) will be selected for which rows and columns of the report.

As in query-based layouts, field criteria can be expressed in terms of detail values or tree nodes, and can be nPloded to generate multiple detail rows or columns. However, with ledger-based layouts, field criteria also can be expressed as summary ChartField nodes.

---

### Summary ChartField Nodes

When defining field criteria for a database containing ledgers, you can opt to use summary ChartField nodes as criteria values. This retrieves data from a summary ledger ChartField that contains tree nodes as values. Detail ledger ChartFields serve as “keys” to the detail ledger, categorizing posted total amounts. You can create summary ledgers that roll up detail amounts based on specific detail values or on selected tree nodes. When detail values are summarized using tree nodes, *summary ChartFields* must be used in the summary ledger data record to accommodate the maximum length of a node name (20 characters).

For example, values contained in a Department ChartField (such as DEPTID 0100, 0200, 0300, and so forth) on a detail ledger can be rolled up (using an organizational tree) into a Division ChartField on a summary ledger. These values could be stored with summary ChartField node names such as Sales, Marketing, and Administration.

Two techniques can be used to access data from a summary ledger of this type. We recommend that you use *summary trees* rather than summary ChartField nodes because they allow you to create different rollups of the summarized nodes as well as use nPlosion on them. They also provide the option of translating these summary criteria to the corresponding detail criteria back in the general ledger when drilling down. When specifying criteria via a summary tree, click the **Selected Tree Nodes** radio button in conjunction with the summary ChartField.

To add a field and summary ChartField node values to field criteria:

1. Follow the procedure for adding tree node values.
2. From the Field Name dialog box, select Selected Summary ChartField Nodes.

## Label Criteria

Label controls are available on ledger-based layouts, just as they are with any matrix layout.

Note that if you are basing the layout on a ledger, you can retrieve label text from a number of fields defined in Application Designer for a ChartField's Detail or Tree Node table. You can also specify a special label for nPloded TimeSpans in the format YYYY-PP (year-period) by entering ACCOUNTING\_PERIOD as the Detail Values field.

## nPlosion

For PeopleSoft General Ledger, note that nPlosion is available for detail ledger ChartFields or summary ledger ChartFields that contain detail values, and for summary ledger ChartFields accessed through summary trees. nPlosion is not available for summary ledger ChartFields specified as Selected Summary ChartField Nodes. For other applications, nPlosion is available for criteria fields that have value tables listing the valid values of the field (usually, this is the prompt table for that field).



For more information on nPlosion, see nPlosion.

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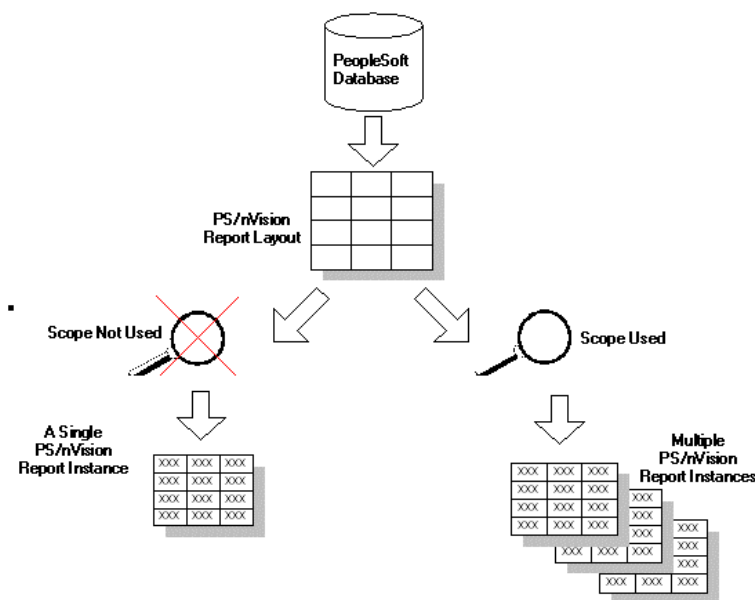
## CHAPTER 7

# Defining Report Scopes

A report scope allows you to create multiple instances of a report using a single report layout and report request. A scope often reflects summary reporting levels, such as those specified in trees. You may choose to run three instances of an expense report that differ only in the specific division being reported upon. All three reports share the same layout, but each contains the expenses of only one division.

Using a scope, each report instance will contain data specific to an individual field value, such as a business unit or department, or a to group of values, such as a tree node summarizing all sales departments. In this way, each report instance can share the same layout, while containing data unique to these field values.

When defining a report request, you can use the scope feature to create multiple instances of a report from a single request, as shown in the following illustration.



Creating multiple instances of a report using a scope

You can specify more than one field in the scope to create instances that represent the combinations of values of multiple fields. For example, you can use a multi-field scope to create an instance for each product line (a grouping of products) within each region (a grouping of departments).

Whenever you use scope to produce multiple instances of a report, you should consider using PS/nVision variables in the layout headings to identify the content of each report.



For more information, see Adding Variable Criteria.

---

## Using the Scope Definition Dialog Box

When you define a new scope, you must determine how many instances you want to produce and how you want each instance summarized.

If your scope is based on two or more fields (such as business unit and product), PS/nVision normally produces a report instance for each combination of the selected nodes or detail values for all specified fields. However, you may have data for only a subset of these combinations—for example, if each business unit sells only a subset of the total list of products. You could limit the number of report instances produced by defining multiple scopes, specifying only the valid combinations, and using different report requests to apply these scopes to the desired layout(s). But if you're working with many combinations, a better solution is to create a Field Combination table containing only the field value combinations you want for your scope. If you specify a Field Combination table for your scope, PS/nVision will generate an instance of the report for only those field values specified that are listed as valid combinations on the table.

You create a Field Combination table in Application Designer just as you would with any other custom table. After creating the table with the combinations of fields you want to use, you point to that table from the Field Combination table field in the Scope Definition dialog box. You can also create a dynamic record that is populated by a query and includes only the combinations of field values that actually have data for that reporting period. This eliminates printing blank pages (report instances) when you have fields that have no data for a particular reporting period.



**Note.** When you create a combination table, you need only include the scope fields whose values you want to limit, but you can also include SETID and EFFDT, if desired. You can populate the table using a SQL tool as well, but a better option might be to create a simple panel to update the table.

If you specify field values using tree nodes, PS/nVision will use the combination table to determine if the underlying details are valid before producing an instance for a tree node. For example, if an instance is requested for each product and division (a rollup of departments on an organization tree), PS/nVision will determine whether any departments in each division are valid in combination with a particular product. In this case, the combination table should contain a DEPTID and PRODUCT field, with each row containing the valid department/product combinations.



You begin defining your report scopes from the **Scope Definition** dialog box, which you access by selecting **nVision, Scope Definition**.

Scope Definition dialog box

Use this dialog box to create new scopes as well as to modify and delete existing scopes. To open an existing scope, select **Open**. To create a new scope, select **New**.

To define a new scope:

1. Select **New**.
2. Enter a **Scope Name** and a **Description** for the scope.

When you define a new scope, the scope name and its description help you identify it for later use. You may use up to ten characters for the scope name and up to thirty characters for the scope description.

3. Enter the **TableSetID** for this scope.

Report scopes are keyed by a **SetID**, as specified in the TableSet ID field.

4. If you are using multiple scope fields, enter the appropriate tables in the **Field Combination Table** field.



For more information, see field combination tables.

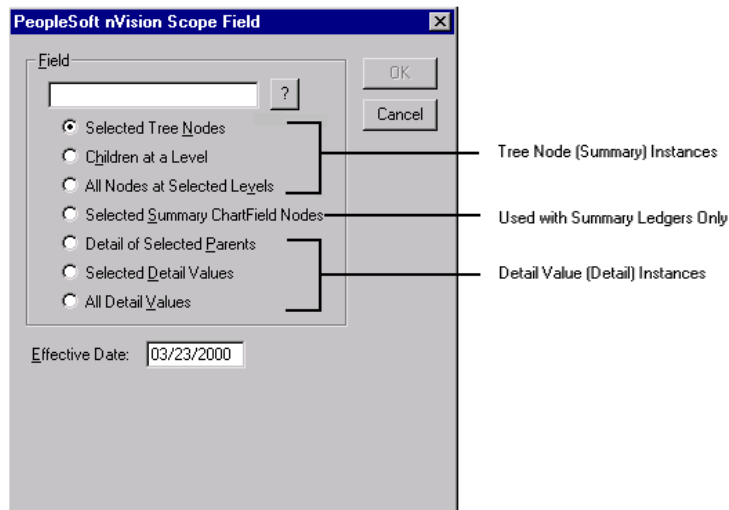
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5. Next, add fields to the screen by selecting the **Add** button.

The nVision Scope Field dialog box appears.

## Selecting Scope Fields

Use the Scope Field dialog box to define which fields control the scope by adding entries to the Fields list. For each field you **Add**, you then specify what to use as the source of the field values and what values to use. This is very similar to defining field criteria in a matrix layout.



nVision Scope Field dialog box

Each of the radio buttons on the nVision Scope Field dialog box selects a different set of values for building your scope.

### **Selected Tree Nodes**

Creates an instance for each tree node that you choose. When you type the field name, you're then prompted to enter a tree name and level.

### **Children at a Level**

Creates an instance for each tree node at a specified tree level that is a child of the parent node. The parent nodes need not be the immediate parent of nodes at the specified level. When you type the field name, you're prompted to specify a tree name and a tree level.

### **All Nodes at Selected Levels**

Creates an instance for every node at each selected level. You may select more than one level using this option. When you type the field name, you're prompted to specify a tree name and level.

### **Selected Summary ChartField Nodes**

Creates an instance for every specified node in a tree used to create a summary ledger. (This option applies to users of PeopleSoft General Ledger.) PeopleSoft recommends using summary trees rather than the Summary Chartfield Node construct.

Select this radio button when you want to retrieve data from a summary ledger ChartField that contains tree nodes as values (and you are not using a summary tree). When detail values are summarized into tree nodes, it is required that a different ChartField be used in the summary ledger data record to accommodate the maximum length of a node name (20 characters). When you type a field name, you're prompted to specify a tree name and level.

### **Detail of Selected Parents**

Creates an instance for each detail value associated with the specified tree nodes. When you type the field name, you're prompted to specify a tree name and level.

### **Selected Detail Values**


Creates an instance for each detail value that you specify. This option activates the Value Table field, where you can specify the table that contains the values you want to select.

### **All Detail Values**


Creates an instance for each detail value that you specify. This option activates the Value Table field, where you can specify the table that contains the values you want to select.

To add fields and field values to a scope:

1. Specify the **Field** you want to add.

Choose from available fields by clicking the prompt button .

2. Select a radio button that specifies the source of the field values.
3. Set the **Effective Date** used to determine what trees you can choose from.
4. Specify the **Tree Name**.

Choose from available trees by clicking the prompt button .

5. If prompted with the **Tree Levels** dialog box, select the desired values and click **OK**.



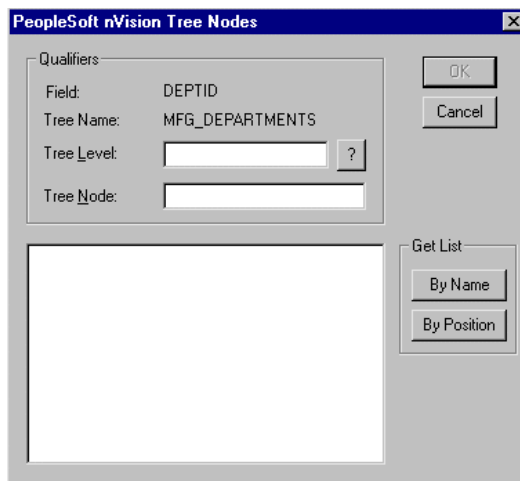
For more information on using the **Tree Levels** dialog box, see Defining Report Scopes.

## Choosing Tree Levels and Tree Nodes

If you select the **All Nodes at Selected Levels**, **Selected Tree Nodes**, **Children at a Level**, or **Detail of Selected Parents** radio buttons on the **Scope Field** dialog box, you're prompted with the **Tree Nodes** dialog box. You use this dialog box to specify the **Tree Levels** that contain the nodes you want to use.

To select tree levels and nodes:

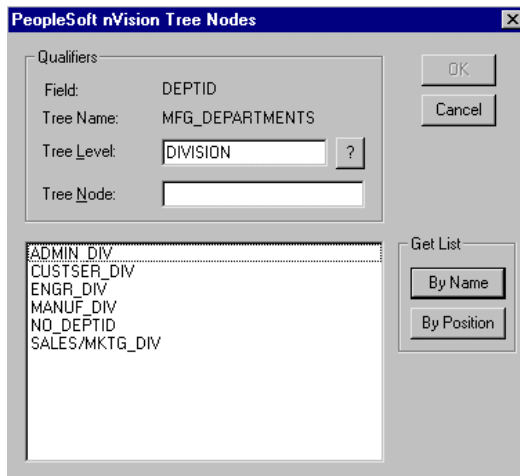
1. Click the prompt button  to select from a list of levels.

The image shows the 'PeopleSoft nVision Tree Nodes' dialog box. It has a title bar with the text 'PeopleSoft nVision Tree Nodes' and a close button. The main area is divided into two sections. The top section, labeled 'Qualifiers', contains four fields: 'Field:' with the value 'DEPTID', 'Tree Name:' with the value 'MFG\_DEPARTMENTS', 'Tree Level:' with an empty text box and a prompt button (a small square with a question mark), and 'Tree Node:' with an empty text box. To the right of these fields are 'OK' and 'Cancel' buttons. The bottom section is a large empty rectangular area. To the right of this area is a 'Get List' section with two buttons: 'By Name' and 'By Position'.

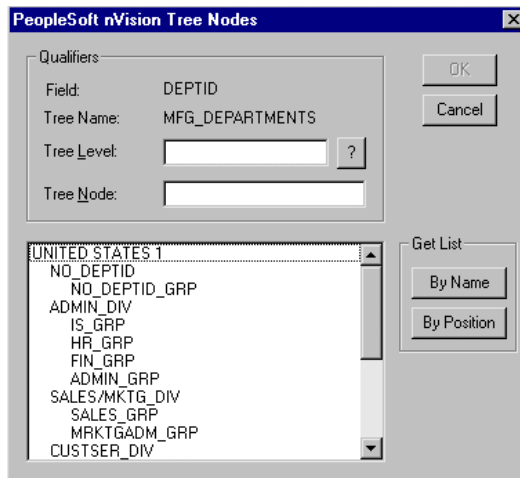
Tree Nodes dialog box

The dialog box expands to give you fields for your **Tree Level**.

2. Click the prompt button to see a list of valid tree levels for that tree and select one.
3. Place the cursor in the **Tree Node** field and select the option to **Get List** of nodes either **By Name** or **By Position**.



Tree nodes sorted by name



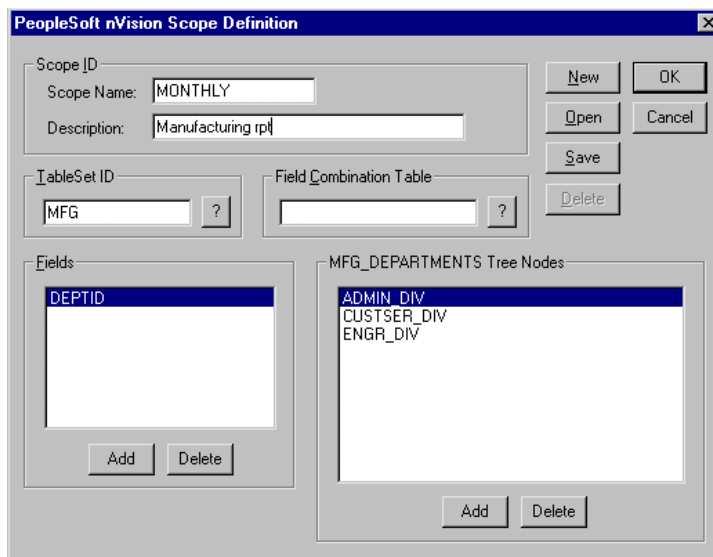
Tree nodes sorted by position

4. Select the nodes you want to use for your report.

You can select more than one node by pressing **Ctrl** while clicking the node names with your mouse.

5. Click **OK**.

The Scope Definition dialog box now shows your fields and tree nodes. You can make changes by selecting **Delete** from either the Fields box or the Tree Nodes box.



The dialog box is titled "PeopleSoft nVision Scope Definition". It contains the following fields and controls:

- Scope ID:**
  - Scope Name: MONTHLY
  - Description: Manufacturing rpt
- TableSet ID:** MFG
- Field Combination Table:** (empty)
- Buttons:** New, OK, Open, Cancel, Save, Delete.
- Fields:** A list box containing DEPTID. Below it are Add and Delete buttons.
- MFG\_DEPARTMENTS Tree Nodes:** A list box containing ADMIN\_DIV, CUSTSER\_DIV, and ENGR\_DIV. Below it are Add and Delete buttons.

Scope Definition dialog box

- Save the scope by selecting **Save** on the dialog box.



**Note.** Make sure to click **Save** on the dialog box when you are finished with your scope. Clicking **OK** closes the dialog box *without* saving your scope.

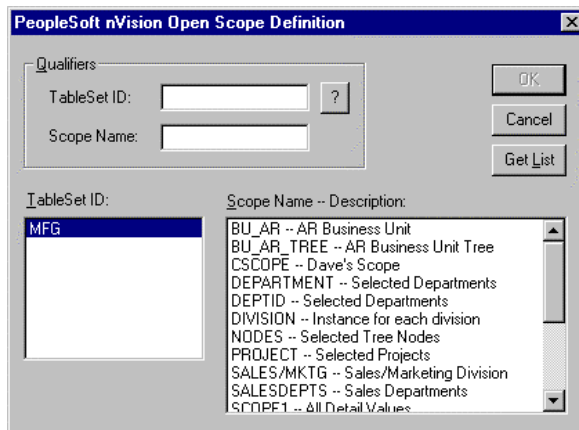
## Working with Existing Scopes

There may be times when you want to add or subtract fields in an existing scope.

To open an existing scope

- At the **Scope Definition** dialog box, click **Open**.

The **Open Scope Definition** dialog box appears.



Open Scope Definition dialog box

You use this dialog box to select a scope to open.

2. Click **Get List** to see a list of available scope definitions.

In the left list box, you'll see a list of **TableSet IDs**; on the right is a list of scope definitions for each **TableSet ID**.

You can limit the listing by entering **Qualifiers** before clicking **Get List**.

3. Select a scope definition from the list.
4. Click **OK**.

The dialog box closes and you're returned to the **Scope Definition** dialog box.

To delete an existing scope:

1. Open the scope that you want to delete.
2. Click the **Delete** button.

You will be prompted to confirm the deletion.

To add additional field values to a scope:

1. Open the **Scope Definition** dialog box and click **Add** in the **Fields** selection area.

The **Scope Field** dialog box appears enabling you to enter additional fields to your scope.



For more information, see *Selecting Scope Fields*.

2. Enter the new scope fields and related values, and click **Save**.
3. Click **OK** to return to NVUSER.

To remove a field from a scope definition:

1. At the **Scope Definition** dialog box, select the field you want to remove.
2. Click the **Delete** button in the **Fields** group box.

To remove a field value from a scope definition:

1. At the **Scope Definition** dialog box, select the **Field** whose value you want to remove.
2. In the right-hand list box, select the value you want to remove.
3. Click the **Delete** button in the right-hand group box.

---

## Scope-Related Variables

These values help you label layouts for which you've defined a report scope. A scope is used to define multiple instances of a report based on different field values. For example, you could produce an instance of an expense report for each department, or an operations summary for each business unit.



For more information on scope, see Defining Report Scopes.

---

<i><b>Variable</b></i>	<i><b>Name</b></i>	<i><b>Sample Value</b></i>	<i><b>Remarks</b></i>
BUV	Business Unit Name	M04	Defined on the Report Request dialog box.
BUN	Business Unit Description	US1 Manufacturing	
SCN	Scope Name	DEPARTMENT	
SCD	Scope Description	Sales Departments	
SFN	Scope Field Name	DEPTID	
SFV	Scope Field Value	FINDEVELOP	
SFD	Scope Field Description	Financial Development	
STN	Scope Tree Name	FUNCROLLUP	
STD	Scope Tree Description	Functional Organization	
SLN	Scope Tree Level Name	DIVISION	



<b>Variable</b>	<b>Name</b>	<b>Sample Value</b>	<b>Remarks</b>
SLD	Scope Tree Level Description	Instances for each Division	
DES	Scope Descriptive Field	FINDEVELOP	A user-defined variable that retrieves descriptive information from a field in either the detail value table or the tree node table.

## Defining Variable Criteria

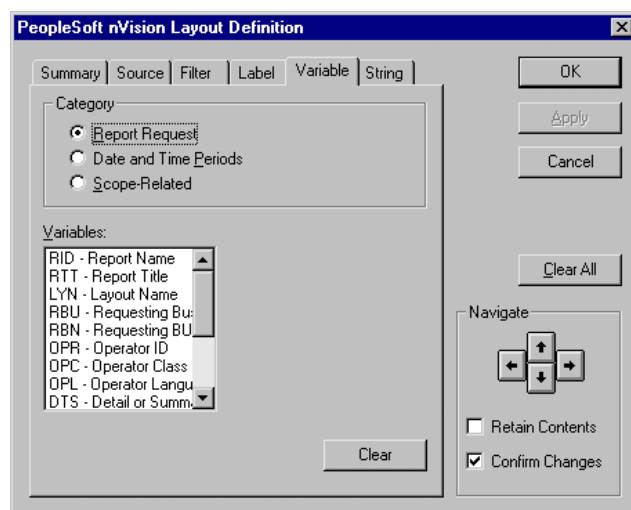
To define variable criteria:

1. At the **Layout Definition** dialog box, select the cell to which you want to apply variable criteria.

Use the **Navigate** buttons to make your selection.

2. Click the **Variable** tab on the **Layout Definition** dialog box.

The **Variable** tab appears.



Layout Definition dialog box – Variable tab

You use this dialog box to insert a PS/nVision variable into a matrix layout.

3. Select the appropriate **Category**, then make your choice from the list of **Variables**.



For more information on your choices, see Organizing Multiple Report Instances using Variables or Date and Time Period Variables or Defining Report Scopes.

4. If you selected one of the **Date and Time Periods** variables, you must specify a **Ledger**.

When you select **Date and Time Periods** and click once on a variable in the **Variables** list, the **Ledger** field appears below the Variables box. You can enter a ledger name or click the prompt button to choose from a list of available ledgers.

5. If you selected one of the **Scope-Related** variables, fill in the **Scope Field** text box if necessary.

When you select any **Scope-Related** variable except *SCN* or *SCD*, the **Scope Field** text box appears to the right of the **Variables** field. If the layout uses a scope that has multiple fields, use the **Scope Field** box to specify the scope field on which to base the variable you want to insert. For example, if you defined a scope using the Department and Product fields, and wanted a descriptive field from the Department table to appear on your report, you would enter DEPTID in the **Scope Field** box. You can enter a scope field name or click the prompt button to choose from a list of available scope fields.



**Note.** If you don't specify a scope field, PS/nVision defaults to the first field defined in the scope.

6. If you selected the DES variable, indicate where to retrieve the descriptive information.

Layout Definition dialog box with additional fields

The Descriptive Field (DES) variable is user-defined and retrieves text information from either the Tree Node table or Detail Value table associated with a field in the scope. For example, if your scope is based on DEPTID and creates an instance for each tree node at the

Division level, you can use variables to identify each instance with the division name and related information from the tree node.

Use the **Field on Detail Value Table** field to retrieve descriptive information from any text field on the detail values table that is associated with the **Scope Field**. For example, you want to generate instances of a report using a scope based on detail values of the Department field. You could enter the name of any descriptive field on the Department table and the text contained in that field will appear on each department's instance of the report.

For example, this variable could be used to retrieve the text in the Manager\_Name field on the Department table for each instance of a departmental expense report.

Use the **Field on Tree Node Table** field to retrieve descriptive information from any text field on the Tree Node table (usually named TREE\_NODE\_TBL) when using a tree-based scope. For example, if you have added a field for the manager responsible for each node in your tree, you could retrieve this information by specifying the field name, such as Mgr\_Name, from the Tree Node table.

7. Click **Apply** to save your changes and define field criteria for a different cell, or click **OK** to save your changes and close the dialog box.

If you clicked **Apply** and you want to reuse all or part of the criteria you just applied, select the **Retain Contents** option. This will preserve all the dialog information when you navigate to a new cell selection. Then, repeat Steps (3) through (6) to define more variable criteria.



## CHAPTER 8

# Using DrillDown

DrillDown provides quick access to supporting detail by showing detailed data in a different layout. This is especially useful when reporting is based on summary ledgers, as it provides underlying details when and where they are needed.

This chapter deals with specific functions for using DrillDown on the Windows client. Although DrillDown layouts are created in nVision on the Windows client, DrillDowns can be run with a browser on any report that you have access to in Report Manager.



For more information on using DrillDowns from your browser see, [Using DrillDown on the Web](#).

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**Note.** DrillDown is available from matrix layout sheets only. However, the layout that displays the results of the DrillDown can be either matrix or tabular. For example, you may produce a financial report using a matrix layout, then select one of the amounts and drill down to another matrix layout that breaks down the departments and products that were summarized into that amount. From that report, you might select a department/product combination and drill down, this time using a *tabular* layout that queries the individual sales transactions. This is the end of the DrillDown trail, because you can drill further only from a matrix report.

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## Understanding DrillDown

DrillDown enables you to select a cell in your report and expand it according to new criteria contained in a special DrillDown layout. We'll use the Empls layout delivered with the PeopleTools Demo database (PTDMO) to provide an example.

The report shown below was run based on the Empls layout. By expanding nPloded rows, you can review details about the data in the report, but what if you want to review the monthly salaries of individual employees? This isn't in your original report layout, but with DrillDown you can easily select or create a *DrillDown layout* that will expand the data in the cell to show monthly salary rates for employee in the department.

We've selected cell L5 as the cell we'd like to drill down on, representing the total monthly rate for the Human Resources department.

Department	Description	Head Count	FTE	Total Monthly Rate
10200	Human Resources	23	22.5	\$95,018
10200	Human Resources	23	22.5	\$95,018
10300	Controllers	13	12.5	\$41,750
10300	Controllers	13	12.5	\$41,750
10400	Retail Services	3	3.0	\$14,508
10500	Business Services	6	6.0	\$22,844
10600	Branch Office Administration	3	3.0	\$8,447
10700	Walnut Creek Office	7	7.0	\$18,417
10800	Lafayette Office	5	5.0	\$13,365
10400	Retail Services	24	24.0	\$77,581
10900	Operations Administration	3	3.0	\$14,242
11000	Information Systems & Technlgy	8	7.8	\$21,084
11100	Item Processing	13	12.0	\$37,200
10900	Operations Administration	24	22.8	\$72,525

Selecting a cell for DrillDown in a sample layout

After selecting the cell you want to drill down on, pick the DrillDown layout you want to use from the **nVision, DrillDown** menu. The results are then shown in the DrillDown report, as shown below:

EmpID	Name	Department	Job Code	Head Count	Sum Monthly Rt
7705	Holt, Susan	10200	G061	1	2920
8121	Gregory, Jan	10200	6001	1	1900.578
8300	Vincent, Catherine	10200	G033	1	3928.038
8412	Little, Paula	10200	1503	1	2820
8641	Dobbs, Janice	10200	1101	1	9725.784
8750	Fuller, Darlene	10200	G032	1	2544.982
8840	Hill, Jeffrey M.	10200	7102	1	528.667
8894	Smith, Bernice	10200	G038	1	3674.813
8895	Gonzalez, Gemma	10200	1406	1	5384.513
F001	Larçon, Marcel	10200	2003	1	2013.109
G001	Gaston, Claudia	10200	G060	1	5456.356
G002	Matthews, Steven	10200	1504	1	2632.228
G003	Bishoff, Allan	10200	G001	1	8602.479
G006	Scott, Martin	10200	G030	1	4758.934
G011	Sherwood, Steven	10200	G002	1	7061.429
G012	Sherwood, Nancy	10200	G070	1	4600
G015	Kelly, William	10200	1407	2	10167.52
G100	Peterson, Beth	10200	G082	1	3609.088

Report resulting from DrillDown

The DrillDown layout inherits all the criteria of the selected cell on the original report, and provides you with a sub-report displaying the details you need.

Because DrillDown depends on “child” layouts, you may want to create a library of common layouts so they’re always on hand. These might include:

- Accounts by department.
- Products by cost center.
- Accounts by period.
- Departments by Benefit Plan.

A number of these generic reports are provided with your system, and may be tailored or cloned as needed. Many of these layouts employ nPlosion, so you can view both summary and detail levels in your sub-report.

You can also perform a series of DrillDowns on cells in your reports, until you've reached the level of detail that you might need.

## Understanding Inheritance

The key to DrillDown is the passing of selection criteria from a "parent" cell to its "child" using the DrillDown layout. The child layout may have criteria of its own (possibly on other fields than those mentioned in the parent), but any conflicts in criteria must be resolved so that the child query accesses a subset of the data selected from the parent query.

Think of inherited criteria as the equivalent of a scope for the resulting report. The DrillDown layout can have criteria (including nPlosion) for other fields that weren't included in the original report. Conversely, the DrillDown layout can have criteria for one or more of the fields that defined the selected amount from the original report.

In the latter case, the criteria for these fields will override any specified in the DrillDown layout, with the exception of nPlosion options, which enable you to see more detail than you could in the original report.

Within a DrillDown layout, you can specify TimeSpan nPlosion without entering a TimeSpan, since this layout will inherit the TimeSpan of the original report.

## *Ledger Inheritance*

Like most good rules, the rule that DrillDown reports inherit *all* the criteria present in the selected parent cell has some exceptions. Ledger criteria can be overridden in a child layout, either by ledgers explicitly specified in the child layout, or by queries accessing tables that don't contain the LEDGER field.

An example of a ledger-based DrillDown that expands ledger criteria is one that compares budget to actual expenditures. Assume that you want to drill down from a budget variance report produced at the business unit level and compare the actuals to budget for each department. You can construct a DrillDown layout with DEPTID nPloded in the rows and columns for actuals, budget, and variance. Because PS/nVision allows this layout to override the inherited ledger, you can see each department's budget performance in a single picture.


## DrillDown Instances

Because DrillDown instances may be quite numerous and temporary, nVision doesn't save them automatically as it does for parent instances. Also, since these instances are generated without a Report Request, there are no directory and file name templates. Therefore, PS/nVision performs the following operations when creating the instances:

- Saves the layout as a temporary template sheet (DRILL.XLT) in your TEMP directory.
- Opens an instance of the template; this causes Excel to assign a name such as DRILL1.
- Populates the instance as usual but neither saves nor closes it. In this way, you can easily save it (assigning a name at save time) or just close it without saving it once you are finished using it.

---

## Selecting DrillDown

Unlike nPlosion, DrillDown does not require you to enable it before running your report. Simply run a report, select a cell to expand, and then select **nVision, DrillDown**; or you can select the drill button on the toolbar  or one of the predefined items on the Drill menu. The predefined Drill menu items are the most convenient to use because they can be personalized to express common DrillDown actions for your organization.



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For more information on customizing PS/nVision's user interfaces, see *Personalizing NVSUSER.XLS*.

---

If you first need to create a new DrillDown layout, select **nVision, New Layout** and define your selection criteria just as you would in a report layout. Save the layout in the directory identified as DrillDown Layouts on the nVision tab of PeopleSoft Configuration Manager. Then return to the cell in the parent report and select **nVision, DrillDown**.



---

For more information on Configuration Manager, see *Changing PS/nVision Options with Configuration Manager*.

---

Remember that the criteria from the selected cell in the parent instance will be inherited in the child layout. Reports inherit the criteria from the parent cell so you get the same summary amount in the detail report, but you also get the summary amount broken into its component details. This produces a single report instance containing a subset of the data selected in the parent instance, but the data is broken out in one or two dimensions to show more detail.

## Jump Back

Once you've reviewed the result of a DrillDown report, the Jump Back command from the DrillDown menu (**Ctrl+Shift+J**) returns you to the cell from which you drilled down, even if you closed the parent report.



## ReDrill

If you want to repeat the same DrillDown, starting from a different cell on the parent report, the ReDrill command (**Ctrl+Shift+I**) eliminates the step of re-selecting the same DrillDown layout you last used. For example, say you've drilled down from the current year's Travel Expense amount, showing balances by detail account and department. Now you want to see the same breakout for last year's amount. Jump back to the original report, select last year's amount, and choose ReDrill.

## AutoDrill

For query-based matrix reports, a quick and easy DrillDown method is to drill down to details using the same query that produced the summarized report, but running it in a more detailed mode for the subset of data in a particular cell.

When defining a query for use in a matrix layout, you know that you need to define one or more aggregate columns to provide data for summarization in the layout. But you should also think about AutoDrill when you design this query, and select the identifying fields you would want to see (and have data grouped by) in AutoDrill. When PS/nVision uses your query in a matrix layout, it de-selects the columns it doesn't need and may select others that it does need to group data according to the layout.

After running a query-based matrix report, you can double-click on one of the amount cells. This double-click calls PS/nVision's AutoDrill function. PS/nVision then adds the inherited criteria to the query and runs it in QueryLink mode (that is, to an empty template sheet).

Users of ledger-based layouts can also use AutoDrill, but for this, you must have defined a DrillDown layout within the parent layout. To do this, use Excel's Insert, Name, Define command to define the name "NvsDefaultDrill" as a string with the name of the default DrillDown layout. When you double-click on an amount in a ledger-based report (assuming your user macro sheet calls NvsAutoDrill), PS/nVision looks up the default DrillDown layout name and drills down to that layout.

---

## DrillDown Layout Formats

Basic DrillDown layouts typically have one data row and one data column. These simple layouts are designed to take data already selected on a report and expand it in two dimensions. Both columns and rows may specify nPlosion, as well as labels for automatic labeling of inherited and nPloded data.



**Note.** It's not necessary for DrillDown layouts to have only one data row and one data column. A DrillDown layout can be as complex as you like. For example, if you're building a DrillDown layout you expect to be used from a corporate-level management report, you could design it so you get departments grouped into regions, with nPlosion to detail. That's more meaningful than a single list of all departments. If you drill down to this layout from a regional report, PS/nVision filters the layout criteria through the inherited criteria, and all the other regions would have zeros.

---

Since DrillDown layouts are based on a simple matrix, it is worthwhile to set up a library of layouts based on the field and TimeSpan combinations most common for your reporting and analysis needs.

For example, you may find that you frequently wish to select an amount from a summary Income Statement and expand it to show that amount broken down by individual accounts. By creating a DrillDown layout that uses nPlosion you could expand account detail in the rows, and break out a TimeSpan to the individual accounting periods in the columns. Alternatively, you might want to see the value broken out by department in the rows and product in the columns.

Let's say that you specify All Detail Values in the DrillDown layout as the selection criterion for a field, and the cell you're drilling down from on the original report used a specific tree node for its criteria. In this case, the report from the DrillDown will nPlode only the detail values for that tree node, creating a row or column for each in addition to a summary column based on the tree node.

If the parent cell had no criteria for a field specified on the child as all detail values, the child report will list amounts for all values in the specified field.

## DrillDown and Queries

When drilling down from a ledger-based report, you can use predefined queries (built into PeopleSoft Query) in the following ways:

- **Use a matrix DrillDown layout that specifies query, rather than ledger, criteria.** This provides for a matrix report that accesses tables other than ledgers, but that inherits all the field criteria (business unit, account, and so on) from the parent report.
- **Drill down to a tabular layout, inheriting the field criteria from the parent report.** This is useful for seeing the details of transaction data such as journals and voucher lines.
- **Drill down to a query without a layout.** The query inherits the criteria, and runs to Excel in QueryLink fashion.

When drilling down from a query-based report, you also have the option of using another query, in a matrix layout, in a tabular layout, or without a layout. In all cases, the restriction remains that the query you use must be capable of inheriting the criteria from the cell you're drilling down from.

In any case, PS/nVision bends the rules of inheritance slightly to allow you to see the needed data. The ledger construct (which implies a special query against a specific type of table defined in PeopleSoft General Ledger) is simply replaced by the query specification. The implied *field* criteria for the inherited ledger (for example, LEDGER=ACTUALS) may or may not be inherited. While drilling down to journals within the PeopleSoft General Ledger application requires criteria for the LEDGER field (since journals may exist for various ledgers), drilling down to Accounts Payable voucher data only makes sense from the Actuals ledger, and the voucher tables don't include the LEDGER field. PS/nVision thus looks at the record(s) being queried, and includes criteria for the Ledger field only if it is present.

## Naming Conventions

We recommend a three-character naming convention for DrillDown layouts, so that the fields and accounting periods used in the layout are easily identified in the Open Layout dialog box. For example, the PS/nVision DrillDown layouts supplied with the system use the following abbreviations:

<b>Abbreviation</b>	<b>DrillDown Layout</b>
ACT	Account
BUS	Business Unit
DEP	Department ID
PRD	Product
PRJ	Project
PER	Accounting Period

We name each layout RRRCCCXX.XNV, where RRR is the abbreviation for a field expanded in the rows, CCC is the abbreviation for a field expanded in the columns, and XX is an optional identifier for a specific layout or version of RRRCCC.



**Note.** With Windows 95 and Windows NT, file names can be long and descriptive, but a consistent convention is still a good idea. For example, you might want to name a DrillDown layout “DepartmentByProduct.”

## DrillDown Layout Directory

For convenience, you should store DrillDown layouts in a separate directory from the parent stand-alone layouts. The directory path is specified on the **nVision** tab of the PeopleTools Configuration Manager. The DrillDown Layout path can contain multiple directories, which will be searched in sequence. The DrillDown directory is also defined in the Process Scheduler configuration for your report server.



For more information on Configuration Manager, see [Changing PS/nVision Options with Configuration Manager](#).



## CHAPTER 9

# Using nPlosion

You use nPlosion to expand rows or columns containing field criteria. When enabled, nPlosion automatically creates individual rows or columns for each detail value defined in the criteria—whether those values are defined specifically or implicitly (by association with a parent tree node). You can only enable nPlosion at the row or column level.

When you enable nPlosion for a row, PS/nVision inserts the detail or summary value rows immediately *above* the nPloded row. Detail and summary value columns are inserted to the left of the nPloded column. If you've intersected label criteria with an nPloded row or column, descriptive text will identify each nPloded amount. (If you don't use labels, you may have trouble identifying each of the detail rows that are dynamically included in the report.)



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**Note.** For PeopleSoft General Ledger, note that nPlosion is available for Detail Ledger ChartFields or Summary Ledger ChartFields that contain detail values. You may also use nPlosion for Summary Ledger ChartFields accessed through Summary Trees. nPlosion is not available for summary ledger ChartFields specified as Selected Summary ChartField Nodes. For other applications, nPlosion is available for criteria fields that have value tables listing the valid values of the field (usually, this is the prompt table for that field).

---

When processing nPlosion, PS/nVision uses Excel's outline feature to group the detail or summary rows or columns and associate them with their total. Once a report has been generated that contains nPloded values, you can use Excel's outlining symbols to collapse and expand the nPloded entries. Outlining symbols automatically appear in the report's left margin (for rows) or above the worksheet (for columns).

In web based PS/nVision reporting, you can still use outlining in full nPlosion. Currently, neither Internet Explorer nor Netscape can display the "+" and "-" symbols or expand or collapse an outline if the reports are produced in HTML format. With Internet Explorer, and the Excel add-in, reports produced in .XLS format can be displayed with full Excel features, including outlining.

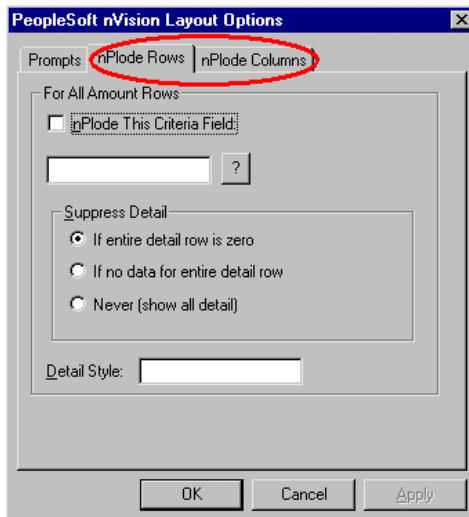
The nPlosion feature is particularly useful when used with the DrillDown feature, which enables you to select cells in your report and expand them to intermediate or detailed levels of summarization in an ancillary sub-report.

You can enable nPlosion at a number of different levels:

### Column and Row Defaults

You can define nPlosion defaults using the **Layout Options** property sheet. Here, you can specify a particular field to be nPloded for all columns and/or for all rows in the layout. This is the one

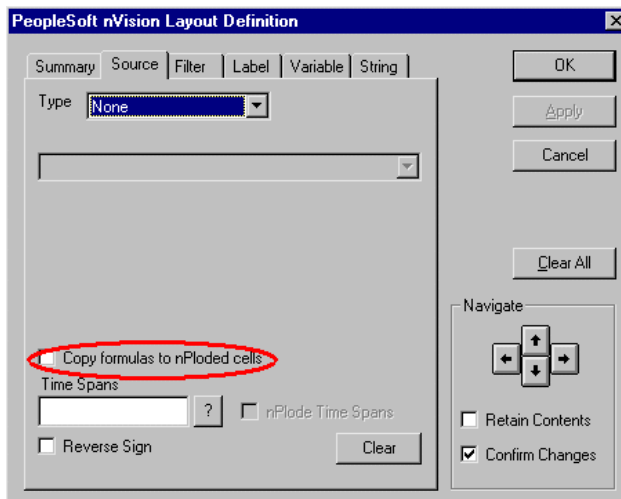
situation in which worksheet level criteria overrides row or column criteria. You also use this dialog to specify when—if at all—to suppress detail columns or rows.



Layout Options dialog box

## Cells Containing Excel Formulas

If you use Excel formulas in a summary row or column, you can choose to have those same formulas copied into the new rows/columns that nPlosion creates. You do this using the Layout Definition dialog box and selecting the Source tab.



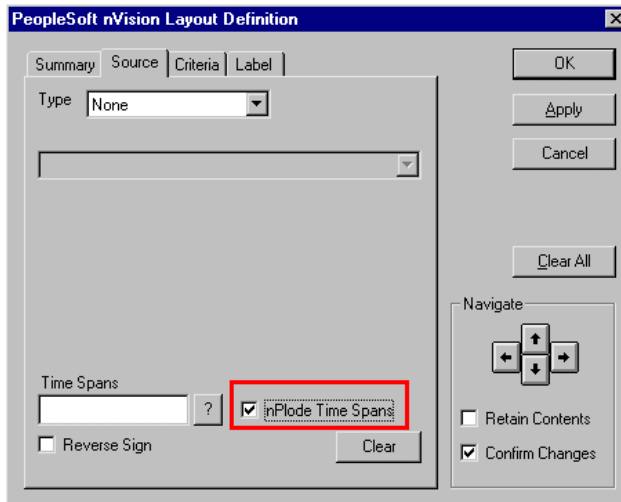
Layout Definition dialog box – Source tab

## Field Criteria

You can nPlode all the way to field criteria. You do this using the **Filter** tab of the **Layout Definition** property sheet. This generates underlying details only for the criteria fields you specify.

## Query/Ledger Criteria With a TimeSpan

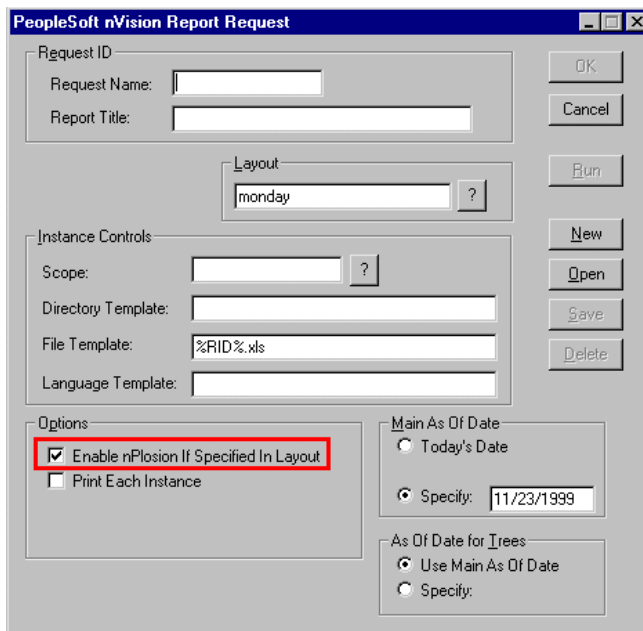
You can nPNode TimeSpans using the **Source** tab of the **Layout Definition** property sheet. This generates detail rows/columns for the individual periods in the TimeSpan (for example, the periods comprising Year-to-Date).



nPNode TimeSpans from Source tab

## Report Request

You can enable or disable nPlosion when you run your reports. This overrides any settings contained in the layout. You do this using the Report Request dialog box.



Report Request dialog box with nPlosion option

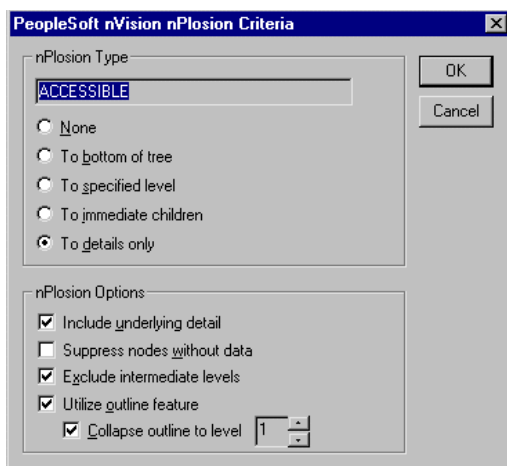
You could specify Summary rows or columns before or after nPlode rows or columns based on Excel option in layout.

To set this, open your layout in Excel and using the Excel menu, select Data, Group and Outline, Settings.

---

## Defining nPlosion Criteria

You can also enable “full” nPlosion to define report layouts that generate a series of rows or columns from a single tree reference, generating rows/columns for nodes. There are four different nPlosion types, which we discuss in detail in the next section. Here is the dialog box that identifies each of them and their criteria.



nPlosion Criteria dialog box

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## nPlosion Types

There are four different nPlosion types, which can be combined with various nPlosion options to create a number of different reports depending on the data you want to retrieve.

### To Immediate Children

This method will nPlode one level below a selected tree node.

### To the Bottom of a Tree

This nPlodes all the way to the bottom of a tree (including detail values) from a selected node. If you decide to include detail, then all sub-nodes will also be displayed with summary values of the rollup for those nodes.



7	Revenue Accounts	
8	Goods	
9	Product Revenue	\$2,845,930,003.98
10	Product Revenue	\$2,845,930,003.98
12	Sales Returns and Allowances	-\$138,341.00
13	Goods	\$2,845,791,662.98
20	Services	\$7,804,794.55
21	Revenue Accounts	\$2,853,596,457.53

nPlode to the bottom of the selected tree

To a Specified Level, With or Without Intervening Levels

Starting from a specific node, your can nPlode *down* the tree including or excluding intermediate data. This will allow you to retrieve any branch of data from a given tree.

To Details Only

This will nPlode from a given node only to all of the detail values.

nPlasion Options

Include Underlying Detail

When trying to nPlode from a node to another sub-node or to the bottom of the tree, it will include all of the detail and summary sub-values for each sub-node (see illustration above).

Suppress Nodes Without Data

If a node or sub-node has a value of zero, it will be suppressed from the report instance.

Exclude Intermediate Levels

If a report is being nPloded from a node to another level, or to the bottom of the tree, all intermediate sub-nodes will be excluded from the report instance.

Utilize Outline Feature

This feature will rollup all summary and detail information using the Excel outline functionality (see illustration above). If this option is not used, none of the information will be rolled up. It also gives the user the option to collapse the outline to a specific level.



**Note.** Although TimeSpans can technically be used with a query-based matrix layout, they are more commonly used with ledger-based matrix layouts.

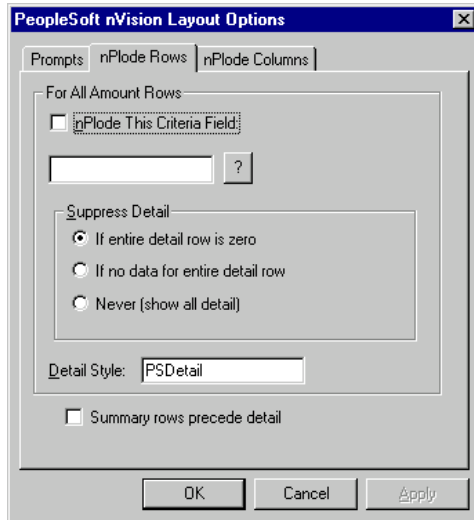


For more information, see TimeSpans.

To define nPlosion defaults:

1. Select any row, column, or cell that does not contain selection criteria—or select the entire worksheet.
2. Select **nVision, Layout Options** and click the **nPlode Rows** tab of the **nVision Layout Options** property sheet.

The nPlode Rows tab of the Layout options dialog box appears.



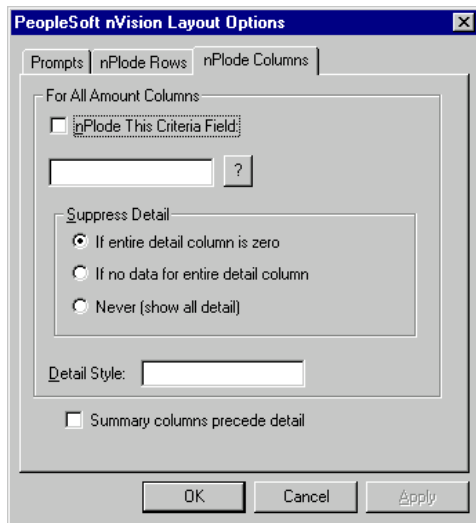
Layout Options dialog box – nPlode Rows tab

You use this tab to define default nPlosion settings for rows in the current report layout.

3. Choose whether to enable a default nPloded criteria field for all rows, or columns, or both.

To define a default nPloded field for all rows, select **nPlode This Criteria Field** in the **For All Amount Rows** group box. Define the field by entering the field name in the field below the checkbox, or click the prompt button to choose from a list of available fields.

To define a default nPloded field for all columns, select the **nPlode Columns** tab and select the **nPlode This Criteria Field** check box in the **For All Amount Columns** group box.



Layout Options dialog box – nPlode Columns tab

Enabling row- or column-wide nPlosion can be useful when, for example, you have a large layout where you wouldn't want to specify nPlosion for each individual row or column.

4. Specify the default fields to be nPloded, if any.

If a column or row contains multiple criteria fields, nPlosion will only occur for the single field that you select here—unless you've specifically enabled nPlosion for those other fields on the **Criteria** tab of the **Layout Definition** property sheet.

5. Select under what conditions you want to suppress nPlosion for rows and columns.

The **Suppress Detail** options enable you to suppress the creation of detail rows and/or columns under certain circumstances, as follows:

<b>Radio Button</b>	<b>Effect</b>
If entire detail column/row is zero	Creates detail columns or rows for a field value only if there is a corresponding positive or negative amount. Suppresses rows with zero amounts in all columns, or columns with zero amounts in all rows.
If no data for entire detail column/row	Creates detail columns or rows for each field value if amounts for that value are present on the query, even if those amounts net to zero.
Never (show all detail)	Creates detail columns or rows for all details under the nodes being nPloded.

6. Specify a **Detail Style** to be applied to the detail rows and columns.

Style selection and defaults appear in Excel's **Format, Style** dialog box. The column format is used for nPloded values if a row style is not specified.

7. Choose whether to Copy formulas to nPloded details.

If your selected row or column contains any Excel formulas, the **Copy formulas to nPloded details** check box appears. Selecting this option will copy those formulas into the detail rows/columns created by nPlosion.

To enable/disable nPlosion for a criteria field:

1. On the **Criteria** tab of the **Layout Definition** property sheet, choose a field from the **Selected Fields** list.



For more information on defining field criteria, see Applying Filter Criteria.

---

2. Select or clear the **nPlode to Underlying Details** check box.

To enable/disable nPlosion for a query/ledger TimeSpan:

1. On the **Query Criteria** dialog box or the **Ledger Criteria** dialog box, select or clear **nPlode TimeSpan**.

This option is only available if you have a **TimeSpan** specified.



For more information on TimeSpans, see TimeSpans. For more information on defining query criteria, see Defining Query or Ledger Criteria. For more information on defining ledger criteria, see Creating Ledger-Based Matrix Layouts.

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To enable/disable nPlosion for a report request:

1. Open the **Report Request** dialog box.
2. Select or clear **Enable nPlosion If Specified In Layout**.



For more information on defining a report request, see Understanding Report Requests.

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## nPlosion Styles

One of the powerful features of nVision is the control it gives you over the layout of your finished reports. When you use nPlosion styles, you can have similar control over the layout and appearance of the multi-level hierarchy of rows and columns an nPlosion generates. PS/nVision provides an easy-to-use Style Wizard for applying and modifying nPlosion styles.

Using the Style Wizard, you can change the way nVision presents an nPloded hierarchy's labels and amounts. Modifying styles allows you to set unique label and amount display attributes for

each level of a hierarchy. You can even set up custom style sheets that can be saved either in the report layout's Excel workbook, or in a separate workbook.



For more information about personalizing your nVision HomePage, please refer to the section on Personalizing NVSUSER.XLS

The following styles have been defined for rows and columns:

<b>Style</b>	<b>Use</b>
Base style (typical colors, base font)	Applied to entire row or column.
Heading	Best place to apply indenting, text orientation.
Label	Typically matches header indent, not necessarily font.
Amount	Best place to apply number formatting and borders, such as underlining.
Detail Value	Simple style for numbers.




**Note.** If a level is missing within the hierarchy, the next-lower-numbered level that is defined will take on the missing level's style attributes.

## Using the nPlosion Style Wizard

You can create and edit nPlosion styles with the nPlosion Style Wizard. Styles are stored in a special Excel worksheet provided with PS/nVision called the nVision nPlosion Style Wizard. There are two kinds of nPlosion styles: Row and Column. The RowStyles tab displays Row styles, and the ColumnStyles tab displays Column styles.

Seven levels of each style are provided, as well as a separate style for detail values.

The style sheet Classical.xls is shipped with the PS/nVision product. You can create your own Style Sheet wizard by saving the Classical.xls under a different name in the style sheet directory location. Configure the style sheet directory location using Configuration Manager.

The Format Style Sheets button  on nVision's toolbar will use the files found in this location as Style Sheet wizards.



**Note.** The Base style can be overridden by modifying any of the other styles that come after it. For example, you could make a particular field shaded, even though the base style for that row or column does not include shading. This could be useful for setting apart a particular piece of data in a large report.

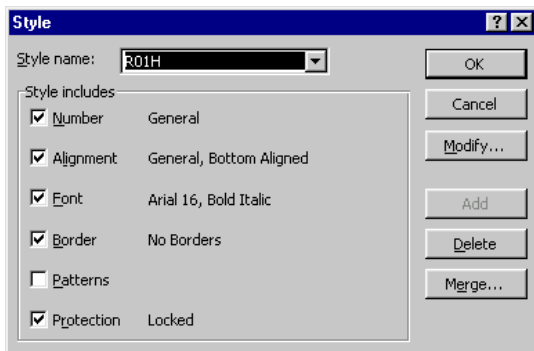


The Style Wizard is where you create new nPlosion styles or modify the pre-defined styles.

To modify a style:

1. Click the button with the name of the style you want to modify.

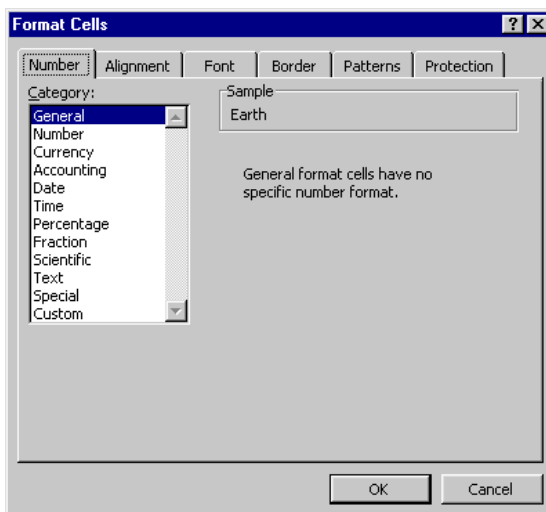
Excel's **Style** dialog box appears.



Excel's Style dialog box

2. Click the **Modify** button to make changes to the style's display attributes.

Excel's **Format Cells** dialog box appears.



Excel's Format Cells dialog box

For more information about how to use this dialog box to modify styles, refer to your **Microsoft® Excel** documentation.

3. When you are finished modifying style attributes, click **OK**.
4. Make any more changes to styles by selecting the appropriate **Style** name.

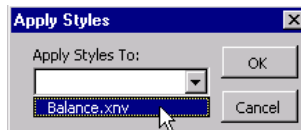
If you do not have any PS/nVision report layouts open, you can save the current styles by selecting **File, Save**. This allows you to modify styles globally in the style worksheet, then apply the new styles to any report layout you wish.



**Note.** If you click the **Apply Styles** button on the **Style Wizard** when there are no report layouts open, PS/nVision will give an error. It cannot save the styles to a layout because none are open. Open a PS/nVision report layout to apply the current styles to it.

To apply styles to a report layout

1. Open a report layout in nVision by clicking the **Open Layout** button or selecting **nVision, Open Layout** from **Excel's** menu.
2. Modify styles as needed.
3. When you have finished modifying styles, click the **Apply Styles** button on the Style Wizard. A drop-down list of all open layouts appears. Select the layout you wish the styles to be applied to, and then click OK.



Apply styles to a report layout



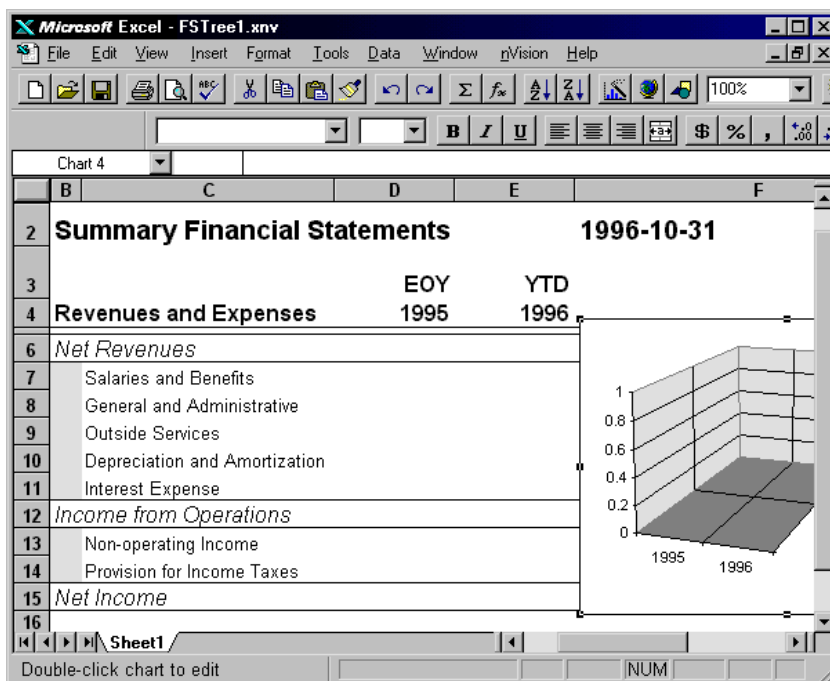
## CHAPTER 10

# Advanced PS/nVision Options

PS/nVision provides numerous options that help you improve your reports and make distributing your reports much easier. These are options that you may want to take advantage of once you've mastered layout basics. This chapter introduces you to those options as well as some simple troubleshooting procedures.

## Enhancing Your Report Layout

Once you specify text, formulas, selection criteria, and variables, you have completed all of the PS/nVision-specific formatting necessary for a report. You may continue to use Excel to personalize the display and printing of your layout, including built-in graphics and charts. Any elements that you define in the layout will carry into the report that you run.

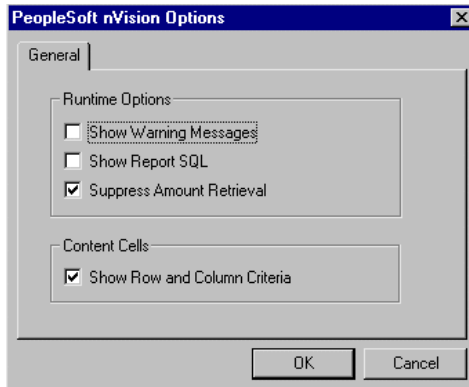


You can include graphics, tables, colors, and banners in your spreadsheet

When you have completed your refinements to the layout, remember to select **File, Save** from Excel.

## Setting PS/nVision Options

You set several special PS/nVision options using the **Options** property sheet, which you access by selecting **nVision, Options** from the toolbar.



nVision Options dialog box

The options on this property sheet help you keep track of the flow of data between your database and PS/nVision.

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### Runtime Options

Select the **Show Warning Messages** option if you want to see warning messages and dialog boxes when PS/nVision is about to create a new directory or overwrite a file. If you don't select this option, PS/nVision runs with as little prompting as possible. This is ideal if you plan overnight or lunch time report runs.

Select **Show Report SQL** if you'd like to see the SQL statements that retrieve the labels and amounts for your report. As PS/nVision gets ready to execute each statement, a SQL reference dialog box is displayed. Click **OK** to continue or **Cancel** to stop the report at that point. If you like, you can copy the SQL statements to the Microsoft Windows clipboard using the copy and paste commands. To copy the SQL statement, press the TAB key until the text is selected, then press **CTRL+INS** or **CTRL+C**. Use this option only if you intend to step through the report run, as you will have to click **OK** after each statement.

With **Suppress Amount Retrieval** selected, PS/nVision runs the layout to make sure that all selection criteria are valid. It does not retrieve the amounts, however, so you can test the layout without waiting for data to be selected. This is particularly useful in combination with other options when "debugging" a report. If you combine this option with **Show Report SQL**, PS/nVision shows the SQL it would use to retrieve the data in the report, so you can determine if this will retrieve the desired data.

The **Show Row and Column Criteria** option allows you to see the contents of Row 1 and Column A, which are reserved by PS/nVision for data selection criteria when you create a layout. Content cells typically contain codes that relate to the ledger, TimeSpan, field criteria, and query names.

## Creating a Virtual Ledger

A virtual ledger is an alternate view of ledger data used only for PS/nVision reporting. There may be times when it would be useful to have an alternative view of ledger data. For instance, you might wish to join data from another table (such as a product category table) with ledger data at reporting time.

You can also use a virtual ledger to provide an alternate security view for different groups of users. For example, you may want to provide an alternate view of the LOCAL ledger for a group of users who need data secured by PROJECT, while other ledger users have access secured by DEPTID. You can set up a virtual ledger called PROJLOCAL, which is a view of the LOCAL ledger secured by PROJECT.

The following example shows the steps for creating the virtual ledger, PROJLOCAL.

To create a virtual ledger:

1. In Application Designer, create an authorization table (AUTH\_PROJ\_TBL) with OPRID and PROJECT columns.
2. Create a page to maintain the authorization table.
3. Open the LEDGER record and use **Save As** to create a new record.
4. Name this new record LED\_PROJLOCAL\_VW.
5. Delete any unnecessary columns and create any additional columns you need.

In this example, we'll add OPRID, since this view is used for security and we'll delete PROCESS\_INSTANCE and TIMESTAMPS since these aren't used for reporting.

The view text must contain the following features:

- Since we're using this view for security, it must deliver the OPRID (or OPRCLASS or ROWSECCLASS) field. This is the first item in the SELECT list below.
- To get security by Project, the view joins the project authorization table to the ledger, making only the rows with matching projects visible for each operator.
- The SELECT list must deliver the name of the virtual ledger to satisfy PS/nVision's "...LEDGER='PROJLOCAL'..." criteria, even though the rows retrieved are really ACTUALS. (See the third item in the SELECT list of the sample view text, below.)
- The WHERE clause must include "... AND LEDGER = 'LOCAL' ..." to select the desired rows from the real ledger.

The view text looks like this:

```
select b.oprid,
       a.business_unit,
       'PROJLOCAL',
```

```

        a.fiscal_year,
        a.accounting_period,
        a.account,
        a.deptid,
        a.product,
        a.project,
        a.affiliate,
        a.currency_cd,
        a.statistics_code,
        a.posted_total_amt
    from ps_ledger a,
        ps_auth_proj_tbl b
    where a.ledger='LOCAL'
        and a.project=b.project

```

6. Save the record definition and create the SQL View.
7. Create a ledger definition for PROJLOCAL, specifying LED\_PROJLOCAL\_VW as the reporting view record name. The other record and field names can be the same as for LOCAL.
8. Use the Ledgers for a Business Unit page to associate the new ledger with the business units that will be using it.

In PS/nVision layouts, use PROJLOCAL, rather than LOCAL, in the Ledger criteria for reports to be run by the project accounting users.

## PS/nVision Defined Names

This section describes the names PS/nVision defines, and looks up, in layout and instance files. Many of these are used for internal purposes, but several, such as NvsEndTime, are intended for use by customers.



With rare exceptions (names in bold), the values of these names are managed by PS/nVision and are not intended to be changed by customers. Never change the value of the names not highlighted in bold type. It's much safer to think of them as read-only.

---

Some names are used only in matrix or tabular layouts, but many apply to both. See the "Sheet Type" column. The "Level" column indicates whether the name is defined at the file (workbook) level or at the sheet level.

For some time, we preceded all strings with "V" to avoid problems in case the string was null. Names of this type show "V" at the beginning of the "Values" column.

<b>Name</b>	<b>Sheet Type</b>	<b>Level</b>	<b>Values</b>	<b>Comments</b>
<b>NvsDateToNumber</b>	Both	File	Y/N	Y = convert database dates (e.g, the %ASD% variable) to Excel's native date format. Default N.
NvsElapsedTime	Both	File	Excel date/time	Elapsed time to produce this instance. To see this elapsed time in the instance, enter the formula <code>=NvsElapsedTime</code> in a cell, and format the cell with a time format.
NvsEndTime	Both	File	Excel date/time	Time this instance was saved. To see this time in the instance, enter the formula <code>=NvsEndTime</code> in a cell, and format the cell with a date or date/time format.
<b>NvsInstanceHook</b>	Both	Sheet	Reference	Name/reference of macro to be run on completion of instance.
NvsLayoutType	Both	Sheet	M3	Indicates layout version (unchanged for several years).
NvsParentRef	Both	File	Reference	Reference of cell from which this instance drilled down.
NvsSheetType	Both	Sheet	M/T	M = matrix, T = tabular, undefined = non-layout.
NvsASD	Both	File	Vyyyy-mm-dd	As Of Date, from report request.
NvsAutoDrillOn	Matrix	File	Y/N	Indicates whether this instance includes a Query data source; this controls whether the AutoDrill menu appears.
<b>NvsDefaultDrill</b>	Matrix	File	layout[,D]	In layout, specifies default DrillDown layout for NvsAutoDrill (usually associated with double-click). Appending ",D" to the layout name causes nVision to translate summary ledgers to detail for this layout, without asking the user. For example, NvsDefaultDrill might be defined as <code>"ActPer,D"</code> .
NvsInstSpec	Both	File	criteria string	Instance criteria. On an instance for a division, might look like <code>"%,FDEPTID,TMFG_DEPARTMENTS,N"</code>

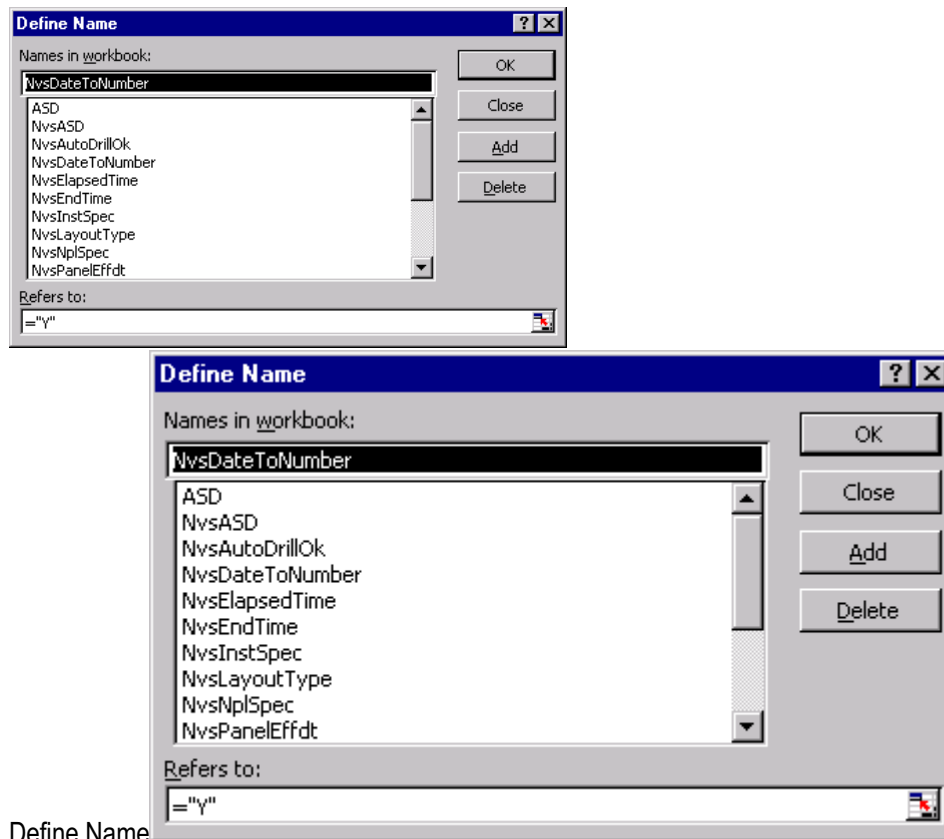
				PRODUCTS". On a DrillDown instance, may also include TimeSpan and other criteria.
NvsInstSpec1 ... NvsInstSpec9	Both	File	Criteria string	Continuation of NvsInstSpec. This allows nVision (beginning in PeopleTools 8.1) to handle larger strings of instance criteria despite the Excel limitation of 255 characters per defined name. Because null strings cause problems, nVision defines unused criteria continuations as a single comma, "=", "".
NvsNplSpec	Matrix	File	criteria string	nPlosion Options, from nPlosion Options dialog. Contains default nPlosion fields, as well as zero-suppression options, for rows and columns.
NvsPanelBusUnit	Both	File	Vbusunit	Business Unit used for prompting when designing a layout. This was added in PeopleTools 8 so the user could choose whether to use Business Unit or SETID as the basis of prompting when selecting trees (In PeopleTools 8, trees can be keyed by either SETID or SETCNTRLVALUE, and nVision supports the use of Business Unit as SETCNTRLVALUE.) This value is entered on the Prompt dialog, and used only during layout design. When running reports, nVision uses either the Requesting Business Unit or it's designated SETID as the key for a given tree.
NvsPanelEffdt	Both	File	Vyyyy-mm-dd	Layout effective date (governs prompting). Entered on the Prompt dialog.
NvsPanelSetid	Both	File	Vsetid	SETID used for prompting while entering layout criteria.
NvsReqBU	Both	File	Vbusunit	Requesting Business Unit, from the report request.
NvsReqBUOnly	Both	File	VY/VN	"Data from Requesting Business Unit only" option, from report request.
NvsTransLed	Matrix	File	VY/VN	Indicates whether summary ledgers were translated to detail when producing this instance. Used during DrillDown to know whether inherited criteria are already translated.
NvsTreeASD	Matrix	File	Vyyyy-mm-dd	Tree As Of Date, from report request.
NvsTree.treena	Matrix	Sh	yyyyy	Tree performance options for treename.

me	x	eet		Each character is a Y/N option corresponding to an option on the Tree Performance Options dialog, in sequence:  Dynamic Selectors Suppress Join BETWEEN syntax Single Values Extra Range (above 2 billion)
NvsValTbl.fiel dname	Matri x	Fil e	recordnam e	In a layout, the record name of the value table from which values and labels come for a criteria field. For DEPTID, the defined name for the value table would be NvsValTbl.DEPTID, and its value might be "DEPARTMENT_TBL".
NvsAnswerCol	Tabu lar	Sh eet	Reference	Refers to a column of data returned in a tabular report. Can be used to create references to any column of data, including all delivered answer rows.
NvsImportActi vity	Tabu lar	Sh eet	activity name	Activity Name, entered on the Import Options dialog box.
NvsImportErro r	Tabu lar	Sh eet	error message	Text of an error encountered during an import operation.
NvsImportExtE rror	Tabu lar	Sh eet	error message	Extended (explain) error text. Currently used only for debugging.
NvsImportFor mName	Tabu lar	Sh eet	form name	Name of the Message Agent form (map) to be used to import data from this sheet.
NvsImportServ er	Tabu lar	Sh eet	server name	Name of Message Agent Server to be used for import. Specified in the Import Options dialog box.
NvsQueryNam e	Tabu lar	Sh eet	query name	Name of the Query that provides the data for this tabular layout or instance.
NvsRowCount	Tabu lar	Sh eet	integer	The number of rows delivered to this tabular instance sheet.
NvsUpdateOpti on	Tabu lar	Sh eet	Y/N	Indicates whether this instance allows update through PS/nVision Import (NvsImportSheet).
NvsInstCritOpt	Tabu lar	Sh eet	R/S/I	Dictates how inherited criteria are to be handled for fields that don't appear in the current data source. R = required (error if inherited fields not present); S = Select criteria for those fields that match, ignore others; I = Ignore all inherited criteria

## Date Formatting

PS/nVision can deliver dates in two different formats. Those formats can be applied to matrix layouts (for variables such as %ASD%), tabular layouts, and the Excel template QUERY.XLT. (This is used in QueryLink when Query delivers a query answer to Excel). These two formats are:

- Excel format, in which a date is represented by a number (12/31/99 is represented as 36525).  
Excel formatting can be used to display the date in a variety of formats.
- String format ('1999-12-31') You define the name NvsDateToNumber in your layout or QUERY.XLT to indicate which format you want to use. "Y" in NvsDateToNumber means to get dates "coerced" to Excel numeric format, while "N" indicates to use the string format. The default for NvsDateToNumber is "N" for backward compatibility. The definition (accessed through the Excel menus Insert, Name, Define) looks like this:



Unlike NvsInstanceHook, NvsDateToNumber is defined at the workbook level—you don't qualify the name using the sheet name.



## CHAPTER 11

# Personalizing PS/nVision

You can personalize numerous PS/nVision options through Configuration Manager and can even change the user interface for reporting and DrillDown. PS/nVision provides an Excel workbook (NVSUSER.XLM) with a custom **DrillDown** menu and push buttons for common actions. From this starting point, you can construct a custom user interface for your organization or even for selected groups of users.



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**Note.** PS/nVision will also support previous versions of personalized and non-personalized NVSUSER.XLM files.

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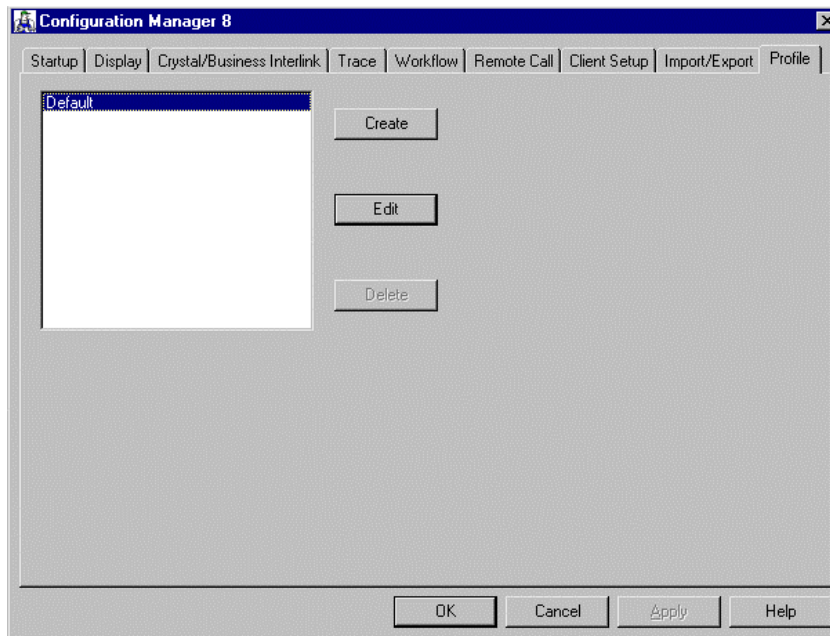
Although none of the features of NVSUSER are required to use PS/nVision, your organization should adopt a user interface that is intuitive for users. PeopleSoft delivers NVSUSER to you as a starting point. You can use it with minimal modifications, make major enhancements, or replace it altogether. What's important is that users have an easy, efficient way to create and access reports and explore the underlying data.

## Changing PS/nVision Options with Configuration Manager

PS/nVision stores settings in the Windows Registry to determine where to look for files and how it should operate. The Windows Registry is somewhat awkward to navigate and edit. Therefore, PeopleTools provides a simple and friendly tool, called *Configuration Manager*, for maintaining PeopleSoft-specific configuration information in the Windows Registry. You should use Configuration Manager to maintain your PS/nVision settings (and other PeopleTools settings) rather than editing the Windows Registry directly.

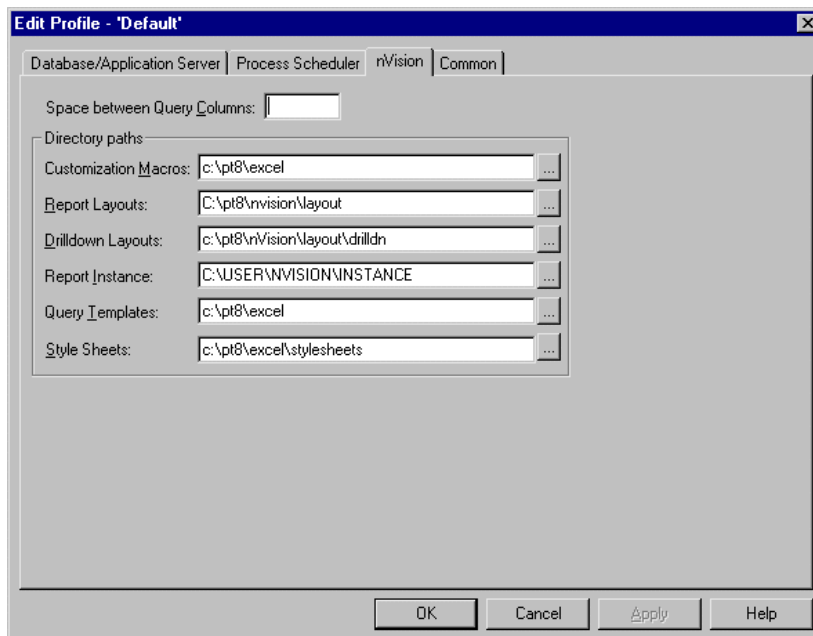
To change Configuration Manager when signed on to PeopleTools or a PeopleSoft application:

1. Select Go, PeopleTools, Utilities.
2. From the Utilities page select Edit, Preferences, Configuration.
3. Select the **Profile** tab.



Configuration Manager - Profile tab

4. Select the profile that you want to change and click **Edit**.
5. Select the **nVision** tab on the Edit Profile dialog box.



Setting PS/nVision settings in Configuration Manager

The settings on this dialog box control where PS/nVision looks for various file types. PeopleSoft QueryLink, the feature that enables you to send PeopleSoft Query output to a spreadsheet, also refers to these Configuration Manager settings.



**Note.** Changes made with Configuration Manager do not take effect until you sign on to the system. If you're signed on while making changes to Configuration Manager, you'll have to sign off and sign back on to see the effect of the changes.

The following table describes the settings available for PS/nVision in Configuration Manager.

<b>Control</b>	<b>Description</b>
Space Between Query Columns	Sets the number of blank Excel characters that PeopleSoft QueryLink places between query output columns. To eliminate spacer columns, set this value to 0. Spacer columns improve readability, but can be a problem if you want to use Excel's list features (such as Filters or SubTotals), or if you wish to export data to another program.
Personalization Macros	Specifies the directory path PS/nVision should search for macros used with PS/nVision and QueryLink. It is usually %PS_HOME%\EXCEL. This is also the path PS/nVision searches for the user macro sheet (normally NVSUSER.XLS) if it is not found in the Layout directory path.
Report Layouts	Specifies the directory path PS/nVision should search for your layout files. They're usually in \USER\NVISION\LAYOUT, but you may also have a shared layout directory on the network. The layout directory path is also searched first for the user macro file (normally NVSUSER.XLS), allowing a user to use a personalized front-end macro sheet rather than the standard one for the organization.
DrillDown Layouts	Specifies the directory that contains your PS/nVision DrillDown layouts, usually \USER\NVISION\LAYOUT\DRILLDN.
Report Instance	Specifies the directory into which PS/nVision places report instances. This can be overridden via the directory template on the Report Request dialog box.
Query Templates	Specifies where to look for the QUERY.XLT file. This file defines the Excel styles used to format your output. If no template directory is specified, or PS/nVision doesn't find Query.XLT there, it will search in the Personalization Macro path.
Style Sheets	Specifies the directory of predefined nPlosion styles for the Style Sheet Wizard.

## Defining Directory Paths

You can specify paths containing multiple directory locations for layouts and several other types of files. Within a path, semicolons separate directory names, and the directories in the path are searched in the order listed. For example, the layout path might contain the following:

```
C:\USER\NVISION\LAYOUT;N:\PS\NVISION\LAYOUT
```

When PS/nVision starts, it searches the layout directories in sequence for NVUSER.XLS. If PS/nVision can't find it in any of these directories, it looks in the Macro directory path. If it can't find NVUSER.XLS it will look for NVUSER.XLM. Similarly, when PS/nVision opens or runs a report, it searches the layout directories in sequence until it finds the layout. The same path options exist for the Excel installation path, macros, templates, and DrillDown layouts.

In addition, when searching a directory path, PS/nVision looks first for a subdirectory with the name of the current operator's language. For example, if the operator speaks French, PS/nVision would search the following directories in sequence for the layout directory in the example above:

```
C:\USER\NVISION\LAYOUT\FRA
```

```
C:\USER\NVISION\LAYOUT
```

```
N:\PS\NVISION\LAYOUT\FRA
```

```
N:\PS\NVISION\LAYOUT
```

This enables users of different languages to share the same settings, while maintaining layouts in multiple languages.

---

## Formatting Options

The QueryLink portion of PS/nVision uses a standard Microsoft Excel template, QUERY.XLT, to format data retrieved from a Query. QUERY.XLT contains some special styles that you can personalize if you like. Use Excel's **Format, Styles** option, and save your changes to QUERY.XLT.



**Note.** The location of QUERY.XLT is specified on Configuration Manager's **nVision** tab in the **Query Templates** edit box, discussed above.

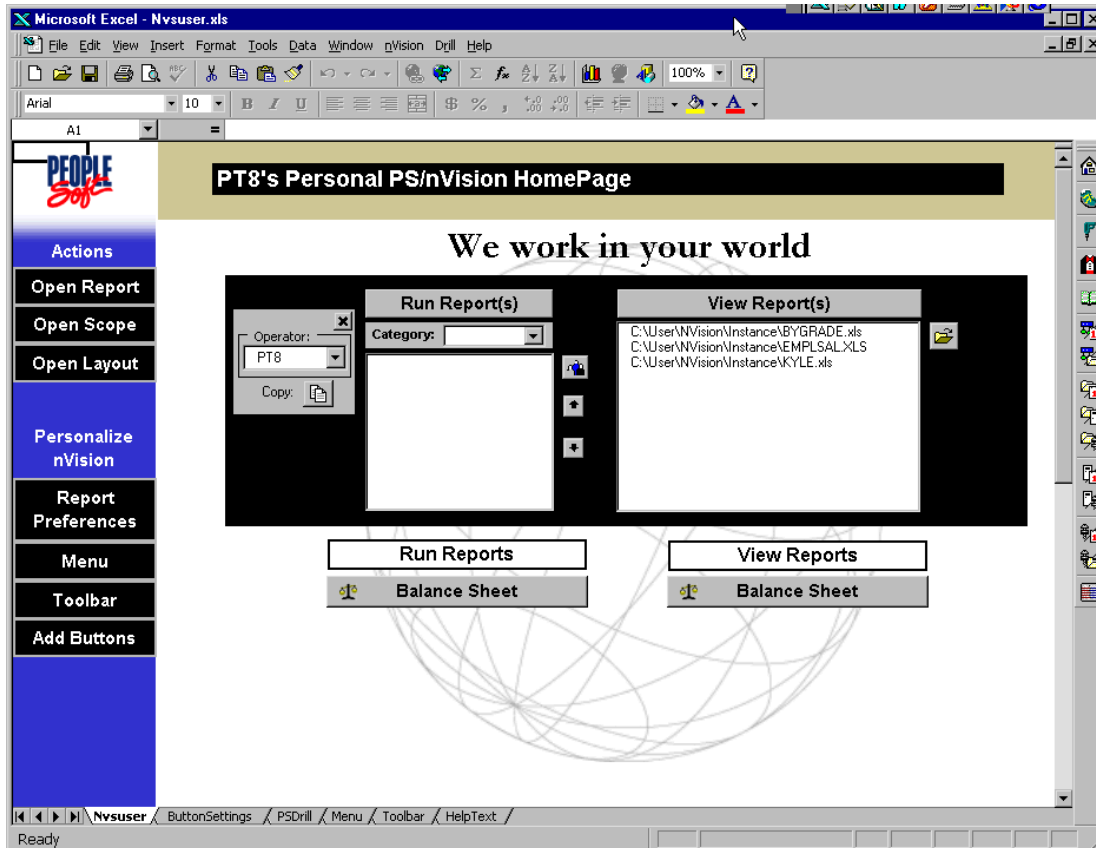
---

The following table lists the special PeopleSoft styles you can apply to QUERY.XLT.

<b>Style Name</b>	<b>Data type it formats</b>
PSChar	Character fields (such as names)
PSDate	Dates
PSDec	Numbers with decimal places, such as dollar amounts
PSInt	Integers (such as years)
PSHeading	Column headings
PSSpacer	Space between data columns

## Personalizing NVSUSER.XLS

The NVSUSER worksheet provided by PeopleSoft includes macros that make it easy to personalize the user menu and toolbar. This section gives instructions for using these features to personalize the user interface with little or no macro programming.



NVSUSER HomePage

You can personalize the following features in the NVSUSER HomePage:

- The actions performed by the spreadsheet buttons.
- The options available on the menus.
- The icons on the toolbar.



**Note.** You personalize these items by assigning Excel macros and other actions to the buttons and menu items.



For more information about the PS/nVision API functions that you can call from an Excel macro, see PS/nVision API Functions (Excel 4 Macros).

---

## Customizing the Point and Click Buttons

Each button on the NVSUSER sheets has a macro assigned to it to perform some common function. As delivered, NVSUSER has buttons grouped into Run, View and Command groups. You are free to change these groupings and the meanings of the buttons. You can format the button sheet to personalize its color and appearance.

To change the macro a button is assigned to:

1. Position the mouse pointer over the button (it becomes a hand), but don't click it.
2. Right-click and select **Assign, Macro** from the shortcut menu.
3. Enter the name of the macro you want to run when the button is clicked.
4. Click OK to complete the assignment.



**Note.** When you create macros to be assigned to push buttons, menus, or toolbar buttons, it is usually helpful to identify them as “Command” macros. When defining the name for the cell in which the macro begins, select the Command-type radio button on Excel's Define Name dialog box.


---

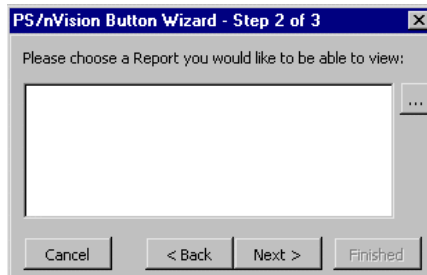
To use the button wizard:

1. Click **Add Buttons** from the NVSUSER.XLS home page.
2. Select whether to **Run a Report** or **View a Report**. Click **Next**.



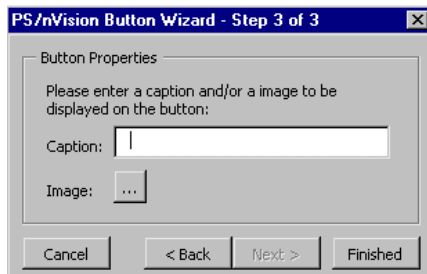
PS/nVision Button Wizard dialog box – Step 1 of 3

3. Choose either your Report Request or your Instance by navigating to it from the navigation button .
4. Click **Next**.



PS/nVision Button Wizard dialog box – Step 2 of 3

5. Type in a caption for your button.



PS/nVision Button Wizard dialog box – Step 3 of 3

6. (Optional) Choose a picture for your button by clicking the **Image** button and navigating to the location of your image file.
7. Click **Finished**.

When creating a new button, the button will be placed directly below the lowest-positioned button in a specific Run or View category. Once it is initially placed on the sheet, the button can be moved or changed accordingly. However, you are not encouraged to ungroup the button. If necessary, remember the specific defined button name before ungrouping; then, when regrouped, rename the button group accordingly (this is only for buttons with images). To ungroup the button, right-click it, select the ungroup function from the menu and make your changes. To regroup, right click it again and select the regroup function from the menu.


---

## Customizing Menus

To add or modify menu items to your **DrillDown** menu or other menus, you simply add entries to the table on the Menu worksheet in the NVUSER workbook. The Menu worksheet has the following options:

<i><b>Option</b></i>	<i><b>Description</b></i>
Application	Used to identify which application uses this menu item. This makes it easier to enable or disable the actions associated with an application by setting its Active flag. The application is not used by the supplied macros, but acts as documentation.

<b>Option</b>	<b>Description</b>
Active	Y to make the menu item active; N to keep it in the table, but deactivate it.
Command	The text of the command to appear when the user pulls down the menu.
DrillDown Layout	A layout, present in your DrillDown layout path, to be used in a matrix or tabular DrillDown.
DrillDown Query	A query name to be used in a QueryLink-style tabular DrillDown.
Macro	The name of a macro you want to run when the item is selected. This enables you to associate macro code with a menu item.
Description	Descriptive text that appears in the status bar when you highlight the command.



## PS/nVision Menu Customization

**PeopleSoft nVision Menu Control Table**

Update entries in the table below, then press button to re-build the menu.

**Actions**

Open Report

Open Scope

Open Layout

Personalize nVision

Report Preferences

Menu

Toolbar

Add Buttons

Go to Main Menu

Rebuild Menu

Help

For each command, enter either a DrillDown Layout, a Query or a macro.

Menu Name:

D&Drill	Applic- ation	Active (Y)	Menu Command	DrillDown Layout	DrillDown Query	Macro	Description
	GL	Y	Business Unit by Period	BusPer			Breakdown by Business Unit and Period
	GL	Y	Business Unit by Account	BusAct			Breakdown by Business Unit and Account
	GL	Y	Business Unit by Department	BusDep			Breakdown by Business Unit and Department
	GL	Y	Business Unit by Product	BusPrd			Breakdown by Business Unit and Product
	GL	Y	-				
	GL	Y	Account by Period	ActPer			Breakdown by Account and Period
	GL	Y	Account by Department	ActDep			Breakdown by Account and DeptId
	GL	Y	Account by Product	ActPrd			Breakdown by Account and Product
	GL	Y	Account by Business Unit	ActBus			Breakdown by Account and Business Unit
	GL	Y	-				
	GL	Y	Department by Period	DepPer			Breakdown by DeptId and Period
	GL	Y	Department by Account	DepAct			Breakdown by DeptId and Account
	GL	Y	Department by Product	DepPrd			Breakdown by DeptId and Product
	GL	Y	Department by Business Unit	DepBus			Breakdown by DeptId and Business Unit
	GL	Y	-				

nVision Menu Control Table page

To have the macros create a DrillDown or other menu for you:

1. Click the **Menu** button on the NVSUSER worksheet.
2. If desired, edit the name of the menu (the default is **Drill**) in the **Menu Name** box.
3. Edit the table of menu items, adding, changing and deleting items to get the menu you want.
4. For each menu item (command) you add, specify one of the following:
  - A layout, present in your DrillDown layout path, to be used in a *matrix* or tabular DrillDown.
  - A query name to be used in a QueryLink-style tabular DrillDown.



- The name of a macro you want to run when the item is selected. This enables you to associate a macro with a menu item.
5. When the table is as you want it, click **Rebuild Menu** to build the new menu.

---

## Changing the Toolbar

NVSUSER can build a custom toolbar from a table similar to the table that defines a custom menu.

To personalize the toolbar:

1. Select the **Toolbar** tab on the NVSUSER worksheet.
2. If desired, edit the name of the toolbar in the **Toolbar Name** box.
3. Set the location of the toolbar in the **Toolbar Location** box.  
  
You can enter left, right, top, or bottom to have the toolbar docked accordingly, or you can select float to have the toolbar float over the spreadsheet.
4. Edit the table of tool commands, adding, changing, and deleting items to get the toolbar you want.
5. For each tool you add or change, specify one of the following actions:
  - A layout, present in your DrillDown layout path, to be used in a matrix or tabular DrillDown.
  - A query name to be used in a QueryLink-style tabular DrillDown.
  - The name of a macro you want to run when the tool button is clicked. This allows you to associate macro code with a toolbar button.
6. For each tool, also specify the following:
  - Active. *Y* to make the tool active; *N* to keep it in the table, but not in the toolbar.
  - Face. The name of the picture that identifies the tool. Either use a picture already defined on the Toolbar sheet or design your own using a drawing program such as Paintbrush. The picture must be 16 pixels square. Copy the picture from the drawing program and paste it onto the Toolbar sheet. While it is selected, enter a name for it, and enter this name in the Face column.
  - Gap. To leave a gap between tools, enter *gap* in the Face column.
  - Status text. Descriptive text; appears in the status bar when the mouse rests over the tool.
  - Tip text. Brief description; appears in a “tool tip” when the mouse rests over the tool.
7. When the table is as you want it, click **Rebuild Toolbar** to build the new toolbar.

## Setting Report Preferences

NVSUSER allows you to take full advantage of the PeopleSoft 8.0 Business Component and Open Query functionality by allowing you to store personalized and categorized Report Requests in NVSUSER. This allows you to quickly view frequently used requests by category and run them with a click of a button. One NVSUSER can be stored on a remote server location and still allow individual operators to view requests from any client workstation. In addition, you can view and copy other user's Report Request preferences, if given the proper security access to alleviate the redundancy set-up process.

To store Report Request Preferences:

1. Select Go, People Tools, nVision.
2. Click **Report Preferences** located on the NVSUSER HomePage.

The VBA dialog appears on your screen.

3. Select an appropriate **Business Unit**, and type in or select a desired **Category**. (By typing in a category, you will create a new category.)
4. Select the reports you want for that category (a category is optional), and select **Add** or **Remove** to personalize your Report Request list.
5. Select **OK** and the information will be stored in the NVS\_OPR\_RPTS record on the PeopleSoft ERP database using the Business Component functionality.

To List		
EARNSUMM	M04	GL
CONSBAL	M04	GL
BALANCE	M04	GL

Personal Report Settings dialog box



**Note.** The VBA form, Business Component, and Open Query functionality are primarily used as an example. You are encouraged to personalize these features. Report Request Preferences demonstrate the ability to store and retrieve information from the PeopleSoft ERP and use this to enhance the capabilities of PS/nVision and NVSUSER.

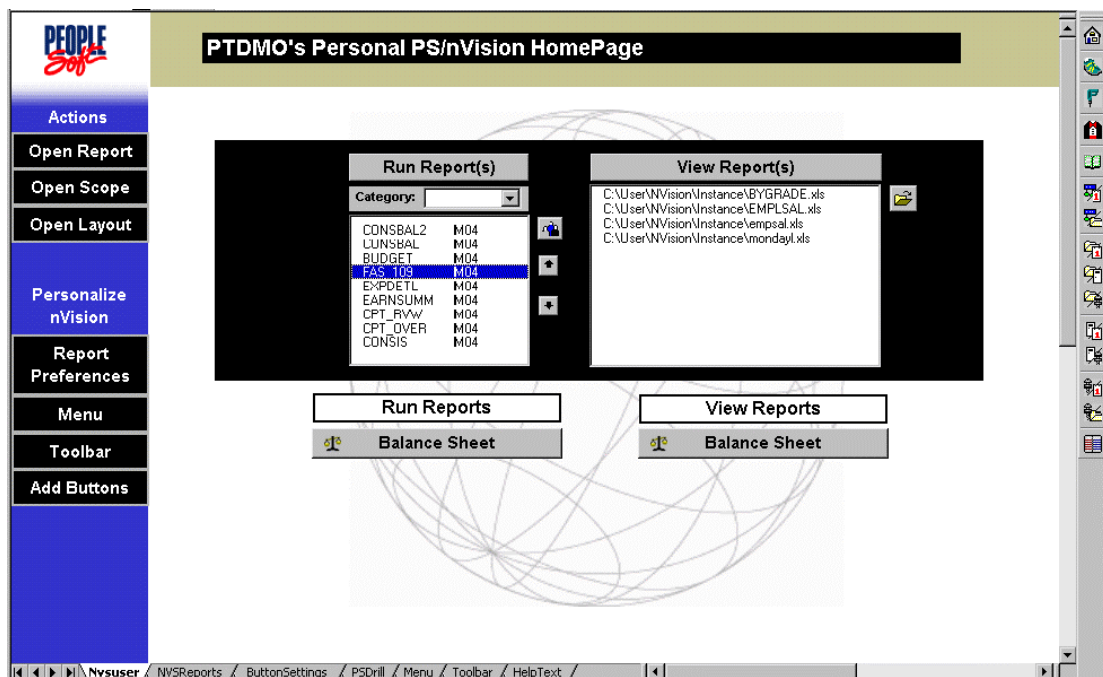
## Running Reports from NVSUSER

You can run reports from the NVSUSER page just as you would from a report request.

To run a report from your Preferences list:

1. From the NVSUSER HomePage, select any number of **Report Requests** from your **Report Request List**.
2. Click the arrow buttons to move the reports to other positions in the queue, if necessary.
3. Click Run Report.

The reports will be run in sequential order from top to bottom.



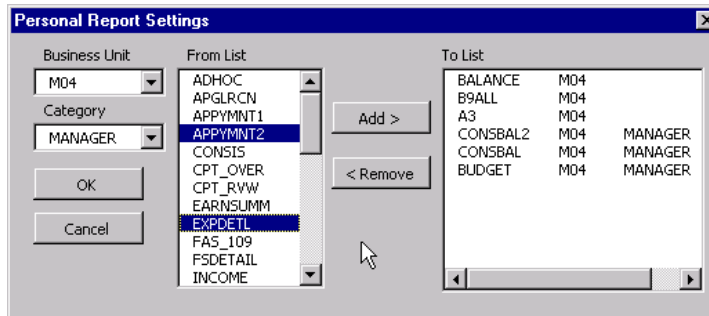
Running a report from the NVSUSER HomePage

## Setting Up Your Report Request Preferences

To set up a user's Report Request Preferences:


1. Click the **Report Preferences** button on the NVSUSER HomePage to see your report settings.
2. Select a **Business** Unit and a list of the corresponding Report Requests will appear in the **From List**.
3. Either create a Category by typing in a category name, or choose a category from the drop-down list.
4. Select the corresponding Report Requests you would like under that category and press the Add or Remove button to place them in the To List.

- Click **OK**. The Report Request settings will be stored and saved in NVSUSER.XLS.

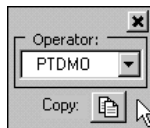



Personal Report Settings dialog box

To view or copy another user's Report Request Preferences:

- Click the **Operator Button**  located on the NVSUSER home page next to the Report Request list box.

Another dialog box appears, with a drop-down list of all valid operators who have already stored Report Request Preferences in the database.



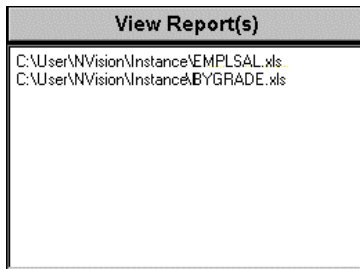
- Select an **Operator** from the drop down list to access that user's Report Request Preferences and personalized categories.
- You may run a report from the other user's Report List or click the **Copy** button  to copy the other user's preferences.
- Click the **Report Preferences** button to see your report settings.



**Note.** When you copy another operator's Report Request Preferences, it **completely deletes** your previous Preferences and replaces them with the other operator's Preferences. You cannot change another user's Report Request Preferences without copying those Preferences first.

## Customizing the Report Instance View

From the NVSUSER HomePage, you can pull in Report Instances from other folders. You can then select one or more reports from the list and instantly open them without having to navigate through a file directory system.



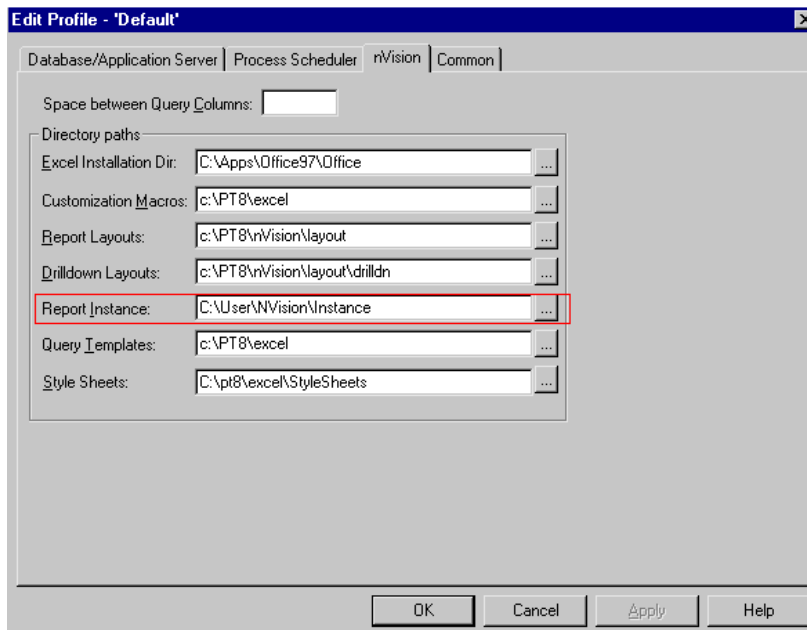
View Reports from the NVSUSER HomePage

For example, if a series of Report Books were being run overnight and placed into a common file location, a manager could log in to the NVSUSER Home page and all of those reports would be pulled from the directory or directories.

To personalize Report Instance View:

1. Select Go, PeopleTools, Utilities.
2. From the Utilities page select Edit, Preferences, Configuration.
3. Select the **Profile** tab.
4. Select the profile that you want to change and click **Edit**.
5. Select the **nVision** tab on the Edit Profile dialog box.
6. Navigate to the location of your Report Instance files.

You can have more than one folder listed, but you must have them separated by semicolons. However, Excel does have a limit of 255 characters.



Report Instance directory from Edit Profile dialog box

## Customizing the Drill Through to PeopleSoft Panels Option

Using the PSDrill VBA Wizard, you can drill into any PeopleSoft page and select menus, menu bars and menu bar items, and search keys. All but the page search keys are necessary to pass into the PeopleSoft system; however, the page search keys would populate the component search record's keys and would allow the user to seamlessly pass into the PeopleSoft system.

To select a PeopleSoft Drill setup:

1. From the PS/nVision menu in Excel, select **Drill, PeopleSoft Drill Setup**.
2. Select a **Drill Setup** name from the drop-down dialog box.

All of the corresponding values associated with the Drill Setup appear. You may modify or delete the setup values from this screen.

To create a new Drill setup

1. From the PS/nVision menu in Excel, select **Drill, PeopleSoft Drill Setup**.
2. Enter a name for the new **Drill Setup**.
3. Select a menu, menu bar, menu bar item, and component item.
4. (Optional) Select the page search keys by clicking each search key that should be populated. (All search keys need to be selected if you want to bypass the search record prompt.)
5. Select **OK** to save the information on the PSDrill spreadsheet.



**Note.** The Drill Setup Wizard uses an Excel spreadsheet to store information. The Report Request Preferences Wizard uses Business Components to store information.

The strength of the **Drill Through to PeopleSoft Pages** option is the ability to drill all the way into a specific item on a page. For instance, this option allows you to drill from a Journal Lines drill-down instance to an actual Journal ID in the PeopleSoft system. If you do not use the **Page Search Key** option, you will be prompted to supply the search keys when you drill into the PeopleSoft system.

In order to drill to the actual PeopleSoft page, the Drill Name needs to be associated with a macro (called **GoToPTools**) that will build and run a command line argument from NVSUSER. This macro is designed to be executed using the personalized menu. NVSUSER is delivered with three drill examples and the setup command on the personalized PS/nVision menu.

To add another Drill Name to a menu:

1. Type the *exact* name of the Drill that was created in the **Menu Command** column.
2. Type **GoToPTools** in the **Macro** column.

Menu Name:							
D&rrill	Appli- cation	Active (Y)	Menu Command	DrillDown Layout	DrillDown Query	Macro	Description
	GL	Y	Drill Through To Journal Panel			GoToPTools	Drill Through To Journal Panel
	AP	Y	Drill Through To Vendor Panel			GoToPTools	Drill Through To Vendor Panel
	AP	Y	Drill Through To Voucher Panel			GoToPTools	Drill Through To Voucher Panel
	GL	Y	PeopleSoft Drill Setup			OpenPSDrill	Create/Edit PeopleSoft Drill Settings

Macro column

3. From a **DrillDown Instance**, select **Drill** and then the desired **Drill Through to Panel** method from the drop-down menu.

This will run a command line argument that will open a separate PeopleSoft Session and go directly into the desired page.

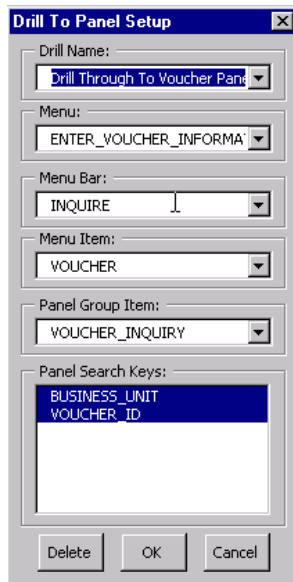


**Note.** In order to go directly to a specific item in a page, such as an exact Journal or Voucher ID, you must populate all of the Page Search keys related to that page. This can only currently be done from a **tabular** layout.

To select a PeopleSoft Drill Setup with Page Search Keys

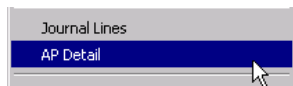
1. From the **Drill** menu in Excel, select **PeopleSoft Drill Setup**.
2. Select a **Drill Name** from the list.

Notice that all of the **Page Search Keys** are chosen (BUSINESS\_UNIT and VOUCHER\_ID). This implies that in order for the drill-through to go directly to a specific voucher, a tabular report needs to be created that has these two fields. If not, it will prompt the user for a Business Unit and a Voucher ID from the page.



Drill to Panel Setup dialog box

3. Drill down on valid accounts that will produce Accounts Payable information using the **AP Detail** drill-down from the **Drill** menu.



**Note.** The AP Detail drill-down layout is a tabular layout, and if examined carefully contains the two necessary fields to complete a seamless drill through. If you use or personalize a report that does not have these two fields you will be prompted for information when trying to drill through.

4. Once you have drilled down, examine the report and determine a Voucher ID that would be suitable to drill through to.
5. Select the row and from the **Drill** menu select **Drill Through to Voucher Page**.
6. This will bring up another PeopleSoft window to the VOUCHER\_INQUIRY page with the exact voucher ID that was selected.



**Enter Voucher Information - Inquire - Voucher**

File Edit View Go Favorites Use Process Inquire Report Help

Voucher Inquiry | Voucher Payments

Unit: M04 Voucher: 00000012 Invoice: 011298

Vendor: 400000002 Computer Direct Posted  
ShortName: COMPDIRECT-001 Date: 01/12/1998

Gross: 15,000.00  
Discount: 0.00 Use Tax: 0.00 Due: 02/11/1998  
Freight: 0.00 VAT: 0.00 Disc due: 0.00  
Sales Tax: 0.00 Balance: 15,000.00

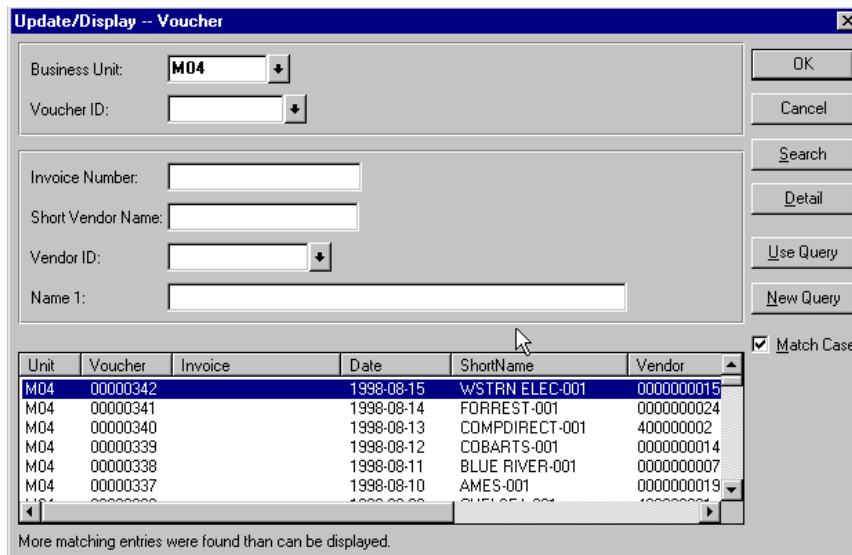
Line	Item ID	Quantity Vouchered	UOM	Unit Price
1				

Enter Voucher Information – Inquire - Voucher

To select a PeopleSoft Drill Setup without Page Search Keys

1. Follow the steps outlined in the preceding section, To select a PeopleSoft Drill Setup with Page Search Keys.
2. Run the **Drill Through to Voucher Page** from a row of a tabular drill instance without referencing the page search keys or deselect a Page Search key from the **Drill to Page Setup**.

A search box appears with possible matching entries displayed.



Unit	Voucher	Invoice	Date	ShortName	Vendor
M04	00000342		1998-08-15	WSTRN ELEC-001	0000000015
M04	00000341		1998-08-14	FORREST-001	0000000024
M04	00000340		1998-08-13	COMPDIRECT-001	4000000002
M04	00000339		1998-08-12	COBARTS-001	0000000014
M04	00000338		1998-08-11	BLUE RIVER-001	0000000007
M04	00000337		1998-08-10	AMES-001	0000000019


Update/Display – Voucher

## Customizing the Style Sheet Wizard

You can create and edit nPlosion styles with the nPlosion Style Wizard. Styles are stored in a special Excel worksheet provided with PS/nVision called the nVision nPlosion Style Wizard. There are two kinds of nPlosion styles: Row and Column. The RowStyles tab displays Row styles, and the ColumnStyles tab displays Column styles.

Seven levels of each style are provided, as well as a separate style for detail values.

The Style sheet Classical.xls is shipped with the PS/nVision product. You can create your own style sheet wizard by saving the Classical.xls under a different name in the Style Sheet directory location. Configure the Style Sheet directory location using Configuration Manager.

The Format Style Sheets button  on nVision's toolbar will use the files found in this location as Style Sheet wizards.




**Note.** The Base style can be overridden by modifying any of the other styles that come after it. For example, you could make a particular field shaded, even though the base style for that row or column does not include shading. This could be useful for setting apart a particular piece of data in a large report.

To open the nPlosion Style Wizard

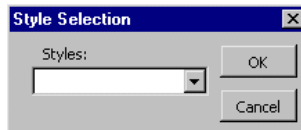
1. Select Go, PeopleTools, Utilities.
2. From the Utilities page select Edit, Preferences, Configuration.
3. Select the **Profile** tab, select a profile to edit, and then choose the **nVision** tab to view or

change PS/nVision settings.

PeopleSoft delivers a set of style sheets that can be located at <PS\_HOME>\Excel\Style Sheets.

4. Click the Format Style Sheets button  on nVision's toolbar.

The **Style Selection** dialog is displayed.



Style Selection Dialog

5. Choose the Classical.xls style sheet that is shipped with PS/nVision and click **OK**.

The **RowStyles** tab of the **nVision nPlosion Style Wizard** is displayed.

nVision nPlosion Style Wizard							
				Annual Amount			
	Row 1 Heading	Earth					
	Row 2 Heading	Eastern Hemisphere					
	Row 3 Heading	Europe					
	Row 4 Heading	United Kingdom					
	Row 5 Heading	Central					
	Row 6 Heading	London					
	Row 7 Heading	Kensington					
	Detail Base	Detail Label	Account 100000	\$20,000,000.00	Detail Amount		
	Row 7 Base	Row 7 Label	Kensington	\$20,000,000.00	Row 7 Amount		
	Row 6 Base	Row 6 Label	London	\$20,000,000.00	Row 6 Amount		
	Row 5 Base	Row 5 Label	Central	\$20,000,000.00	Row 5 Amount		
	Row 4 Base	Row 4 Label	United Kingdom	\$20,000,000.00	Row 4 Amount		
	Row 3 Base	Row 3 Label	Europe	\$20,000,000.00	Row 3 Amount		
	Row 2 Base	Row 2 Label	Eastern Hemisphere	\$20,000,000.00	Row 2 Amount		
	Row 1 Base	Row 1 Label	Earth	\$20,000,000.00	Row 1 Amount		

nVision nPlosion Style Wizard

Use the Style Wizard to create new nPlosion styles or modify the pre-defined styles. The Style Sheet displays a rollup of data for eight rows and eight columns (Excel has a limitation of rolling data up into only eight outlines). There are four types of styles that can be applied to each row and column.

**Heading**

An outlined row or column of data has two parts to it. When opened the top portion of the outline is considered the header, and the bottom portion is considered the Label. The Header does not contain any data. It is strictly for display purposes.

**Label**

The bottom portion of the outline and will be the only thing displayed if the outline is collapsed.

**Amount**

Any numeric data that will be a result of an nPlosion.

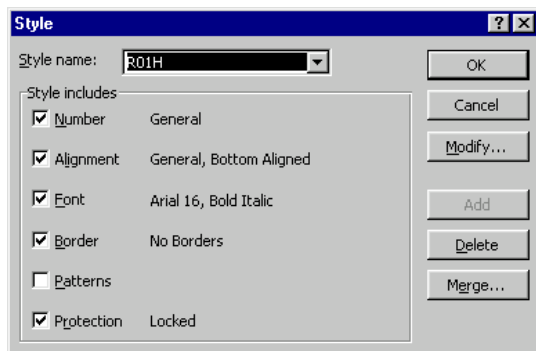
**Base**

The formatting options for the Label, Heading, and Amount styles. However, since styles can be overlayed one on top of another, if there are style settings for the Label, Header, or Amount, they will override the Base Style setting.

To modify a style

1. Click the button with the name of the style you want to modify.

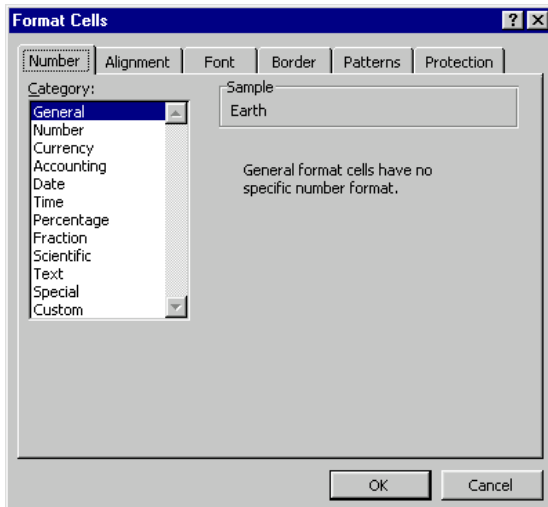
Excel's **Style** dialog is displayed.



Excel's Style Dialog

2. Click the **Modify** button to make changes to the style's display attributes.

Excel's **Format Cells** dialog is displayed.



Excel's Format Cells Dialog

For more information about how to use this dialog to modify styles, refer to your **Microsoft® Excel** documentation.

3. When you are finished modifying style attributes, click **OK**.
4. Make any more changes to styles by clicking the appropriate **Style** button.
5. If you do not have any PS/nVision report layouts open, you can save the current styles by selecting **File, Save**. This allows you to modify styles globally in the style worksheet, then apply the new styles to any report layout you wish.

If you have a style at the Label, Header, or Amount level, this will override the Base style. If you have a Base style, it overrides the styles for Label, Header, and Amount.

For example, let's say that your Base style setting has Level 1 of the row as blue. The Label Style setting has Patterns turned off, but Amount and Header have Patterns turned on. Then the whole row would be blue except for the Label style.

	Row 1 Heading	<b>Earth</b>		
Row 2 Base	Row 2 Label	<b>Eastern Hemisphere</b>	<b>\$20,000,000.00</b>	Row 2 Amount
Row 1 Base	Row 1 Label	<b>Earth</b>	<b>\$20,000,000.00</b>	Row 1 Amount

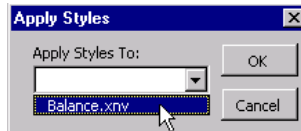


Note. All Row Style settings override the Column Style settings.

To apply styles to a report layout

1. Open a report layout in nVision by clicking the **Open Layout** button or selecting **nVision, Open Layout** from Excel's menu.
2. Modify styles as needed.

- When you have finished modifying styles, click the **Apply Styles** button on the Style Wizard. A drop down list of all open layouts will be displayed. Select the desired layout the user wishes the styles to be applied to, and press OK.



Apply styles

You can create and edit nPlosion styles with the nPlosion Style Wizard. Styles are stored in a special Excel worksheet provided with PS/nVision called the nVision nPlosion Style Wizard. Using the Style Sheet Wizard, you can manipulate and change styles to fit your reporting needs.



**Note.** If you click the **Apply Styles** button on the **Style Wizard** when there are no report layouts open, PS/nVision will give an error. It cannot save the styles to a layout because none are open. Open a PS/nVision report layout to apply the current styles to it.



For more information about nPlosion see nPlosion Options.

## Style Formatting Conventions

The Style Sheet wizard is designed for the user to easily take advantage of the Excel Style formatting settings and properly use the designed nVision Style naming convention. The same effect can be accomplished by simply opening a layout, and from the Excel menu bar select **Format, Styles**. The Style dialog will appear and you can create styles using the same naming convention as the Style Wizard does. The following are two examples of the naming convention for PS/nVision nPlosion styles.

### RxxL

The Label Style for any given level at a Row, where “R” represents a Row, “xx” represents the number of the level (i.e., 01, 02, etc. – 00 represents the detail level), and the “L” represents the Label Style.

### CxxA

The Amount Style for any given level at a column, where “C” represents a Column, “xx” represents the number of the level (i.e., 01, 02, etc. – 00 represents the detail level), and the “A” represents the Amount Style.




---

**Note.** Detail Row and Column Style settings are represented by the “00” level.

---

To personalize a style sheet to represent a specific set of styles, simply change the style sheet to a desired set of styles, and save the XLS file with a new name. This gives you the ability to have several style sheets, each personalized for different uses.




---

**Note.** To see if a layout already has the PS/nVision styles applied to it, to look at the styles. From the Excel menu bar, select **Format, Styles** and check to see if the layout uses the nVision naming conventions.

---



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## Customizing Delivered VBA Wizards

NVSUSER delivers VBA forms to perform various functions from storing information into the PeopleSoft system to creating a button to run a report. To find the VBA forms, select **Tools, Macros, Visual Basic Editor** from the Excel menu bar.




---

For more information about the VB Editor, see your Microsoft Visual Basic Applications manual.

---

The VBA forms have several examples of using the new Visual Basic PeopleSoft APIs, and how they can be used to personalize your PS/nVision. We encourage you to take advantage of these features, they can add tremendous depth to your reporting ability.




---

For more information about the Visual Basic interface, see Using the PS/nVision VBA Interface.

---

Also note that several of the VBA wizards take advantage of the PeopleSoft Open Query method to pull information from the PeopleSoft system. To use this method, you need to have already created a Query in the PeopleSoft system.

There are also examples of VBA passing prompt values to the queries. Here are a few of the queries that nVision accesses and wizards that use them:

**Queries:**

NVS\_OPERATORS  
NVS\_PERSNL\_RPTS  
NVS\_CATEGORY  
NVS\_BUS\_UNIT

**VBA Wizard:**

NVSUSER.xls  
NVSUSER.xls, Personal\_Settings  
NVSUSER.xls, Personal\_Settings  
Personal\_Settings, Button Wizard

**Queries:**

NVS\_RPT\_ID

NVS\_MENU

NVS\_MENU\_BAR

NVS\_MENU\_ITEM

NVS\_MENU\_PANEL

NVS\_MENU\_PNL\_KEYS

**VBA Wizard:**

Personal\_Settings, Button Wizard

PSDrill

PSDrill

PSDrill

PSDrill

PSDrill

## Changing the Startup File

When you start PS/nVision, it opens NVSUSER.XLS by default. If it cannot locate NVSUSER.XLS, it will look for and open NVSUSER.XLM file. But what if you don't want it to open NVSUSER? What if you have your own custom workbook that you'd like PS/nVision to open?

If you start PS/nVision from a Microsoft Windows shortcut icon, you can specify a different startup file on the PS/nVision command line. All you need to do is include the -SF argument, followed by the name of the startup file. For example, to have PS/nVision open the file NVSDEV.XLS, you'd enter a command similar to the following in the Target edit box in the Properties dialog for the shortcut:

```
c:\pt800\bin\client\winx86\psnvs.exe -SFNVSDEV.XLS
```

This feature enables you to provide different startup files for different classes of users.



**Note.** PS/nVision searches for the startup file in the same directories where it looks for its default startup file.

---



For more information see Changing PS/nVision Options with Configuration Manager.

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## PS/nVision API Functions (Excel 4 Macros)

PS/nVision has an API function interface. The Excel macros that you write can use these functions to gain access to PS/nVision features. This table describes the API functions.



**Note.** None of these functions may be called within a macro called via NvsInstanceHook.

---



<b>Interface Function</b>	<b>Purpose</b>	<b>Argument(s)</b>	<b>Example</b>
NvsAutoDrill	Performs an AutoDrill, like selecting the AutoDrill menu item. AutoDrill is only useable in reports based on queries, and in ledger-based reports for which the NvsDefaultDrill name is defined in the layout, specifying the name of the layout to run as an AutoDrill.	None	=NvsAutoDrill()
NvsDrillDown	Start a matrix DrillDown, like the DrillDown item on the nVision menu. The user will choose a DrillDown layout from the Open dialog box.	None	=NvsDrillDown()
NvsDrillLayout	Run a matrix DrillDown using a specified layout.	Layout name	=NvsDrillLayout("ACTPER.XNV")
NvsDrillQuery	Run a tabular DrillDown using a specified Query.	Query name	=NvsDrillQuery("Journals")
NvsJumpBack	Jump back to the sheet and cell from which the current sheet drilled down (same as Jump Back command.)	None	=NvsJumpBack()
NvsLayoutDefn	Show the Layout Definition dialog box for the selected row, column, or cell. This is the equivalent of the nVision, Layout Definition menu item.	None	=NvsLayoutDefn()
NvsNewLayout	Creates a new layout, like the New Layout menu item.	None	=NvsNewLayout()
NvsOnWindow	Activate PS/nVision menus for the current window. This is required when your macro opens a sheet, since Excel does not signal PS/nVision that the new sheet has been activated.	None	=NvsOnWindow()
NvsOpenFile	Open an Excel worksheet, waiting if necessary in case another user on the network is accessing the file. If the file is opened successfully, call NvsOnWindow to update menus. Optional arguments say whether to update links to other documents and if file is to be opened read-only.	filespec, updlinks, readonly	=NvsOpenFile("FSDEMO.XLS", TRUE, FALSE)
NvsOpenLayout	Open a layout, like the Open Layout menu item.	None	=NvsOpenLayout()

<b>Interface Function</b>	<b>Purpose</b>	<b>Argument(s)</b>	<b>Example</b>
NvsOpenReport	Open a report request, like clicking the Open button in the Report Request dialog box.	None	=NvsOpenReport()
NvsOpenScope	Open an existing scope definition, like clicking the Open button in the Scope Definition dialog box.	None	=NvsOpenScope()
NvsReDrill	Repeat the most recent DrillDown from the currently selected amount cell.	None	=NvsReDrill()
NvsReportRequest	Display the Report Request dialog, like the nVision, Report Request menu item.	None	=NvsReportRequest()
NvsRunCurrent	Runs the current report, like the nVision, Run Current Report menu item.	None	=NvsRunCurrent()
NvsRunQuery	Run a specified query, without inheriting DrillDown criteria.	Query name	=NvsRunQuery("AP Journals")
NvsRunReport	When used without a parameter, prompts the user to select a report to run, then runs the selected report. With a parameter, runs a specified matrix report, without showing the report key dialog or Report Request.	None Or Business Unit, Report ID	=NvsRunReport() or =NvsRunReport("M04","ISDEMO")
NvsSaveAsLayout	Prompts user to save the layout with a new name, like the nVision, Save As Layout menu item.	None	=NvsSaveAsLayout()
NvsScopeDefn	Opens the Scope Definition dialog box, like the nVision, Scope Definition menu item.	None	=NvsScopeDefn()

## Troubleshooting NVUSER

NVUSER is a customizable user interface developed using VBA and takes advantage of OpenQuery for retrieving certain information from the database. It does this using Microsoft ActiveX Data Objects (ADO). PSnVision will not launch successfully if the proper ADO objects are not installed (or if the ADO dlls get out of sync due to a subsequent install of another software package that may happen to also install these ADO dlls). Starting with PeopleSoft 8, PeopleSoft will distribute the Microsoft Data Access Components (MDAC), which contains the appropriate ADO DLLs along with the PeopleTools software. To install MCAD, you need to run madc\_typ.exe from your %PS\_HOME%\SETUP directory and then take all the defaults during the installation.

You may encounter one of the following Microsoft VB errors upon launching nVision if the proper ADO DLLs are not installed:

"Compile error: Can't find project or library"

"Compile error: ActiveX component can't create object"

"Component not correctly registered"

"Run-time error '13': Type mismatch"



## CHAPTER 12

# Using the PS/nVision VBA Interface

You can develop powerful Visual Basic applications with the PS/nVision VBA programming interface. The objects and their related methods referenced in this section provide the ability to call nVision's main features programmatically for common reporting and analysis tasks.

## Designer Object

### Description

Creates an instance of nVision.



**Note.** The Designer Object was created to support the previous Excel 4 Macro calls into PeopleSoft, in addition to extra API calls.

### Example

```
Dim objnVision As Object

Dim objDesignerCmd As Object

Dim strAppName As String

strAppName = "PSnvision.nvsdesigner"

Set objnVision = CreateObject(strAppName)

Set objDesignerCmd = objnVision.DesignerCmd
```

It should be noted that after you have finished with the Designer object, you should clear the nVision object by setting it equal to nothing:

```
Set objnVision = Nothing
```

---

## Designer Object Methods

### OpenFile

#### Description

This method enables the user to open a new or existing PS/nVision report layout. There are three arguments associated with this method: the file name (with full path) and two optional arguments: update links and read only.

#### Syntax

```
OpenFile([in] BSTR filename, [in, optional] BOOL updatelinks, [in, optional]  
        BOOL readonly)
```

#### Example

```
ObjDesignerCmd.OpenFile("c:\user\BALANCE.xls", TRUE, FALSE)
```

### OnWindow

#### Description

This method enables the user to refresh the designer window, including the nVision menus.

#### Example

```
objDesignerCmd.OnWindow
```

### StartMenu

#### Description

This method causes the designer to register its menu within the grid.

#### Example

```
objDesignerCmd.StartMenu
```

### Connect

#### Description

This method enables the user to sign on to the PeopleTools application.

#### Syntax

```
Connect([in, optional] BSTR startMacro)
```

**Example**

```
` Straight Connection
```

```
objDesignerCmd.Connect
```

```
` Connection and run macro
```

```
objDesignerCmd.Connect ("MacroName")
```

**Disconnect****Description**

This method enables the user to sign off from the PeopleTools application.

**Example**

```
objDesignerCmd.Disconnect
```

**ResetEnvironment****Description**

This method is used to reset the working directory and other environment settings needed for nVision to process reports.

**Example**

```
objDesignerCmd.ResetEnvironment
```

**OpenLayout****Description**

This method enables the user to open an existing layout.

**Example**

```
objDesignerCmd.OpenLayout
```

**NewLayout****Description**

This method enables the user to create a new layout.

## Example

```
objDesignerCmd.NewLayout
```

## SaveAsLayout

### Description

This method enables the user to save the worksheet as a layout.

## Example

```
objDesignerCmd.SaveAsLayout
```

## DefineLayout

### Description

This method enables the user to invoke nVision's **Layout Definition** dialog box.

## Example

```
objDesignerCmd.DefineLayout
```

## LayoutOptions

### Description

This method enables the user to invoke nVision's **Layout Options** dialog box.

## Example

```
objDesignerCmd.LayoutOptions
```

## ReportRequest

### Description

This method enables the user to open an existing report request.

## Example

```
objDesignerCmd.ReportRequest
```

## RunCurrent

### Description

This method enables the user to run a report request defined or previously opened.



## Example

```
objDesignerCmd.RunCurrent
```

## RunReport

### Description

This enables the user to run a specific report. There are two arguments required for this request: business unit and report request name. The report request is case sensitive and must be in uppercase letters.

### Syntax

```
RunReport([in] BSTR BusUnit, [in] BSTR RptRqst)
```

## Example

```
objDesignerCmd.RunReport("M04", "BALANCE")
```

## Options

### Description

This method enables the user to open the **Options** dialog box.

## Example

```
objDesignerCmd.Options
```

## OpenScope

### Description

This method displays the **Open Scope** dialog box and then the **Scope Definition** dialog box, assuming the user chooses a scope.

## Example

```
objDesignerCmd.OpenScope
```

## ScopeDefn

### Description

This method invokes the **Scope Definition** dialog box.

## Example

```
objDesignerCmd.ScopeDefn
```

## AutoDrill

### Description

If a default DrillDown layout is defined (as DefaultDrill) in the active instance, drill down using that layout.

For ledger reports, the default drill string may include a ",D" indicating that any summary ledgers should be translated to detail. If no default layout is defined, for a query-based instance, drill down to that query in DrillQuery (QueryLink) mode. For a ledger-based instance, have the user select the DrillDown layout, as in DrillDown.

### Example

```
objDesignerCmd.AutoDrill
```

## DrillLayout

### Description

Called to perform a DrillDown using the specified child layout.

### Example

```
objDesignerCmd.DrillLayout
```

## DrillQuery

### Description

Called to perform a DrillDown using the specified query.

### Example

```
objDesignerCmd.DrillQuery
```

## RunQuery

### Description

Called to run the specified query with no inherited criteria. Not used for DrillDown.

### Example

```
objDesignerCmd.RunQuery
```

## DrillDown

### Description

Initiate DrillDown sequence.

### Example

```
objDesignerCmd.DrillDown
```

## JumpBack

### Description

Implements command to activate parent instance of current child DrillDown.

### Example

```
objDesignerCmd.JumpBack
```

## ReDrill

### Description

Drill selected cell using most recently selected DrillDown layout.

### Example

```
objDesignerCmd.ReDrill
```

## ImportSheet

### Description

Called to import the current tabular sheet using the Messaging Agent.

### Example

```
objDesignerCmd.ImportSheet
```

If you invoke PS/nVision's `nvsimportsheet` from your Visual Basic code in either .XLA or .XLS file, you need to clearup `NvsImportError` on all the sheets in the book before you call it. Here is an example on how to do this.

```
For Each nm In ActiveSheet.Names  
    Cells(2, 40).Value = nm.Name  
    str = ActiveSheet.Name & "!" & "NvsImportError"  
    str2 = ActiveSheet.Name & "!" & "NvsImportError"
```

```

        If (Cells(2, 40).Value = str) Or (Cells(2, 40) = str2) Then

            ActiveSheet.Names("NvsImportError").Value = ""

        End If

    Next

    Application.Run ("nvsimportsheets")

```

## PerfOpts

### Description

Same as layout options but with just one selection.

### Example

```
objDesignerCmd.PerfOpts
```

## ImportOpts

### Description

Invokes the **Import Options** dialog box for editing import options from the spreadsheet.

### Example

```
objDesignerCmd.ImportOpts
```

## Session Object

### Description

This object enables the user to retrieve information about the current session.

### Example

```

Dim objnVision As Object

Dim objSessionCmd As Object

Dim strAppName As String

Dim strDatabaseType As String

strAppName = "PSnvision.nvsdesigner"

Set objnVision = CreateObject(strAppName)

```

```
Set SessionCmd = objnVision.SessionCmd
```

After finishing with the session object, clear the nVision object by setting it equal to nothing:

```
Set objnVision = Nothing
```

---

## Session Object Methods

### DBType

#### Description

This property retrieves database types for the current session.

#### Example

```
strDatabaseType = SessionCmd.DBType
```

### ServerName

#### Description

This property retrieves the server's name for the current session. It will retrieve nothing if the user is logged on in two-tier.

#### Example

```
strServerName = SessionCmd.ServerName
```

### DBName

#### Description

This property retrieves the database's name for the current session.

#### Example

```
strDatabaseName = SessionCmd.DBName
```

### OprId

#### Description

This property retrieves the operator's ID for the current session.

#### Example

```
strOperatorId = SessionCmd.OprId
```

## ToolsRelDB

### Description

This property retrieves the tool release database version for the current session.

### Example

```
strToolReleaseDatabase = SessionCmd.ToolsRelDB
```

## TwoTier

### Description

This property identifies whether or not the current session is two-tier. If the return value is TRUE (or a value of 1), the current session is two-tier.

### Example

```
bTwoTier = SessionCmd.TwoTier
```

## ShowWarnings

### Description

This property enables a user to retrieve or set a ShowWarnings option for the current session.

### Retrieve Example

```
Dim bShowWarnings As Boolean  
  
bShowWarnings = SessionCmd.ShowWarnings
```

### Set Example

```
Dim bShowWarnings as Boolean  
  
bShowWarnings = True  
  
SessionCmd.ShowWarnings = bShowWarnings
```

## AmountSql

### Description

This property enables a user to retrieve or set an “Amount SQL” option for the current session.

### Retrieve Example

```
Dim bAmountSql As Boolean
```

```
bAmountSql = SessionCmd.AmountSql
```

### Set Example

```
Dim bAmountSql as Boolean

bAmountSql = True

SessionCmd.AmountSql = bAmountSql
```

### ReadConfig

#### Description

This method enables a user to retrieve all the directory paths of a given nVision configuration manager setting (as defined in the registry). If the user has multiple directory paths in the same configuration setting, it will retrieve them all.

#### Syntax

```
ReadConfig([in] BSTR ConfigDir)
```

#### Example

```
Dim strDirPath as String

strDirPath = SessionCmd.ReadConfig("LayoutDir")
```

The list of available configuration settings that can be retrieved are as follows:

ExcelDir

InstanceDir

LayoutDir

TemplateDir

MacroDir

StyleDir

DrillDownDir

## ReadConfigDir

### Description

This method enables a user to retrieve one directory path of a given nVision configuration manager setting (as defined in the registry). This is different from the ReadConfig method in that it parses out the list of available directories by providing a number representing the position of the directory in the list. For example, if you had two directories, such as “c:\user\nVison\layout; c:\user,” and you wanted just the “c:\user” directory, you would pass in the number two. If the user is looking for the second directory and there is only one, then nothing will be retrieved.

### Syntax

```
ReadConfigDir([in] BSTR ConfigDir, [in] WORD nPosition)
```

### Example

```
Dim strDirPath as String  
  
strDirPath = SessionCmd.ReadConfig("LayoutDir", 2)
```

This would retrieve the second directory listed.

The list of available configuration settings that can be retrieved is as follows:

```
ExcelDir  
  
InstanceDir  
  
LayoutDir  
  
TemplateDir  
  
MacroDir  
  
StyleDir  
  
DrillDownDir
```

## Using nVsInstanceHook

Beginning with Excel 97, Microsoft began using VBA as the programming language used to write macros. In earlier versions of Excel, you had to create a macro sheet to use the nVsInstanceHook. Now, whether recording your macro or writing VBA code within the Visual



Basic Editor, you can invoke nVision's Instance Hook directly from the module within a VBAProject without having to create a macro sheet.

Instance hooks allow user-written macros to be executed by PS/nVision after delivering the data to a report instance but before saving the instance. Instance hooks are supported for both matrix and tabular layout sheets. Examples of what you can do with an instance hook are

- Refresh a pivot table based on data delivered in the instance.
- Change the delivered outline level. (For example, compress report so user starts with top level.)
- Apply sub-totals or AutoFilter to data delivered in a tabular instance.
- Do high-level zero-suppression, or re-sort data.
- In general, use Excel features that can't be applied in the layout because they require the data.

Within an Instance Hook macro, you can call any other VBA methods or functions. But you should avoid calling PS/nVision functions and closing Excel.

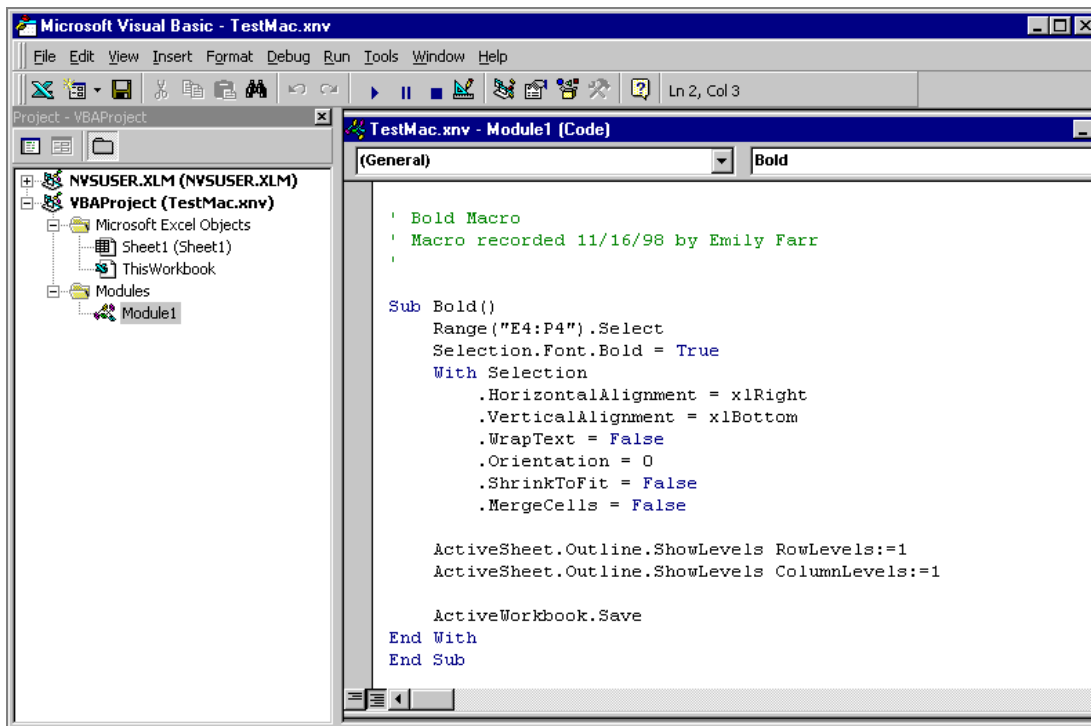
To use Instance hooks, identify the layout sheet(s) in the layout workbook (.XNV file) to which you want to apply post-delivery processing. For each such sheet, define the name `NvsInstanceHook` to refer to the name of the first cell of an Excel 4 macro or the name of a Visual Basic procedure.

The defined name, `NvsInstanceHook`, is sheet-specific. You need to either define the same name on multiple sheets or the preferred way is to type in the sheet name and exclamation point (!) with the name when defining it. By doing this you are allowed to fire different macros for different layout sheets in the same workbook. The resulting name looks like **Sheet1!NvsInstanceHook**.

To record a macro from within Excel, select **Tools, Macro, Record a Macro**.

To write a macro from within Excel, select **Tools, Macro, Visual Basic Editor**.

The following example shows a module that combines a recorded macro with additional code that has been added through the editor.



Sample Macro

The macro will bold and right-align the nPloded TimeSpan columns, collapse the outline of the nPloded rows and columns, and save the instance.

After creating the macro module, return to your nVision layout and attach it using nVsInstanceHook.

To attach a macro using nVsInstance Hook:

1. Select the cell in the layout.
2. Select Insert, Name, Define.

For the Name, type in the sheet name followed by an exclamation point(!) and the text nVsInstanceHook. (For example, *Sheet 1!nVsInstanceHook*.)

3. Enter the name of the macro in the **Refers to** field.
4. Click **Add**.
5. Click **OK**.

Your macro will be executed after the nVision Instance has been created.

## CHAPTER 13

# PS/nVision Security

PS/nVision gives you many different ways to secure the information that you are generating. You can secure access to the actual reporting process, you can secure access to the generated reports, and you can secure access to the data that the report is based on.

## Securing nVision Design Functionality

PeopleSoft provides you with security features in nVision and Maintain Security to ensure that your sensitive report output is protected from unauthorized access. With web-based reporting, you can have an increased number of users running reports and logging on to view reports. Securing access to the user operations, report layouts and report requests of PS/nVision will be something you will want to consider carefully.

---

### Securing nVision Menu Items

Using Maintain Security, you can control what operations a user is allowed to perform with PS/nVision. You do this by specifying what Page Permissions a user is authorized for. Authorizations specified here apply to both the Windows client and the PeopleSoft Internet Architecture.

To set component permissions:

1. Select PeopleTools, Maintain Security, Use, Permission List.
2. Select **nVision Reports** for the permission type.
3. Select the **Pages** tab.
4. Select the **Edit component** link to display the Component Permissions page.

**Component Permissions (48,190)**

NVISION

Find First 1-11 of 11 Last

Authorized?	Bar Label	Component	Edit Pages
<input checked="" type="checkbox"/>	nVision	Define Layout	<a href="#">Edit Pages</a>
<input checked="" type="checkbox"/>	nVision	Open Report	<a href="#">Edit Pages</a>
<input checked="" type="checkbox"/>	nVision	Edit Report	<a href="#">Edit Pages</a>
<input checked="" type="checkbox"/>	nVision	Run Report	<a href="#">Edit Pages</a>
<input checked="" type="checkbox"/>	nVision	Save Report	<a href="#">Edit Pages</a>
<input checked="" type="checkbox"/>	nVision	Delete Report	<a href="#">Edit Pages</a>
<input checked="" type="checkbox"/>	nVision	Open Scope	<a href="#">Edit Pages</a>
<input checked="" type="checkbox"/>	nVision	Edit Scope	<a href="#">Edit Pages</a>
<input checked="" type="checkbox"/>	nVision	Save Scope	<a href="#">Edit Pages</a>
<input checked="" type="checkbox"/>	nVision	Delete Scope	<a href="#">Edit Pages</a>
<input type="checkbox"/>	nVision	Performance Options	<a href="#">Edit Pages</a>

OK Cancel

Select All

Deselect All

Component Permissions page

5. Select **Edit Pages** for the component to display the Page Permissions page.

**Page Permissions**

NVISION / nVision / Define Layout

View All First 1 of 1 Last

Page	Authorized?	Display Only
Define Layout	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Actions

☐ Add

☒ **Update/Display**

☐ Update/Display All

☐ Correction

☐ Data Entry

Select All

Deselect All

OK Cancel

Page Permissions page

6. Change the settings to authorize or keep the action as display-only.
7. Click **OK**.



**Note.** If no items are authorized, you cannot run PS/nVision at all.

Access to Report Books, web Report Requests, web Scope Definitions, and DrillDown Layout Registration is controlled through the REPORT\_BOOKS component.




---

For more information on Maintain Security, see Security.

---

The following list contains the available nVision page permissions and the actions they control:

<b>DEFINE_LAYOUT</b>	Allows the user to use the Open Layout, Layout Definition, and similar menus in Excel.
<b>OPEN_REPORT</b>	Enables the Open button on the Report Request dialog box on the Windows client.
<b>EDIT_REPORT</b>	Allows the user to modify values on the Report Request dialog box.




---

**Note.** The EDIT\_REPORT setting does not control whether a user is allowed to edit a Report Layout (Excel .XNV) file. EDIT\_REPORT controls only whether a user is allowed to modify values on the Report Request dialog box. If you need to restrict certain users from accessing the .XNV file entirely, this should be done through your Network Security settings. See Report Layouts and Network Security at the end of this section for more information.

---

<b>RUN_REPORT</b>	Allows the user to run report requests using the Run button on the Report Request dialog box and the Run Current Request menu item on the Windows client and the Run button on the web Report Request
<b>SAVE_REPORT</b>	Enables the Save button on the Report Request dialog box on both the Windows client and the web.
<b>DELETE_REPORT</b>	Enables the Delete button on the Report Request dialog box on both the Windows client and the web.
<b>OPEN_SCOPE</b>	Enables the Open button on the Scope Definition dialog box on the Windows client.
<b>EDIT_SCOPE</b>	Allows the user to modify values in the Scope Definition dialog box on the Windows client.
<b>SAVE_SCOPE</b>	Enables the Save button on the Scope Definition dialog box on the Windows client.
<b>DELETE_SCOPE</b>	Enables the Delete button on the Scope Definition dialog box on the Windows client.

**PERFORMANCE\_OPTS** Enables the nVision, Performance menu item, by which you access the Tree Performance Options dialog box.



**Note.** When choosing page permissions, you must select both an Action and the Authorized checkbox. For example, when allowing a user to run report requests, you must select the Update/Display and the Authorized checkbox beside the RUN\_REPORT page name on the Page Permissions page.

---

---

## Securing Report Layouts

Report layouts (.XNV files) are stored on a file server and not in the PeopleSoft database. You should set up network security so that only appropriate users are allowed to modify or delete report layout (.XNV) files in the network's report layout directories.

With web-based nVision reporting, reports launched from the browser are run through Process Scheduler and are executed on a report server. The file server that stores the layouts is associated with the report server. Report Server refers to a Windows NT machine with nVision (PeopleTools client software), Excel, and Process Scheduler installed on it. Process Scheduler will select the layout from the nVision Layout directory path defined in the Process Scheduler configuration. So as long as you restrict access to this directory on the report server, unauthorized users will not be able to modify shared report layouts. Additionally, access to the nVision directories on the Process Scheduler report server should be restricted.

If the report is run using the Windows client, a user authorized to define layouts can point to the nVision layout directory (as defined in Configuration Manager) to the local drive and then modify and save the layout.

If a user has an nVision user profile defined in Maintain Security where only RUN\_REPORT is selected, and all other settings (for example, EDIT\_REPORT, SAVE\_REPORT) are cleared, the user will not be able to create a new Report Request, because the Save button is disabled.



For more information on configuring Process Scheduler see Process Scheduler Report Distribution.

---



**Note.** When the Report Request is run, access to the Ledger or record data itself would still be controlled by whatever row-level security is defined for that user.

---

---

## Securing Report Requests

In web-based PS/nVision reporting, the different procedures and processes used to run a report are performed using the different pages of the Report Book menu. Those actions include defining and running report requests, defining and running report books, defining scopes, and running DrillDowns. You can control who is allowed to access these menu items and customize the pages to allow users restricted access to certain report requests.

In Windows-client nVision reporting, you can utilize the PS/nVision VBA interface to programmatically create a customized report request to restrict users to certain parameters and functions of the report requests.

## Securing Report Distribution

With the distribution types of file, email, and web, you will have different security considerations for distribution based on the type of output you choose.

When you select File as the output type, remember that the files are stored in the directories and files that you have specified in the directory templates and file templates. These files are on your file server and are not stored in the PeopleSoft database. So it is very important for you to set up network security to map the accessibility of the reports and ensure that unauthorized users do not have access to these reports on your file server.

When you select Email as output type, the reports are distributed through your email system. You control who receives the reports using the email template in the report request. You can directly specify the email addresses in the email template, as well as indirectly specify email addresses using user ID or role ID. If you specify your email recipients using role or user IDs, then the email addresses from those profiles are used.

When you select Web as output type, the reports are distributed through Report Manager. You control who receives the reports using security templates in the report requests. If nothing is entered in the security template, the default recipient is *the user who runs the report*.

You can also associate a scope with the email template or the security template for Email or Web output using %DES% variables. This is another place where you will have to secure who can modify the email template or the security template from the report request, and who can access the values of the %DES% variable in the table associated with the scope.

Additionally, when a report is distributed through the email system or Report Manager, it uses the report server to run the report and then distribute the output. In the report server, the directory templates and file templates from the report requests are used as the temporary locations to store the intermediate files before the reports are transferred to the report repository or to the email system. Access to the file server that stores the intermediate reports should also be secured through your network security. We also suggest you to set up Process Scheduler as a Tuxedo Service so that nVision reports can be run in the background and no data can be viewed during the report execution time.

## Securing Report Data

Securing access to the data that your reports are based on is something that you will want to consider carefully when you plan your security infrastructure. Since PS/nVision handles report data security differently for ledger-base reporting and query-based reporting, you need to plan them differently.

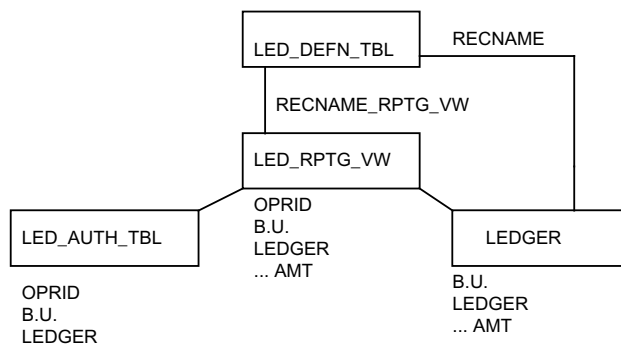
---

### PS/nVision Ledger-based Data Security

PS/nVision's "row-level" ledger security allows you to restrict a user's access to specified rows of ledger data. nVision does this by employing a view that joins an Authorization table (maintained by you through a page) with the Ledger table to select the rows a user is authorized to see. You can set up an Authorization table based on any ChartField.

When you define a ledger, you specify the physical table that will store the ledger data in the database. You can also define a record (view) for reporting purposes. If you define a reporting view, nVision will use this record in place of the physical Ledger table. By joining the Ledger table with the Authorization table, the user will only see the rows that they're authorized to see.

The following diagram illustrates the approach.



PS/nVision security customization

### Using the Reporting View

The Reporting view, like the Ledger table itself, is named on the Ledger Template page in the "Secured Rptg Vw" field. To open the Ledger Template page, select Process Financial Information, Maintain Ledgers, Use, Ledger Template, Record Definitions. In the following example, this view (LED\_RPTG\_VW) is defined as follows:

```

SELECT A.OPRID, L.BUSINESS_UNIT, L.LEDGER, L.ACCOUNT, ...
FROM PS_LEDGER L, PS_AUTH_TBL A
WHERE L.BUSINESS_UNIT = A.BUSINESS_UNIT
AND L.LEDGER = A.LEDGER
  
```



Record Definitions page

Normally, the view includes all the columns in the Ledger table, plus OPRID, but there is no requirement to include all ledger columns. OPRID is defined as a key to the view. Reporting views can be defined differently for different ledgers. OPRCLASS or ROWSECCLASS or any combination of OPRID, OPRCLASS, or ROWSECCLASS can be used instead of OPRID. In the User Profile found in Maintain Security, you can use OPERID as the user ID, OPRCLASS as the primary class, and ROWSECCLASS as the row-level security class for the user.



For more information about OPRID, OPRCLASS, and ROWSECCLASS, see Understanding PeopleSoft Security.

With this view, only the users that belong to the specified OPRID, OPRCLASS or ROWSECCLASS from the LED\_AUTH\_TBL can see those Business Units and Ledgers.

PeopleSoft provides a template Authorization table and Reporting view. By changing the definition of the view and the underlying Authorization table, you can revise the security to be at the department level, or any other ChartField. The personalized view can use BETWEEN, OR, and LIKE statements to implement more flexible (though less efficient) security views.

For example, you could add DEPT\_FROM and DEPT\_TO to the Authorization table. Each user would have access to all departments that fall within the ranges for their user ID and role. The Reporting view could include:

```
WHERE ... L.DEPTID BETWEEN A.DEPT_FROM AND A.DEPT_TO
```

This might carry a performance cost on some database platforms, but it can ease the process of maintaining the Authorization table, all transparent to PS/nVision.

Changes to the view are made using Application Designer. Changes to authorizations are made through a page that maintains authorized ChartField values for each user. No changes are required to nVision.

To ignore security on a ledger, leave the Reporting view field on the ledger definition page blank. PS/nVision will access the base ledger record.

## Using the Authorization Table

The Authorization table is maintained by a simple page, which can be personalized as needed. Each valid combination of user ID or role and the secured ChartField values (or ranges) must be defined in this table. Since the system administrator who has access to this page (through the Administer Security pages) can change *all* security provisions—there is no “trickle down” of authority.

## Using the Ledger Reporting View Access

To get data from a ledger, PS/nVision SELECTs from the Reporting view, not the actual Ledger table, using the user's ID or Primary Permission List as part of the WHERE clause. PS/nVision checks the record definition of the Reporting view and determines whether it includes OPRID or OPRCLASS or ROWSECCLASS in its keys, and generates the appropriate phrase in its WHERE clause. Individual users are not given direct database access, for example using a GRANT, to either the Ledger table or the Reporting view. (Using GRANT is specific to Oracle.)

Here's a sample of a SELECT of ledger data as used by PS/nVision, in which both OPRID and OPRCLASS are specified in your Authorization table:

```
SELECT ACCOUNT, SUM(POSTED_TOTAL_AMT)
FROM PS_LED_RPTG_VW
WHERE BUSINESS_UNIT = 'NEWGN'
      AND LEDGER = 'ACTUALS'
      AND FISCAL_YEAR = 1993
      AND ACCOUNTING_PERIOD BETWEEN 9 AND 12
      AND ACCOUNT IN ('800100', '800200', '800300')
      AND DEPTID = '0300'
      AND OPRID = 'GLUSER' and OPRCLASS = 'MANAGER'
GROUP BY ACCOUNT
```

## PS/nVision Ledger Security

Using the nVision Ledger Security page in Maintain Security, you can restrict what ledgers a user is authorized to access. Select Define Business Rules, Administer Security, Use, nVision Ledger Security.

nVision Security

User ID: ACCTMGR1

Business Unit	Ledger
US001	US001 NEW YORK OPERATIONS

Save Return to Search Next in List Previous in List

nVision Security

## PS/nVision Query-based Data Security

PS/Query restricts users to specific rows of data by employing a similar approach to the Ledger Reporting View. Each record definition can have a query security record defined that will join the record data with authorization record data to restrict the returned result set.

Record Properties

General Use

Set Control Field:

Record Relationships

Parent Record: PERSONAL\_DATA

Related Language Record:

Query Security Record: PERS\_SRCH\_GBL

Record Audit

Record Name:

Audit Options

☐ Add

☐ Change

☐ Selective

☐ Delete

OK Cancel

Record Properties page



For more information about Query-based security in Application Designer, see Creating Record Definitions.

---

## CHAPTER 14

# PS/nVision Performance Tuning

This chapter is designed to help PS/nVision users tune the performance of PS/nVision. Although most of the material is technical, we have included explanations that should make the information useful to people who are not database administrators.

## PS/nVision SQL

PS/nVision is a complex tool, capable of producing a great variety of reports from a variety of database tables. The SQL statements it generates are not necessarily complex but are nevertheless very sensitive to the performance of the underlying database, especially in the following areas:

- Large tables (ledgers often have millions of rows) make efficient use of indexes essential.
- The use of trees and reporting (security) views causes multiple tables to be joined. The efficiency with which the database processes these JOINS dictates most of PS/nVision's performance.
- Most PS/nVision aggregate queries are defined with minimal built-in criteria and could tire your database server if executed without the added criteria of a PS/nVision layout.

Unlike traditional batch-reporting tools, PS/nVision supports interactive, focused reporting using a probing or querying approach to accessing the database. PS/nVision queries tend to be more numerous than traditional report writers but also more focused on the specific data the user needs to see.

---

### Tree JOINS

PS/nVision relates tree node criteria to data tables by JOINing the data table to a tree selector table. This selector table contains a row for every detail range defined for the tree in the Tree Editor and is keyed by SELECTOR\_NUM (a system-generated constant number for all the rows representing a particular tree) and tree node number. Because some database platforms join tables efficiently only if the field sizes match, we use up to 30 selector tables, one for each supported field length. Each selector table has RANGE\_FROM\_nn and RANGE\_TO\_nn columns matching the corresponding field size.

The following is a typical SELECT for selection via nodes on a single tree:

```
SELECT L.TREE_NODE_NUM, SUM(POSTED_TOTAL_AMT)
FROM PS_LEDGER A, PSTREESELECT06 L
WHERE A.LEDGER= 'ACTUALS'
```

```

AND A.FISCAL_YEAR=1991
AND A.ACCOUNTING_PERIOD BETWEEN 1 AND 9
AND A.ACCOUNT>=L.RANGE_FROM_06
AND A.ACCOUNT<=L.RANGE_TO_06
AND L.SELECTOR_NUM=198
AND (L.TREE_NODE_NUM BETWEEN 16 AND 30
OR L.TREE_NODE_NUM BETWEEN 35 AND 40)
GROUP BY TREE_NODE_NUM

```

The bold part of this statement accomplishes the tree criteria selection. Additional tree criteria for other fields add selector tables to the FROM list and similar JOIN criteria to the WHERE clause. The GROUP BY clause returns an answer row for each node which has a detail range attached to it; these node numbers are used to post amounts from the answer set into the appropriate rows of the report.

---

## Combination Rules

PS/nVision tries to retrieve the data for each report instance with as few SELECTs as possible. It examines all row criteria to determine which are combinable. It does the same for column criteria. It then builds a SELECT to retrieve each intersection of a combined group of rows with a combined group of columns. The following built-in rules should be understood when you design indexes.

- Different ledgers cannot be combined.
- Different TimeSpans cannot be combined.
- nPloded rows or columns cannot be combined with non-nPloded rows or columns.
- To be combined, two or more rows or columns must have criteria for the same set of fields, and each field's criteria must be of the same type (for example, selected tree nodes cannot be combined with selected detail values).
- If criteria for a field are specified by tree node, they can be combined only if they use the same tree.
- If the combined rows or columns have identical criteria for a particular field, the criteria are included in the WHERE clause, but no GROUP BY on that field is required. But if different rows/columns in the group have different criteria, PS/nVision adds this field (or the corresponding tree node number) to the GROUP BY clause to retrieve a value for use in posting the answer set to the appropriate rows/columns of the report.
- A single SELECT can retrieve amounts for multiple combined rows and columns.
- Different scope instances are retrieved with separate SELECTs.

Some additional rules apply for layouts defined using queries rather than ledgers:

- Different queries are not combined (surprise!).
- References to different answer columns in the same query can be retrieved with a single SELECT, so long as they meet the above tests.

## Capturing SQL

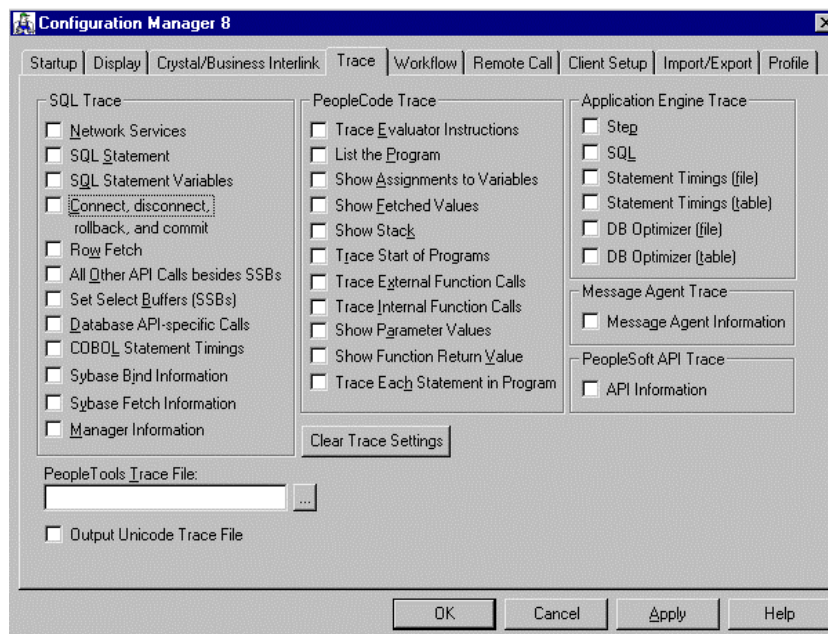
To examine the SQL produced by PS/nVision, you can capture the statements in one of two ways:

- Use the Show Report SQL option in the PS/nVision Options dialog box. This option causes PS/nVision to display each SELECT used to retrieve labels or amounts in a dialog box. You may select the text with the mouse, then copy (**CTRL+C**) it to the clipboard, then paste (**CTRL+V**) the text into another application, such as Notepad, WordPad, SQLTalk, or a text editor. You can then save the text to a file or work with it within the application.



**Note.** If you want to capture the SQL but don't want to wait for it to execute, you can also turn on the **Suppress Amount Retrieval** option. PS/nVision will generate all the SQL but will not execute SELECTs for amounts.

- Turn on the PeopleTools SQL trace through the Configuration Manager's **Trace** tab. This will cause all SQL statements executed by PeopleTools to be written to a file you specify.



Configuration Manager's Trace tab

## Ledger Tables

Each ledger is assigned to a database table, but not all ledgers are necessarily stored in the same table. Some ledgers may need different amount formats (for example, number of decimal places) or a different field configuration than others. Summary ledgers must be stored in different tables than their corresponding detail ledgers.

Because each installation of PeopleSoft General Ledger has different ChartFields and reporting requirements, each installation must assign ledger tables and indexes to meet its requirements and ensure good reporting performance.

## Indexes

An index is a faster way to find data. At a simple level, an index works like the tabs on a large dictionary, which allow you to go directly to all the words that begin with a particular letter. After that, you need to do some additional searching, taking advantage of the fact that the words are stored in alphabetical sequence. The range of words on a page is generally printed at the top, so you don't have to scan through individual words until you find the page you want. (In most systems, indexes and data are stored in "pages" to make us feel at home.) Many database systems include a type of index, often called a "primary" or "clustered" index that has the same sequence as the data.

But suppose you're looking something up in an atlas. Here, data is generally stored in geographical sequence. If you're looking up Majorca, you're likely to look it up first in the alphabetical index, then search the page that has a map of the Mediterranean. This is like an "alternate" index, an access to data through an attribute different from its storage attribute.

Suppose you wanted to find all the words in the dictionary derived from Finnish words. Unless you had a dictionary with an etymological index, you'd be in for a very time-consuming scan of the data pages. This type of access is something we try to avoid when accessing large database tables, because it's very slow even on the fastest server.

Typically, the WHERE clause criteria in a query are a mixture of things resolvable through an index and criteria resolvable only through access to the data pages. The key to efficiency in this case is to use the index criteria to limit the number of data rows that need to be searched.

---

### Multi-column Indexes

Fortunately, relational databases allow us to define indexes over multiple columns, so that if we have WHERE criteria for two or more columns in the index, the database manager can use one index to satisfy criteria on multiple columns at a time. Having the pertinent criteria columns in an index, however, does *not* guarantee that that index will be used, or that it will be used effectively on all the columns that have criteria.

## Database Access Paths

Most relational database systems include a cost-based Optimizer, a complex program responsible for choosing an access path to satisfy a particular query, such as a SELECT statement issued by PS/nVision. Using statistics stored in the database, the Optimizer tries to determine which index to use for each of the tables accessed in the query and the sequence in which to access the tables that will yield the desired data with minimal searching.



---

## Filter Factor

While it has different names in different database systems, the concept of a *filter factor* applies to all optimizers. It is an estimate of how effective a particular index will be in narrowing the field of search.

Assume that we have a table in which financial results are stored by fiscal year, period and account number, and that the table has two indexes, one on fiscal year and another on account. Assume that our query contains the following:

```
WHERE FISCAL_YEAR = 1994 AND ACCOUNT='500120'
```

If the table has data for four fiscal years, the filter factor for the fiscal year index is 0.25; using that index will narrow the search to about one fourth of the total table. (Hint: not that great.) But our table has 800 accounts, so the filter factor of the account index is 1/800, or 0.00125. Clearly, using this index would allow us to retrieve the data we want much more efficiently. (Of course, an index combining fiscal year and account would be even better.)

The measure of the selectivity of an index, or a column within an index, is often called its *cardinality*, the number of discrete values in that column, or the number of discrete combinations represented by a multicolumn index. Cardinality is one of the most important statistics used by optimizers to choose indexes and access paths. Like most other statistics, cardinality is updated on request rather than constantly.

When data changes substantially, it is important to update the statistics so the optimizer has accurate information. Updating statistics requires different processes on different database platforms.



For more information, see the Tuning and Administration chapter of your PeopleSoft Installation and Administration documentation.

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## Index Matching

The effective filter factor for an index is the combined cardinalities for the index columns actually used in a particular access. For example, if an index is built over FISCAL\_YEAR, LEDGER, and ACCOUNT, and the table contains 4 years, 5 ledgers, and 800 accounts, the potential filter factor is  $1/(4*5*800)$ , or 1/16000, or 0.0000625. (In a real-world data distribution, the filter factor would not be this good, but it would still be quite good unless the data is really skewed.) However, if the ACCOUNT field in the index couldn't be used because of the nature of the criteria for it, the filter factor would be only 1/20, which isn't very selective.

Here are some general rules about matching index columns (that is, those used for direct access through the index):

- Database systems provide direct access to data very quickly if the criteria can be processed through an optimized look-up process (such as searching a tree structure) within the index. Scanning index pages to satisfy criteria is much slower, although it's usually much faster than scanning the corresponding data.

- Columns are matched from left to right in the order they were specified when the index was created. If, for example, an index is created over DEPTID, BUSINESS\_UNIT, and ACCOUNT, but no criteria were provided for BUSINESS\_UNIT, only the DEPTID field in the index would be "matched," even if criteria were specified for ACCOUNT.
- To get index matching on multiple columns, the leftmost columns must have very simple criteria, often *equality* (such as FISCAL\_YEAR=1996). More complex criteria, such as IN (...), BETWEEN, or a JOIN to another table, generally either prevent a random-access match on the index column or prevent matching any of the columns to its right.

---

## Ledger Access Paths

As a general rule, it is most efficient to access ledger data through trees by accessing the tree table first, then using the detail ranges for the selected nodes to select the desired rows from the ledger. If the SELECT joins multiple trees, the database engine should choose the one that best fits the available indexes or the one with the highest cardinality (if multiple indexes are possible).

---

## Analyzing Access Paths

Database managers have different techniques for showing you the access path they would use for a given SQL statement.

### DB2

First, create a PLAN\_TABLE if your database doesn't already have one. A sample CREATE statement is in the DB2 Performance Tuning guide.

Include the SQL statement in the following and execute it via a utility like SPUIFI:

```
DELETE FROM PLAN_TABLE WHERE QUERYNO=nnn;
EXPLAIN PLAN SET QUERYNO=nnn FOR
statement;
```

where nnn is a number you assign to this statement.

Retrieve the plan from the PLAN\_TABLE with the following SELECT:

```
SELECT QBLOCKNO, PLANNO, TNAME, ACCESSNAME, METHOD, ACCESTYPE, MATCHCOLS, INDEXONLY,
PREFETCH, SORTC_GROUPBY
FROM PLAN_TABLE
WHERE QUERYNO=nnn
ORDER BY QBLOCKNO, PLANNO;
```

The table contains other plan information; these are generally the most pertinent columns for PS/nVision queries.

## Oracle

First, create a PLAN\_TABLE if your database doesn't already have one. Here is a sample CREATE statement:

```
CREATE TABLE PLAN_TABLE(

STATEMENT_ID VARCHAR2(254),

TIMESTAMP DATE,

REMARKS VARCHAR2(80),

OPERATION VARCHAR2(30),

OPTIONS VARCHAR2(30),

OBJECT_NODE VARCHAR2(128),

OBJECT_OWNER VARCHAR2(30),

OBJECT_NAME VARCHAR2(30),

OBJECT_INSTANCE NUMERIC,

OBJECT_TYPE VARCHAR2(30),

OPTIMIZER VARCHAR2(255),

SEARCH_COLUMNS NUMERIC,

ID NUMERIC,

PARENT_ID NUMERIC,

POSITION NUMERIC,

OTHER LONG);
```

You can use SQL\*Plus to evaluate access plans interactively. First, include the SQL statement in the following code and execute it:

```
DELETE FROM PLAN_TABLE WHERE QUERYNO=nnn;
EXPLAIN PLAN SET STATEMENT_ID = 'nnn' FOR
statement;
```

where *nnn* is an identifier you assign to this statement.

Retrieve the plan from the PLAN\_TABLE with the following SELECT:

```
SELECT LPAD(' ', 2*LEVEL) || OPERATION, OPTIONS, OBJECT_NAME,
       OBJECT_INSTANCE, SEARCH_COLUMNS
FROM PLAN_TABLE
WHERE STATEMENT_ID='nnn'
CONNECT BY PRIOR ID = PARENT_ID
       AND STATEMENT_ID='nnn'
START WITH ID = 1
```

```

    AND STATEMENT_ID= 'nnn'
ORDER BY ID;

```

This retrieves the plan in a hierarchical "tree" format, in which the steps are evaluated from inside out, then top to bottom. The first step listed (not indented) is actually the final step in the plan, and is preceded by the step on the following line. For example, a JOIN is presented first, followed by two indented lines showing the two tables joined and the indexes used to access them.

## Index Suggestions

For PS/nVision, designing indexes can be difficult, because different reports can have very different criteria. The following rules are implemented in PS/nVision to make things slightly easier.

### **Fiscal\_Year**

When using a TimeSpan (which is required for ledger reporting but optional for queries), PS/nVision always generates an equality for fiscal year (for example, FISCAL\_YEAR=1996). If the TimeSpan requires data from multiple fiscal years, PS/nVision generates multiple SELECTs, one for each fiscal year. This makes Fiscal\_Year a good candidate for the first column in a multicolumn index.

### **Ledger**

When accessing ledger data, PS/nVision retrieves data from only one ledger at a time, so this column is guaranteed to have an equality. Ledger is thus a good choice as the second column in a multicolumn index.

### **Business\_Unit**

If you use the report request option to retrieve "Data from Requesting Business Unit only," PS/nVision generates an equality (for example, BUSINESS\_UNIT='M04') for this column. If this is the most common way of requesting reports, or if you use a scope to get instances by business unit, business unit is a good choice as the second or third column in a multicolumn index, especially if you have many business units in the same ledger table. If most of your reporting accesses multiple business units in a single instance, position it in the index as you would any other field.

### **Accounting\_Period**

When using TimeSpans, accounting period is specified using either an equality (ACCOUNTING\_PERIOD = 12) or a range (ACCOUNTING\_PERIOD BETWEEN 10 AND 12). If you do a lot of reporting for the current period, or other single periods (such as current period a year ago), it may improve performance to have an **alternate** index beginning with accounting period. If your optimizer knows what it's doing, this index will be used only when accounting period has an equality.

## Account

In many companies, account is the field with the highest cardinality. It also has criteria in almost all ledger reports, in part because PS/nVision enforces this rule. This makes it a good choice as the next index column following all the columns that you expect to have equalities.

## Using Trees With PS/nVision

PS/nVision performance may suffer when trees are used, especially when the SQL statements used to retrieve data access two or more trees at once. On some database platforms, the WHERE criteria used with most tree joins can cause the database optimizer to choose the wrong access path, making the PSTREESELECTnn table an obstacle to performance rather than an aid. This is true especially when the tree uses ranges of detail values.

To address these performance issues, PS/nVision includes techniques for building SQL that implements tree criteria, and also implements SQL that is readily understood by database optimizers, yielding better access paths with less need for index tuning and so on. Additionally, you have control over the exact techniques used, so you can tune the performance of individual reports.



**Note.** The PSTREESELECTnn table (and the SELECTOR\_NUM field) are discussed throughout this document.

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For more information about PSTREESELECTnn, see Overview of Tree Tables Used by PS/nVision.

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## Overview of SQL Techniques for Enhancing Tree Performance

PS/nVision includes a number of SQL techniques to improve performance whenever trees are used. These include dynamic selectors and single-value selectors, as well as the suppress join technique.

### Dynamic Selectors

PS/nVision gives you the option of using either static selectors or dynamic selectors. A *selector* represents nodes of a single tree and is represented by the number of rows in the PSTREESELECTnn table having a single SELECTOR\_NUM value. Before the development of dynamic selectors, our selector tables had three main obstacles affecting performance:

- **They were always static.** Static selectors are developed once and then retained until the underlying tree changes. The advantage of static selectors is that they rarely need rebuilding, but they have a corresponding disadvantage: they are available to have distribution statistics run on them. Some optimizers would not use selectors first, because the distribution statistics

revealed that the first key field (SELECTOR\_NUM) was not very selective.

- **They represented the entire tree.** This meant that a particular report had to provide node criteria for the desired data. This portion of the WHERE clause made the SQL more complex and made the selector table less attractive to the optimizer.
- **They used ranges.** Ranges are less attractive to the optimizer than equalities.

In addition to the ability to use a pre-existing (static) selector, PS/nVision can build one “on the fly” when preparing to run a report. This technique was not implemented in the past because it can create more overhead, especially if there are multiple users running the same report (using static selectors, users can share selectors).

PS/nVision builds each dynamic tree selector for a specific set of criteria (such as a set of rows or the current instance node), so that a selector (SELECTOR\_NUM value) has exactly the nodes needed for a group of rows or columns to be retrieved with a SELECT. This eliminates the need for the often-cumbersome selection criteria PS/nVision generates for a static selector:

```
TREE_NODE_NUM BETWEEN x AND y OR TREE_NODE_NUM BETWEEN...
```

A dynamic selector creates a new SELECTOR\_NUM value that PS/nVision uses and then deletes once the report is complete. Therefore, distribution statistics (or *skew* statistics) will not be present for that selector. (Distribution statistics are still a factor for static selectors.) With certain PS/nVision reports, the *absence* of distribution statistics can improve performance significantly; that’s because distribution statistics can make the SELECTOR\_NUM criteria appear less selective to the database systems’ optimizer, preventing the optimizer from accessing the selector table first.

## Single-Value Selectors

Single-value selectors enable a more efficient equi-join between PSTREESELECTnn.RANGE\_FROM\_nn and the criteria field in the ledger table. In building the dynamic selector, we do not merely copy the ranges of values (such as account numbers) from PSTREELEAF into PSTREESELECTnn. Instead, we join the tree ranges to the underlying detail table (such as the GL\_ACCOUNT\_TBL), and insert the individual detail values into the RANGE\_FROM\_nn column of PSTREESELECTnn. This may generate more rows in this table, but it can also generate a much more efficient join without forcing you to maintain the tree with individual detail values (the only way you could previously get equi-joins).

We recommend that you use single-value selectors only in conjunction with dynamic selectors. Combining the dynamic and single-value selector techniques will improve the performance of PS/nVision in many cases where trees are used.

## Suppress Join

The **Suppress join** technique eliminates a SQL join by retrieving the detail ranges associated with the selected node and coding them in the SELECT statement. This technique works well in some situations but is inappropriate in others. The best use of this technique is often in conjunction with a scope field where each instance represents a moderate level of summarization, such as a region on a department tree.

The **Suppress join** technique *cannot* be used where PS/nVision needs to group the answer set by tree node number, because these numbers are not available without joining the data to the tree. Additionally, when the selected node (or nodes) includes large numbers of detail ranges, the **Suppress join** technique may not be practical or efficient. While PS/nVision can build the very large statements that can result in this case, very large SQL statements have their own disadvantages, and PS/nVision enforces a statement size limit of 8Kb (8,192 bytes).

## Additional Options

In the past, PS/nVision has invoked the following type of syntax when joining a selector for a tree with ranges:

```
WHERE ... field >= L.RANGE_FROM_nn AND field <= L.RANGE_TO_nn ...
```

This syntax is equivalent to using the BETWEEN predicate. It initially was used because it resulted in better access plans on the DB2/MVS platform. PS/nVision now includes an option to generate the following kind of syntax:

```
WHERE ... field BETWEEN L.RANGE_FROM_nn AND L.RANGE_TO_nn ...
```

This syntax should result in better access plans on certain database platforms.



**Note.** This option is only relevant to trees for which *ranged* selectors are used.

---

## SQL Examples

Below is an example of the SQL changes this enhancement will make possible. Here's the original query (with the node criteria highlighted):

```
SELECT L1.TREE_NODE_NUM, SUM(A.POSTED_TOTAL_AMT)
FROM PS_LEDGER A, PSTREESELECT05 L, PSTREESELECT06 L1
WHERE A.LEDGER='ACTUALS' AND
      A.FISCAL_YEAR=1996 AND
      A.ACCOUNTING_PERIOD BETWEEN 1 AND 8 AND
      L.SELECTOR_NUM=216 AND
      A.BUSINESS_UNIT>=L.RANGE_FROM_05 AND
      A.BUSINESS_UNIT<=L.RANGE_TO_05 AND
      (L.TREE_NODE_NUM BETWEEN 1000000000 AND 1666666665) AND
      A.CURRENCY_CD='USD' AND
      L1.SELECTOR_NUM=215 AND
      A.ACCOUNT>=L1.RANGE_FROM_06 AND
      A.ACCOUNT<=L1.RANGE_TO_06 AND
      (L1.TREE_NODE_NUM BETWEEN 1916275676 AND 1923430847) AND
      A.STATISTICS_CODE=' '
GROUP BY L1.TREE_NODE_NUM;
```

Here's an alternative query, using the **Suppress join** technique for Business Unit criteria and a dynamic, single-value selector for ACCOUNT:

```

SELECT L1.TREE_NODE_NUM, SUM(A.POSTED_TOTAL_AMT)
  FROM PS_LEDGER A, PSTREESELECT06 L1
 WHERE A.LEDGER='ACTUALS' AND
       A.FISCAL_YEAR=1996 AND
       A.ACCOUNTING_PERIOD BETWEEN 1 AND 8 AND
       (A.BUSINESS_UNIT BETWEEN 'B0006' AND 'B0006'
        OR A.BUSINESS_UNIT BETWEEN 'B5030' AND 'B5030'
        OR A.BUSINESS_UNIT BETWEEN 'B9013' AND 'B9014'
        OR A.BUSINESS_UNIT BETWEEN 'B0015' AND 'B0015'
        OR A.BUSINESS_UNIT BETWEEN 'B9026' AND 'B9026'
        OR A.BUSINESS_UNIT BETWEEN 'B0019' AND 'B0031'
        OR A.BUSINESS_UNIT BETWEEN 'B0016' AND 'B0018') AND
       A.CURRENCY_CD='USD' AND
       L1.SELECTOR_NUM=1215 AND
       A.ACCOUNT=L1.RANGE_FROM_06 AND
       A.STATISTICS_CODE=' '
 GROUP BY L1.TREE_NODE_NUM;

```

Next is another form of the same query, with dynamic Business Unit selectors and dynamic ACCOUNT selectors:

```

SELECT L1.TREE_NODE_NUM, SUM(A.POSTED_TOTAL_AMT)
  FROM PS_LEDGER A, PSTREESELECT05 L, PSTREESELECT06 L1
 WHERE A.LEDGER='ACTUALS' AND
       A.FISCAL_YEAR=1996 AND
       A.ACCOUNTING_PERIOD BETWEEN 1 AND 8 AND
       L.SELECTOR_NUM=1216 AND
       A.BUSINESS_UNIT = L.RANGE_FROM_05 AND
       A.CURRENCY_CD='USD' AND
       L1.SELECTOR_NUM=1215 AND
       A.ACCOUNT=L1.RANGE_FROM_06 AND
       A.STATISTICS_CODE=' '
 GROUP BY L1.TREE_NODE_NUM;

```

---

## Setting Tree Performance Options

PS/nVision and the Tree Manager each provide a number of techniques and tuning options that can dramatically improve reporting performance. Note that these performance enhancement techniques apply to query-based and ledger-based layouts.



You should understand that these performance techniques *are not* enabled automatically. To change the technique used for a given tree, you can specify the technique using the **Tree Performance Options** dialog box in the Tree Manager. To override any Tree Manager settings and specify the technique used for a particular report layout, you specify the technique using the **Tree Performance Options** dialog box in PS/nVision. (These overriding options are only valid for ledger-based layouts.)



**Note.** The performance-tuning information presented here is intended for database administrators and/or advanced PS/nVision users who understand how PS/nVision accesses relational databases. Such individuals can use this information to tune the performance of PS/nVision for a group of users or an entire organization. The techniques discussed are *not* useful for casual users or for customizing performance on a workstation-by-workstation basis.

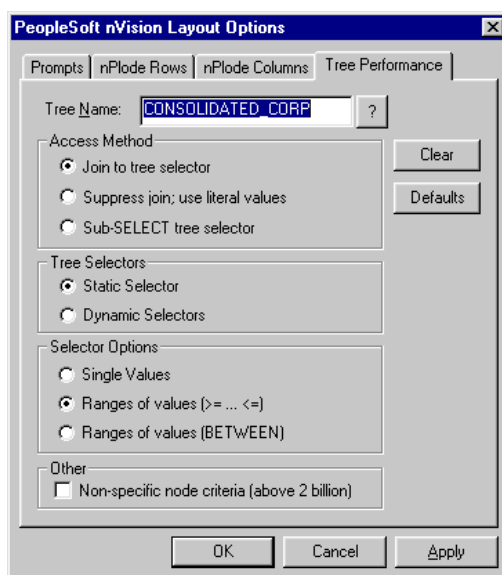


For more information on setting performance options at the tree level, see *Defining Access Performance Methods*

To define or change performance options at the layout level:

1. Start PS/nVision.
2. Open the report layout you want to work with.
3. Select nVision, Layout Options and click the Tree Performance tab.

The **Tree Performance** tab appears.



Tree Performance Options dialog box

The **Tree Performance** dialog box specifies performance options for trees, one tree at a time.

4. Either enter the **Tree Name** or click the prompt button and select a tree name from the list.

The prompt list is qualified by the SetID and effective date entered in the prompt control's dialog box, but what matters is the Tree Name field (PS/nVision will select the appropriate SetID and effective date when running the report).

The **Tree Performance Options** dialog box enables you to control the database access techniques PS/nVision uses to implement tree criteria for your report. These options should be selected with care, because they can have a dramatic effect on how fast your reports run.



---

**Note.** In setting these options, you should work with your database administrator to determine which options are most desirable on your system, and to ensure that indexes are tuned for the SQL techniques selected. You should be prepared for some trial-and-error to find the best settings for your data and reporting requirements.

---

Remember that you are setting performance options for *a specific layout*, one tree at a time. Optimum performance often is achieved using different techniques for different trees, depending on the nature of those trees and the way each tree is used in the report.

Remember that if you do not specify the tree performance options for a tree used in a report layout, PS/nVision will use the same SQL techniques used in the past on your database platform.

## Suppress Join

If you want PS/nVision to avoid using a join as criteria for the specified tree, select the **Suppress join: use literal values** option. With this technique, PS/nVision gets the ranges of detail values from the tree and includes them in the SQL used to select data. This technique is most effective in the following cases:

- The selected tree is used in the scope you expect to be used with this report, and each instance of that report is a tree node.
- The node or nodes selected represent a relatively small number of detail values or ranges.
- PS/nVision does not need to GROUP BY the nodes of this tree to produce the report. This happens, for example, if multiple rows or columns with otherwise similar criteria select different nodes of this tree. This is typical in the rows of most financial reports. However, if nPlosion is specified for these rows or columns, the **Suppress join** technique can be used, because PS/nVision can GROUP BY the detail values rather than tree nodes.

If you select the **Supress join** technique, but PS/nVision cannot use it because of the need to group results by tree node, it will automatically use the join method you select (that is, either static or dynamic). However, if PS/nVision *can* use the **Supress join** technique, it ignores the selector options for this tree. Therefore, it is wise to select a selector technique in addition to selecting the **Suppress Join** option.



**Note.** Do not use this technique for a tree from which your layout selects either a large number of nodes or nodes representing a large number of detail ranges. This can generate very large SQL statements, and can be less efficient than using a join to a selector table. (PS/nVision will not run a report if SQL statements exceed the 8-Kb limit discussed below under “SQL Statement Size.”)

## Tree Selectors

When PS/nVision uses a join to select data using a tree, it creates a set of database rows called a **Tree Selector**. In using selectors, PS/nVision can use one of two techniques.

**Static Selector** is a technique in which a selector is built that represents the *entire* tree, and it remains valid until the tree changes. For all database platforms, these selectors contain ranges (unless the tree had no ranges). This was the only technique available in previous PeopleTools releases.

Advantages of static selectors include the fact that the selectors do not need to be rebuilt except when the tree changes.

The disadvantage of this technique is that the resulting SQL statement can be complex because it includes both range predicates (if the tree has ranges) and node criteria to select that portion of the tree required on a particular section of a report. This can be difficult for database optimizers to process, especially if multiple trees use this technique.

**Dynamic Selectors** is a technique in which PS/nVision creates a new tree selector for use in a section of a single report (this section may be selected several times, especially if the report produces multiple instances). The dynamic selector represents just the requested nodes, so it's not necessary to include node number criteria in the SELECT statements that retrieve amount data (the most challenging ones from a performance standpoint).

A dynamic selector has such a short lifetime that converting the tree's ranges (if any) to single values poses no threat of the selector being used after detail table changes have made it obsolete. You can select this option separately (that is, you have the option of using dynamic selectors with ranges), but it often is most efficient to use single values with dynamic selectors. This makes for a join that is much more likely to be processed optimally by your database optimizer.

The disadvantage of dynamic selectors is that one or more selectors may need to be created to process a single report. In some cases, the time used to create the selector(s) may exceed the time saved by using them. Dynamic selectors are most effective on joins that “drive” the access path; static selectors may be just as fast, or faster, for additional criteria that do not affect the access plan.

## Sub-SELECT Tree Selector

The sub-SELECT method is very similar to a join. Instead of adding the tree selector to the FROM list of the main query, the tree selector criteria and its relation to the data (e.g., DEPTID) in the main query is within an "EXISTS (SELECT ...)" clause in the WHERE portion of the main query. This is called a "correlated sub-Query" because part of the criteria in the sub-SELECT relates to data in the main query (A.DEPTID=B.RANGE\_FROM\_05). This is what makes it so much like a join. Database engines and optimizers differ in how they handle this syntax. Some process a correlated sub-query just like a join, while others are subtly different.

It's important to note that no data from the sub-SELECT can be included in the main SELECT list; thus, none can be visible to the program (for example, nVision) that is running the query. This is because the sub-SELECT is hidden in the WHERE clause, rather than appearing in the FROM clause. This is important because when nVision is retrieving multiple nodes of data for different rows or columns of a report, it needs to use the node number (from the tree selector) to distinguish the data, and this means a join is required. If you specify either sub-SELECT or Suppress Join in this case, nVision ignores the option and forces a join. (This is why it's important to specify join options like "single-value selectors" or "BETWEEN" even if not using a join method, because you may get a join after all.)

## Selector Options

If you are using selectors for this tree, you can control the way they are built (in some cases) and determine the syntax used (in others).

The **Single Values** option is used only with dynamic selectors. This technique causes PS/nVision to build a selector using the individual detail values (from the detail table specified in the tree structure) that fall within the detail ranges of the selected nodes. This can make for a much more efficient join, as well as making it easier for the database optimizer to recognize the most efficient access plan.

A disadvantage of this technique is that, especially where the tree has large ranges containing many detail values, single value selectors can contain many more rows than ranged selectors have. Unless the join is processed in a more efficient manner, the number of rows in the selector can mean slower join processing.

In the past, for a tree with ranges of values, PS/nVision built selectors using ranges. (A tree is considered to have ranges if it contains at least one detail range with different low and high values.) This made the selectors more compact (fewer rows) and less likely to become obsolete as detail values were added. But it also made the SQL that joins the selector table to the "fact" table (such as a ledger) harder to optimize and less likely to make efficient use of an index. The single-value selector option was added to address this problem, but it is not appropriate in all cases. In these exceptional cases, one of the **Ranges of values** options should be used.



---

**Note.** If you specify one of the range syntax options, but the tree has no ranges, PS/nVision uses the single-value syntax (field = L.RANGE\_FROM\_nn).

---

In prior releases, PS/nVision always used the **>=...<= syntax** when joining a field to a ranged selector, as in the following example:

```
WHERE ... A.ACCOUNT >= L.RANGE_FROM_06 AND A.ACCOUNT <= L.RANGE_TO_06 ...
```

This syntax performed better on certain database platforms, but there is no guarantee that it will perform better on your database, so PS/nVision offers a more concise alternative.

With the **BETWEEN** option, the join of a ranged selector to its detail field looks like the following:

```
WHERE ... A.ACCOUNT BETWEEN L.RANGE_FROM_06 AND L.RANGE_TO_06 ...
```

## Other

The **Non-specific node criteria (above 2 billion)** option has been used on DB2 when criteria for multiple trees were present. Its purpose is to prevent the optimizer from selecting the “driving” criteria field based on how inclusive the node number criteria are. PS/nVision accomplished this by appending a phrase similar to the following to each tree’s criteria:

```
OR L.TREE_NODE_NUM BETWEEN 2000000001 AND 2147483000
```

Because tree nodes are numbered up to two billion, this criteria didn’t select anything; it just made the node criteria complex enough to prevent the database optimizer from drawing false conclusions from it. Most users should not use this option (which only makes sense with ranged static selectors).

## Command Buttons

The **Tree Performance** dialog box includes the following command buttons.

<i><b>Command Button</b></i>	<i><b>Purpose</b></i>
OK	Applies any changes to the current tree’s performance options and closes the dialog box.
Apply	Applies changes to the current tree’s performance options, but does not close the dialog box. You can then select a different tree and set its performance options.
Clear	Clears all information from the dialog box.
Defaults	Sets the dialog box information to the performance settings defined for the tree in Tree Manager.
Cancel	Closes the dialog box, ignoring any changes since the last time <b>Apply</b> was selected.

---

## Restrictions on Tree Performance Options

In certain cases, PS/nVision may override the specified tree SQL technique. The dynamic selector technique is not used when a field has tree criteria in multiple dimensions (for example, both row

and column). This can also happen at DrillDown time if criteria for a field are inherited from multiple dimensions (for example, the scope and column) of the parent report. With the dynamic selector technique unavailable, PS/nVision uses either the Suppress join technique (if requested and if feasible) or the Static Selector technique.

For all database platforms, you cannot select the single value option with static selectors. However, it is possible to build a layout on one platform and run it on another. PS/nVision checks the options at run-time and enforces the restrictions of the current platform. (The single-value/range options exist for dynamic selectors and for enabling you to control the syntax used with ranged selectors.)

“Summary ChartField Node” criteria are supported, but the Suppress join technique is not available for this type of criteria and is ignored if specified for a tree with Summary ChartField Node criteria. (Summary ChartField Node criteria are used to enter criteria based on a detail tree but used with a summary ledger in which the corresponding detail ChartField was rolled up using a tree and stored as node names.) PS/nVision does not support translation of Summary ChartField Node when drilling down to the detail ledger, so it is advisable on both counts to use summary tree criteria instead. (A *summary tree* is a normal tree whose “detail” values are actually the nodes to which values have been summarized in a summary ledger.) The Suppress join technique *is* available for reports based on summary trees, as long as tree node information is not needed to group the result; this means it may be possible to re-code some reports that are using “Detail Value” criteria for summary trees for performance reasons.

These performance-enhancement techniques are not used when retrieving labels (such as account descriptions). Labels for detail fields associated with tree criteria are retrieved using static selectors. The SQL code used to retrieve labels is defined at a different level from the SQL used to retrieve amounts, so it isn’t possible to use the same dynamic selectors for both.

## SQL Statement Size

Because criteria from multiple rows and columns are combined with the instance (scope) criteria in a single SELECT statement, SQL statements generated by PS/nVision can be long and complex. While current releases of PS/nVision no longer enforce a statement size limit, every database platform has a maximum statement size, and even statements shorter than the maximum may be inefficient. Fortunately, you can exercise some control over statement size through judicious use of the performance options.

Here are the common causes of oversized SQL statements:

- **Use of the Suppress join technique on a tree (or trees) from which nodes representing too many detail ranges are requested.** Suppressing a join can be very useful, but is recommended only when criteria from a given tree require a relatively short list of detail values or ranges.
- **Use of static selectors with a very long list of nodes.** PS/nVision combines node number ranges for sibling nodes where possible, so it takes lots of nodes to exceed the limit. Use of dynamic selectors makes the SQL much shorter.
- An extremely long list of detail values.

The messages that indicate a statement is too long vary from platform to platform. For statements made long by tree criteria, the most successful solution is generally to use the “dynamic selectors” technique on one or more of the trees involved.

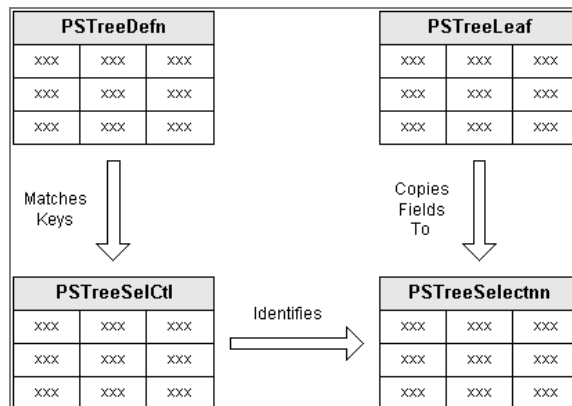
## Indexing Implications

If you plan to use the dynamic selector technique heavily for certain criteria fields, you should try an index on that field's selector table that is optimized around this technique. For example, let's say ACCOUNT is a six-character field (meaning its selector table is PSTREESELECT06) and you plan to use dynamic selectors, with single values, for the ACCOUNT trees on most of your production reports. You should try creating an index on PSTREESELECT06 on SELECTOR\_NUM and RANGE\_FROM\_06, since these are the only fields that will appear in the WHERE clause with single-value dynamic selectors. But also bear in mind the following:

- Other fields that are the same size may use the same selector table, so you might not want to eliminate an index if removing it would penalize those reports.
- Although only SELECTOR\_NUM and RANGE\_FROM\_06 will appear in the WHERE clause, TREE\_NODE\_NUM may appear in the SELECT list (if PS/nVision needs to GROUP BY tree node). An index that includes this field as well would enable index-only access (that is, access with no need to read the data table) when using this selector.
- Indexes and their use by the respective database optimizers vary depending on the optimizer and the volume and distribution of data, so some experimentation will be required to get optimum results.

## Overview of Tree Tables Used by PS/nVision

It's helpful to understand the structure of the various tree tables that PS/nVision uses and how they interact. The main tables used are PSTreeDefn, PSTreeLeaf, PSTreeSelCtl, and PSTreeSelectnn.



The sections below provide details on each of these tables.

---

### PSTREEDEFN: Tree Definition

#### Description

This system table defines an effective-dated version of a tree.

## Fields

<i>Field Name</i>	<i>Type</i>	<i>Length</i>	<i>Format</i>	<i>Long Name</i>
SETID	Char	5	Upper	SetID
TREE_NAME	Char	18	Upper	Tree Name
EFFDT	Date	10		Effective Date
EFF_STATUS	Char	1	Upper	Status as of Effective Date
VERSION	Nbr	10	Raw B	Version
TREE_STRCT_ID	Char	18	Upper	Tree Structure Id
DESCR	Char	30	Mixed	Description
ALL_VALUES	Char	1	Upper	All Values
USE_LEVELS	Char	1	Upper	Use Levels
VALID_TREE	Char	1	Upper	Valid Tree
LEVEL_COUNT	Nbr	3		Level Count
NODE_COUNT	Nbr	5	Raw B	Node Count
LEAF_COUNT	Nbr	5	Raw B	Leaf Count
TREE_HAS_RANGES	Char	1	Upper	Tree Has Ranges
DUPLICATE_LEAF	Char	1	Upper	Allow Duplicate Leaf
TREE_CATEGORY	Char	18	Upper	Category
TREE_ACC_METHOD	Char	1	Upper	Tree Access Method
TREE_ACC_SELECTOR	Char	1	Upper	Tree Access Selector
TREE_ACC_SEL_OPT	Char	1	Upper	Tree Access Selector Option

---

## PSTREELEAF: Tree Leaf

### Description

This user table defines the data value ranges that are the leaves of a tree. For each “leaf node” (nodes without children), one or more ranges define the detail values that correspond to that node.



## Fields

<i>Field Name</i>	<i>Type</i>	<i>Length</i>	<i>Format</i>	<i>Long Name</i>
SETID	Char	5	Upper	SetID
TREE_NAME	Char	18	Upper	Tree Name
EFFDT	Date	10		Effective Date
TREE_BRANCH	Char	20	Upper	Tree Branch Name
TREE_NODE_NUM	Nbr	10	Raw B	Tree Node Number
RANGE_FROM	Char	30	Upper	Range From
RANGE_TO	Char	30	Upper	Range To
DYNAMIC_RANGE	Char	1	Upper	Dynamic Range
OLD_TREE_NODE_NUM	Char	1	Upper	Old Tree Node

---

## PSTREESELCTL: Tree Selection Control

### Description

This system table controls selectors (see PSTREESELECTnn) that PS/nVision uses to speed retrieval of data through trees. Each row in this table corresponds to a row in PSTREEDEFN and to a group of rows (with the same SELECTOR\_NUM) in PSTREESELECTnn.

### Fields

<i>Field Name</i>	<i>Type</i>	<i>Length</i>	<i>Format</i>	<i>Long Name</i>
SETID	Char	5	Upper	SetID
TREE_NAME	Char	18	Upper	Tree Name
EFFDT	Date	10		Effective Date
VERSION	Nbr	10	Raw B	Version
SELECTOR_NUM	Nbr	10	Raw B	Selector Number
SELECTOR_DT	Date	10		Selector Date
TREE_ACC_SELECTOR_OPT	Char	1	Upper	Tree Access Selector Option
LENGTH	Nbr	5	Raw B	Length

---

## PSTREESELECTnn: Tree Select Work-Size nn

### Description

These system tables define selectors used by PS/nVision to speed tree-based data selection. A selector table is defined for every possible detail field length (nn = 01-30); thus this description applies to tables named PSTREESELECT01, PSTREESELECT02, and so on, through PSTREESELECT30.

### Fields

<i>Field Name</i>	<i>Type</i>	<i>Length</i>	<i>Format</i>	<i>Long Name</i>
SELECTOR_NUM	Nbr	10	Raw B	Selector Number
TREE_NODE_NUM	Nbr	10	Raw B	Tree Node Number
RANGE_FROM_n	Char	n	Upper	Range From
RANGE_TO_nn	Char	n	Upper	Range To

---

## PSTREESELNUM: Tree Select Control Number

### Description

PS/nVision uses this table to assign a unique SELECTOR\_NUM value to each tree selector as it is built. This table has only one row.

### Fields

<i>Field Name</i>	<i>Type</i>	<i>Length</i>	<i>Format</i>	<i>Long Name</i>
SELECTOR_NUM	Nbr	10	Raw B	Selector Number

## CHAPTER 15

# PS/nVision Reporting on the Web

The addition of nVision to PeopleSoft Internet Architecture provides Web users a simple, intuitive way to run, view, and distribute nVision reports quickly using their browser. Now, remote users with Internet access can log on to PeopleSoft through their browsers and run, view, and DrillDown on their reports without needing PeopleSoft installed on their workstation. New distribution options allow users to send reports instantly as email attachments rather than requiring recipients to navigate to a location on a file server. Casual users have an interface that is familiar and easy to understand, with the more complex nVision development features residing only in the Windows client.

New features for nVision with PeopleTools 8.1 include the following:

- Output in both Excel (.xls) and HTML (.htm) formats.
- DrillDown for nVision reports on the Web using hyperlinks.
- Email options that allow you to send your nVision reports to individual users or users in specified roles.
- Internet versions of report requests, Report Books, and scope definitions.
- Integration with the new Report Manager so that you can “burst” report instances using scope fields, and send specific instances of reports to designated users or users in specified roles.
- Support for multiple nVision sessions when nVision is invoked from Process Scheduler.



**Note.** To take full advantage of the new Web features, you need to have Microsoft Office 2000 on the nVision report server. Office 2000 is *not* required on any other servers or on any computers used to initiate Report Books or report requests from the browser. A report server is a Windows NT machine with nVision (PeopleTools client software), Excel, and Process Scheduler installed on it. Process Scheduler is needed to schedule all nVision processes. Office 2000 is required for creating reports in HTML format.

---

## Configuring the Report Node

Both Process Scheduler and Report Manager use report distribution nodes. The Distribution Node Definition specifies the location of Report Repository and the location of the stored content (the files) for Report Manager. When nVision creates a report instance, it passes the physical file

location information to Process Scheduler. Process Scheduler then passes the file to Report Manager using the information defined on the Distribution page.

Distribution Node page

The Report Distribution Node defines how your reports are moved to the Report Repository where you can view them from Report Manager.



For more information about setting up the Distribution Node in Process Scheduler Manager, see Process Scheduler Report Distribution.

## Setting Up a Report Request

The first step in running your nVision report is to create a report request. You can create your report request from nVision in the Windows client or from the new Web version of report request. In PeopleSoft Internet Architecture, all nVision report functions are centralized under the PS/nVision menu.

Select Report Request from your menu to navigate to the nVision Report Request page. You can create a new nVision report request using this page, but most often, you'll be looking for an existing request and will simply run your report once you've chosen your request. You may search for an existing report request by Business Unit, Report ID, or Report Description and use it to run reports that you know you'll need on a regular basis.

When you create a new report request, you enter a business unit and a report ID in the initial Add page. The nVision Report Request page allows you to enter specific information about the report you're running such as what layout to use, what time period you are reporting on, and where to store the report.

After you have created a report request, you can run the report by clicking **Run Report**. You can then run the report from Process Scheduler. Using the Process Scheduler Request page, you can specify which process scheduler server you want to use to run the report. Selecting your Process Scheduler server is particularly important if you have multiple Process Scheduler servers on the same database. You can also add the report request to a Report Book, and run a group of reports as a batch process.



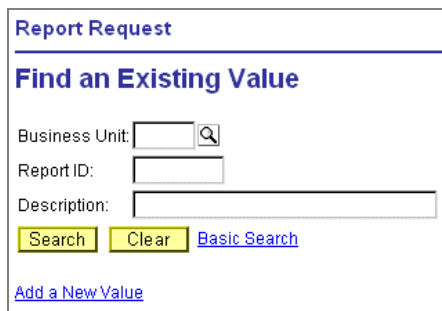
For more information on using Process Scheduler, see Process Request Dialog.

---

The nVision Report Request page enables you to set your options for running your report. The key fields of **Business Unit** and **Report ID** appear at the top of the page to identify the report request.

To create a report request:

1. Select PeopleTools, PS/nVision, Use, Report Request to display the Report Request search dialog box.



The image shows a web-based dialog box titled "Report Request". It has a section titled "Find an Existing Value" with three input fields: "Business Unit:" with a search icon, "Report ID:" and "Description:". Below these fields are three buttons: "Search" (highlighted in yellow), "Clear" (highlighted in yellow), and "Basic Search" (a blue link). At the bottom of the dialog box is a blue link labeled "Add a New Value".

Report Request search dialog box

2. Select the link to add a new value, and enter a Business Unit and Report ID for the request.

The Report Request page appears.

nVision Report Request **Advanced Options**

**Business Unit:** **Report ID:** EMPLSAL [Copy to Another Business Unit](#)  
[Delete This Report Request](#)

**Report Title:** Employee Salaries by Dept. [Transfer to Report Books](#)  
[Process Monitor](#)  
[Report Manager](#)

**\*Layout:** EMPLSAL

**Report Date Selection**

**\*As Of Reporting Date:** Specify 12/31/1993

**\*Tree As Of Date:** Use As Of Reporting Date

**Output Options**

**\*Type:** Web [Enter Delivery Template Options](#)

**\*Format:** HTML Documents (\*.htm)

**Run Report**

Save Return to Search Add Update/Display

nVision Report Request page

### 3. Enter the Report Title and Layout information.

#### Report Title

This description appears on the prompt lists allowing you to select a report. Use the %RTT% variable within a layout to display this title on a report instance. For this reason, you may want to enter a title that reflects the specific scope of your report.

#### Layout

Specify the report layout (the .XNV file) to use for this report. The layout is what defines the format, structure, and data values used for the report. The directory for saving layouts is defined in the Process Scheduler configuration file. Use the %LYN% variable on your layout to show the layout name on a report instance.

### 4. Enter the Report Date Selection criteria.

#### As of Reporting Date

This option allows you to set the reporting period for the report. Many report layouts associated with PeopleSoft Financials applications report on data over a given account period such as the current quarter or year-to-date. nVision uses the As Of Reporting Date to determine the meaning of any TimeSpans used in the layout. You can opt to use **Today's Date**, a **Business Unit Reporting Date**, or you may **Specify** a date of your choosing in the calendar field that appears when you select that option.

#### Tree As Of Date

This option enables you to use trees that are in effect as of the reporting date. You may choose a different date and use a set of trees in effect for that date using the **Specify** option.

5. Enter the report Output Options.

<b>Type</b>	The output type options allow you to specify the report's distribution type: <i>Web</i> , <i>File</i> , <i>Email</i> , or <i>Printer</i> .
<b>Format</b>	The output format option allows you to specify the report's distribution format—Microsoft Excel (.xls) or HTML (.htm) files.
<b>Enter Delivery Template Options</b>	Click to access the Enter Delivery Template Options page, where you can specify the applicable delivery templates to your report request.

6. After entering any delivery template options, click Save to keep a copy of the report request.

7. Click Run Report to run your report request.

There are several links at the top of each report request that help you navigate to Process Monitor, Report Books, and Report Manager. You can also copy and delete report requests from these links.

<b>Copy to Another Business Unit</b>	Click to access the Copy to Another Business Unit page, where you can copy the current report request to one or more different business units.
<b>Delete This Report Request</b>	Click to delete this report request.
<b>Transfer to Report Books</b>	Click to display the Report Books page.
<b>Process Monitor</b>	Click to check the status of your report in Process Monitor.
<b>Report Manager</b>	Click to view your report output in Report Manager.



**Note.** When you use Copy to Another Business Unit, you can't clone the report by the new Report ID. Both report ID and business unit are the key of a report request. When you do a copy, you can only copy it to another business unit, but not another report ID. In Windows client, you can do both.

## Configuring Delivery Templates

Report Request template options allow you to use nVision variables or static text to specify report delivery options that add extra functionality to your report requests. You can also use scope fields so that you can personalize individual reports. Template options are displayed dynamically on the nVision Web Output page—meaning that only the options that you *need* to specify for that particular output type appear on the page. For instance, if you choose *Web* as the output (as in the following example), you only need to enter information for content description and security

templates. If you had chosen *File*, the system would present options for file and directory name. The other options that you aren't using don't appear on the page (as they do in the Windows environment).

To see all available template options, select **Enter Delivery Template Options – View All** from the Advanced Options tab of the Report Request page.



**Note.** If you are entering a list of values in any of the template fields, make sure to use a *semicolon* to separate each item.

nVision Report Request – Enter Delivery Template Options – Web Output page

Using this page, you can also specify a scope for your reports to have different instances of the same report delivered to email addresses or posted to individual users in Report Manager.



For more information on using scopes to deliver reports, see *Applying Scopes to Your Reports*.

The following listing shows all template options, with brief descriptions and some examples of the different types of information that you can enter. Not all template options appear on your page—it depends on the output type that you specify on the request.



**Note.** If an asterisk appears next to a template option, that indicates that it is a **required** field. Always make sure to fill in required fields to ensure that your report runs correctly.



## Content Description Template

Enter a description of the report instances for identification in Report Manager. Use variables to create the descriptions dynamically.

Examples: *Stmt. Rev & Exp* or *Vacation Register - %SFV%*

## Security Template

Enter user IDs or variables to give specific users or role IDs access to report instances in Report Manager. To authorize a user ID, enter a **U** followed by a colon before the user ID. To authorize a role, enter an **R** followed by a colon before the role ID. If this field is blank, the report is automatically distributed to the user running the report.

Examples: *R:Manager* or *U:SMITHJ* or

*R:Manager;U:SMITHJ;U:JOHNM* or

*%DES.DEPTID.OPRID.OPRID%.*

## Directory Name Template

Enter a directory name from the nVision report server for your instances. Use variables to create unique directory names. If the directory does not exist, nVision will create it. If this field is blank, nVision uses the directory specified in Process Scheduler's configuration file.

You can use a network path in directory template. For example, you can use `\\<servername>\Directory 1\Directory 2`, but you have to make sure all the subdirectories under the servername (which comes from the combination of directory template and file template) are accessible from your client machine.

The default for this template is the Process Scheduler Server Configuration setting for **nVision: InstanceDir**.

Examples: *Q:\Reports\%SFV%-%RID%.htm* or *C:\%FY4%%RTT%\*

## File Template

Enter a file name for your instances. Use variables to create unique report file names. If this field is blank, nVision uses the layout name as the default file name with the appropriate extension according to your output format. If the field is blank, nVision uses the layout name as the default file name with the appropriate output type extension.

Examples: *expense.xls* or *%RID%.htm* or *%FY4%%RTT%.xls*

## Email template

Enter a list of email addresses or use variables to specify who receives report instances. There is no default for this template. Make sure that you enter values in this field or the instances will not be sent. Also, make sure that the email addresses associated with these users are entered into their user profiles in Maintain Security.

You may enter up to 254 characters in this field. If you have a long list of email addresses, use the role or user variables. To enter a list of email addresses, make sure to use a *semicolon* to separate each address.

Examples: username@peoplesoft.com; or ***R:Manager*** or ***U:SMITHJ***, or ***%DES.DEPTID.EMAILID.EMAILID%***

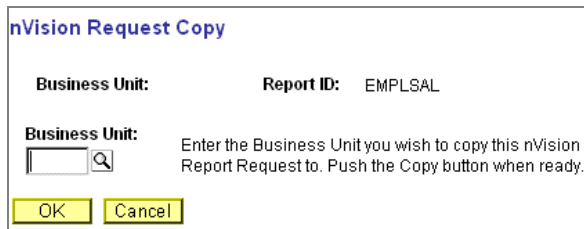
---

**Note.** If you want to email a spreadsheet with an image (a graph, pivot table, or an embedded image), you must run the report with an output type of .xls or distribute it through the Web using Report Manager. Images that are attached to a spreadsheet cannot be emailed in .html format.

---

## Copying a Request to Another Business Unit

Using this option, you can copy a report request to one or more business units. With the report request open, click **Copy to Another Business Unit**. Enter the business unit and click the **Copy** button to have the report request appear in the selection list for the other business unit.



The dialog box is titled "nVision Request Copy". It contains two labels: "Business Unit:" and "Report ID:". The "Report ID:" field is populated with the text "EMPLSAL". Below the "Business Unit:" label is a text input field with a magnifying glass icon to its right. To the right of the input field is the instruction: "Enter the Business Unit you wish to copy this nVision Report Request to. Push the Copy button when ready." At the bottom of the dialog box are two buttons: "OK" and "Cancel".

nVision Request Copy to Another Business Unit page

## Delete This Report Request Dialog Box

Clicking this option displays a message asking if you really want to delete the report request. You have the choice of *Yes*, *No*, or *Cancel*.

## Transfer to Report Books Page

Clicking **Transfer to Report Books** takes you to the Report Book for a specific run control ID that you specified using the search page.

## Setting Advanced Options for Your Report Request

The Advanced Options page allows you to change some of the high-level specifications for the report request. Click the **Advanced Options** tab on the nVision Report Request page to create settings for your report.

nVision Report Request    Advanced Options

Business Unit:                      Report ID:    EMPLSAL

**Advanced Report Instance Options**

☒ Enable nPlosion If Specified In Layout

☐ Translate Summary Ledgers to Detail

☐ Data From Requesting B.U. Only

**Foreign Language Translation**

Enter an alternate language code for automatic translation.  
Available if alternate language features are in the layout.

Language:

[Enter Delivery Template Options - View All](#)

Save    Return to Search    Add    Update/Display

Advanced Options page

### Enable nPlosion If Specified In Layout

Select this box to use the nPlosion feature to generate supporting detail for summary criteria.

### Translate Summary Ledgers to Detail

Select this box to translate all nPloded summary balances to detail values on the report.

### Data From Requesting B. U. Only

Select this box to return data from the requesting business unit only. If you don't check this box, nVision extracts data for all business units.

### Foreign Language Translation

Enter the language code to translate the report instances automatically. This option is available if alternate language features are in the layout.

Examples: *ENG* or  
`%DES.[scopefield].[detailfield].nodefield/detailfield.nodefield}%`

### Enter Delivery Template Options – View All

Click this link to change or view all of the template entry fields, even if they don't pertain directly to your specific report. This option is useful if you want to distribute the report in a different output types at report runtime and would like to change or check all template options at the same time.



---

For more information about foreign language translation, see PS/nVision Layout Translation.

---

---

## Applying Scopes to Your Reports

A report scope allows you to create multiple instances of a report using a single report layout and report request. Using a scope, each report instance is generated with data specific to an individual field value (such as a business unit or department) or a to group of values (such as a tree node summarizing all sales departments). In this way, each report instance can share the same layout, while containing data unique to these field values.

For example, if you have a report request with a scope that produces one income statement for each division in the company, you could use a scope variable in the Email template to have each divisional report emailed to that division's VP. Or you could make each VP's report available in Report Manager by using a scope variable in the Security template.

You use scope variables in the Email and Security templates the same way that you use them to create unique file names with the File template or directory names with the Directory template in your report request. The Scope Descriptive Variable (%DES%) is used to select a related field value from the Scope Value table of the Tree Node table. You can use values for email addresses, user IDs, or role IDs. The general syntax of the %DES% variable is the following:

```
%DES%. [scope field]. [detail field]. [node field]
```

The %DES% variable requires the associated field value (in this case the email address or the user ID or role ID) be on the same table that the scope is based on. In the example below the scope is based on the Value Table NVS\_DEPT\_VW. To use this scope definition for email report distribution, there must be an associated email address in the NVS\_DEPT\_VW for each DEPTID value specified.

Creating a scope definition on the web is similar to defining it in the Windows client with the following exceptions:

- You cannot delete a scope definition.
- You cannot specify an effective date for the tree node table or value table. The current date is used as the effective date.

**Scope Definition**

SetID: USA      Report Scope: DEPTS

Description:

**Scope Fields** View All   First 1 of 1   Last

'Field Name:       Department + -

'How Specified:

Tree Name:       Level:

View All   First 1-2 of 2   Last

**Select Value**

1	<input type="text" value="10200"/>	<input type="button" value="Q"/>	<input type="button" value="+"/>	<input type="button" value="-"/>
2	<input type="text" value="10300"/>	<input type="button" value="Q"/>	<input type="button" value="+"/>	<input type="button" value="-"/>

► Field Combination Table

Scope Definition page

### Description

This text describes the general function of the scope.

### Field Name

This is the name of the field that controls the scope.

### How Specified

This field defines how the scope field is used in the report.

---

For more information about specifying scope values, see PS/nVision, "Defining Report Scopes".

---

### Value Table or Tree Name

This is the name of the value table or tree name that the scope is based on depending on what is chosen in the How Specified field.

### Level

Specify the level in the tree, defined in the Tree Name, when the level is appropriate for the specified How Specified type.

### Field Combination Table

If you are using a Field Combination table for this scope, you must select a value for this field.

---

For more information about Field Combination tables, see PS/nVision, "Defining Report Scopes".

---

Scopes are defined based on a tree node record or a value table such as Department table or Product table. By defining your scope based on a table that includes an email address or user ID for each value you can direct each scope based-report instance to a different user. For example, the record NVS\_DEPT\_VW shown below can be used with a scope definition to have each report instance emailed or posted to a different user in Report Manager.

<b>Department (DEPTID)</b>	<b>Description (DESCR)</b>	<b>Manager</b>	<b>Email Address (EMAILID)</b>	<b>User ID (OPRID)</b>
12000	Sales Canada	John Smith	john_smith@abc.com	U:JOHNSMITH
13000	Sales USA	Jane White	jane_white@abc.com	U:JANEWHITE
14000	Sales Asia	Asia Manager	Kathy_Lin@abc.com;U:PeterYu;R:AsiaManager	U:KathyLin;U:PeterYu;R:AsiaManager

### Email Template Variables

If you want each report instance to be emailed to the associated department manager's email address you would enter the following values in your Email template:

**%DES, DEPTID, EMAILID, EMAILID%**

This tells PS/nVision to use the associated email address from the EMAILID field from the Value table where the DEPTID is located. You would also need to specify email as the output type on the report request.

The Scope Descriptive Variable (%DES%) is used to select a related field value from the Scope Value table. For example, if your scope were based on the NVS\_DEPT\_VW record shown above, you would produce three report instances and each instance would be sent to the associated email address. The report for department 12000 would be emailed to john\_smith@abc.com, and the report for 13000 would be emailed to jane\_white@abc.com. The report for department 14000 would be emailed to several recipients—Kathy Lin, Peter Yu, and the email addresses for the users who belong to the role Asia Manager. You can specify the user email addresses associated with users and roles in the user profiles of Maintain Security.

### Security Template Variables

Using this same Value Table, you could post each report instance to Report Manager for the associated user. In this case you would use Web as the output type and enter the following variables in the Security template as follows:

**%DES, DEPTID, OPRID, OPRID%**

The report for department 12000 would be posted to Report Manager for user JOHNSMITH, and the report for 13000 would be posted for user JANEWHITE. John Smith would not be able to access the Department 13000 report. The report for department 14000 would be posted to Report Manager for Kathy Lin, Peter Yu, and the other users belonging to the role Asia Manager.

### Sample Record Definition

The record definition shown below was used to create a view that joins the department record (DEPT\_TBL) with a PeopleSoft security record (PSOPRDEFN).

Num	Field Name	Type	Len	Format	Short Name	Long Name
1	DEPTID	Char	10	Upper	DeptID	Department
2	DESCR	Char	30	Mixed	Descr	Description
3	DESCRSHORT	Char	10	Mixed	Short Desc	Short Description
4	OPRID	Char	30	Mixed	User	User ID
5	EMAILID	Char	70	Mixed	Email ID	Email ID
6	EMPLID	Char	11	Upper	ID	EmplID

### Application Designer: NVS\_DEPT\_VIEW page

The SQL view text joins the PS\_DEPT\_TBL.MANAGER\_ID with the PSOPRDEFN.OPRID in security. The email address and user ID (OPRID) are taken from PSOPRDEFN.

### SQL View Text

```

SELECT B.DEPTID

, B.DESCR

, B.DESCRSHORT

, A.OPRID

, A.EMAILID

, A.EMPLID

FROM PSOPRDEFN A

, PS_DEPT_TBL B

WHERE B.EFFDT = (

SELECT MAX(B_ED.EFFDT)

FROM PS_DEPT_TBL B_ED

WHERE B.DEPTID = B_ED.DEPTID

AND B_ED.EFFDT <= SUBSTRING(CONVERT(CHAR,GETDATE()),121), 1, 10))

AND A.EMPLID = B.MANAGER_ID

```



**Note.** This is a very simple example and should not be used without careful evaluation. You may get unpredictable results if the scope definition returns more than one row from the Value table for each scope value.

## Submitting a Report Request

Once you have finished setting up your nVision Report Request, click the Run Report button to display the Process Scheduler Request page. The Process Scheduler Request page enables you to select such variables as where and when a process runs and in what output type and format the report is generated.

**Process Scheduler Request**

User ID: PTDMO Run Control ID:

Server Name: [dropdown] Run Date: 08/11/2000 [calendar icon]

Recurrence: [dropdown] Run Time: 2:38:18PM

Time Zone: [dropdown] [Reset to Current Date/Time](#)

Select	Description	Process Name	Process Type	Type	Format
<input checked="" type="checkbox"/>	nVision Report	NVSRUN	nVision-Report	Default	Default

OK Cancel

Process Scheduler Request page



For more information about Process Scheduler settings, see [Submitting a Process Request](#).

## Choosing Output Types and Formats

PS/nVision reports have two different formats for creating report instances: HTML and Excel. Both formats are valid with all output types and can be used with Process Scheduler Requests or requests generated from the Windows environment. To use HTML, Excel 2000 or later must be installed on your nVision Report server.



**Note.** If you are planning on using DrillDown on the Web, you must select HTML output for the instance you will be drilling from.

You have four different options for the type of report output that you can generate.

### Email

Sends the report instances using email. The mail server to deliver the reports must be specified in the Process Scheduler Configuration file.



<b>File</b>	Saves the report instances in a specified file directory in your file server of your nVision Report server. The directory of the file server must be specified in the Process Scheduler Configuration file.
<b>Printer</b>	Sends the report instances to a network printer. All destination printers must be set in the nVision Report server. You can only specify a different printer using the Process Scheduler Request page. The default printer for this setting is the default printer for the Report server.
<b>Web</b>	Sends each report instance to Report Manager. The Process Scheduler server that runs the report must be associated with the Distribution Node to deliver the reports to Report Manager.

Output types are initially specified in the Report Request, but they can be overridden on the Process Scheduler Request page. From the Process Scheduler Request page, the output type and format are identical to those in the nVision Report Request page, except for the additional choice of **Default/Default**. In most cases, you specify output types on the Report Request and use the **Default** options on the Process Scheduler Request page. You can run reports from the Process Scheduler Request page with different output options without changing the original settings on the nVision Report Request page.



**Note.** If you change your report type to File on the Process Scheduler Request page, you must enter the Output Destination to save the instance to a file.

---

## Setting Report Distribution


The Distribution Detail page enables you to choose the recipients of your process output. This page appears only when the output type is either Web or email. If the process that you are running allows output that can be emailed (for example, Crystal can create Adobe Acrobat (.pdf) files), you can enter an email subject and message and send the output to a group of email addresses.



**Note.** If you are entering a list of email addresses, make sure to use a semicolon (;) to separate each address from the others.

---

You can add users or roles to the distribution by adding a row and filling in the pertinent information. You can also use this page to add someone who would not normally have the proper security to view this output.

Select the  Distribution icon to display the Distribution Detail page.

Distribution Detail page



To distribute reports to a role ID or a user ID using email, all recipients must have their email address entered in their Manage Security User Profile.



For more information about Manage Security and User Profiles, see Email ID.

## Using the Web Version of Report Books

PS/nVision provides the ability to group multiple report requests into a single Report Book. A *Report Book* is simply a list of multiple report requests with some additional features to enhance flexibility:

- **An interface to Process Scheduler.** Using a browser, you schedule a group of reports to run using a Process Scheduler request. With the click of a button, your reports are executed on the server in the format that you choose. You can also schedule your Report Books to run at a particular time on a regular basis. You can also run the entire Report Book with the same output type and format without changing any individual component requests.
- **An Effective Status associated with each request in the Report Book.** You can choose to set individual report requests within a Report Book as “inactive.” Inactive report requests will remain part of the Report Book, but will not be run as part of a request.
- **A method for individual report requests to inherit dates from the Report Book.** This enables you to run an entire Report Book using the same AsOfDate and Tree Effective Date

without changing any individual component requests.

- **With PeopleSoft 8, multiple nVision sessions can be scheduled on a single report server.** Each nVision session is associated with its own Excel executable. This enables you to maximize use of your report server without requiring multiple report servers for multiple Report Books.

PeopleSoft gives you the option of running your reports from Windows or from your browser using PeopleSoft Internet Architecture. The following section describes using the Report Books feature from your browser running on a workstation.



For more information on using Report Books from the Windows client, see Using Report Books in Windows.

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## Creating a Report Book From Your Browser

Once you have created your report requests, you can group them together in a Report Book. Before creating a Report Book, make sure you have report requests defined for all the reports you want to include in the book. The Report Book is a *list of requests*, not a substitute for the request. You might also want to review the requests you plan to use to ensure they use the desired scope and layout.

Select Report Books from your menu to display the Report Book page. You can add a new Report Book by selecting the Add option and entering the new run control ID or you can search for an existing Report Book using the search page.

Report Books also has buttons available that allow you to display different Process Scheduler components:

- Report Manager allows you to view your finished reports
- Process Monitor allows you to check the status of reports that are sent to process
- Report request allows you to view each individual report request in your Report Book.

**Report Book**

Run Control ID: HRRpts [Report Manager](#) [Process Monitor](#)

**Run Parameters**

As Of Date: Specify

Tree Effective Date: Use As Of Reporting Date  ☒ Ignore Runtime Errors

Seq	Business Unit	Report ID	Run
1	<input type="text" value="BYGRADE"/>	<input type="text" value="BYGRADE"/>	<input checked="" type="checkbox"/> <input type="button" value="+"/> <input type="button" value="-"/>
2	<input type="text" value="EMPLSAL"/>	<input type="text" value="EMPLSAL"/>	<input checked="" type="checkbox"/> <input type="button" value="+"/> <input type="button" value="-"/>
3	<input type="text" value="DEMOTAB"/>	<input type="text" value="DEMOTAB"/>	<input checked="" type="checkbox"/> <input type="button" value="+"/> <input type="button" value="-"/>

Report Book page

The Web version of Report Books allows for more robust batch processing of PS/nVision reports, without having to queue the reports and run them individually. When you have a Report Book set up, you can choose to have all of the reports in the group run, or you can select specific individual reports by selecting their check boxes in the **Run** column.



**Note.** The date options in Report Books can be set to override the date options in the original report request. If you change either the **As Of Date** or the **Tree Effective Date** in Report Books, they will create report output to the new Report Book dates.

### As Of Date

**Default** uses the specified As Of Date from the report request.

**Today's Date** uses the current date for the report.

**Business Unit Reporting Date** uses the date specified for the business unit.

**Specify** displays a date field for you to enter the date you want to report on.

### Tree Effective Date

**Default** uses the specified Tree Effective Date from the report request.

**Specify** displays a date field for you to enter the date you want to report on.

**Use As of Reporting Date** creates the report based on the As Of Reporting Date that you've specified in the report.

### Ignore Runtime Errors

Selecting this checkbox will keep the entire Report Book from stopping if one of the reports encounters an error.



Click the **View** button to launch another browser window displaying the report request.



Adds a new, blank row, allowing you to enter a new report request.



Deletes the current row.

---

## Defining Report Books

Before creating a Report Book, make sure you have report requests defined for all the reports you want to include in the book. You might also want to review the requests that you plan to use to ensure that they use the desired scope and layout.

To define a Report Book:

1. Select PeopleTools, PsnVision, Use, Report Book Definition.
2. Enter the run control ID of an existing Report Book to modify it, or select **Add a new value** to create a new Report Book.

Add a New Value page

3. Click **Add**.

The book definition will be stored on the database under this name and will also be keyed by your user ID. The Report Book Definition page appears.

**Report Book**

Run Control ID: HRRpts [Report Manager](#) [Process Monitor](#)

**Run Parameters**

As Of Date: Specify

Tree Effective Date: Use As Of Reporting Date ☐ Ignore Runtime Errors

Seq	Business Unit	Report ID	Run
1	<input type="text" value="BYGRADE"/>	<input type="text" value="BYGRADE"/>	<input checked="" type="checkbox"/> <input type="button" value="+"/> <input type="button" value="-"/>
2	<input type="text" value="EMPLSAL"/>	<input type="text" value="EMPLSAL"/>	<input checked="" type="checkbox"/> <input type="button" value="+"/> <input type="button" value="-"/>
3	<input type="text" value="DEMOTAB"/>	<input type="text" value="DEMOTAB"/>	<input checked="" type="checkbox"/> <input type="button" value="+"/> <input type="button" value="-"/>

Report Book page

You use this page to define the list of reports you want to run, in sequence, and to set the run parameters.

4. Define the **Book** Entries for this Report Book.

Add the **Business Unit** and **Report ID** of the report requests for this Report Book in the order you want them run. To reorder your entries, insert or delete rows as necessary.

The check box in the **Run** column should be selected for all reports you want to run when this book is requested, but the book can include inactive reports. For example, you may define a book of reports to be run at month's end, and you might include a report that is only run quarterly, but select its **Run** indicator only at the end of the quarter.

5. Define the Run Parameters.

The **Run Parameters** section allows you to override the date controls in the individual report requests. For production reports normally run in background, you don't need to update the individual requests' As Of Dates; you can enter a single **As Of Date** on the Report Book definition by selecting the *User-Specified* option. In this case, PS/nVision uses the date you specify, as if you had entered it on each the report requests in the book. Alternatively, you can select the *Use Business Unit Reporting date* option, telling PS/nVision to treat each request as if the corresponding option were selected. Or you can have PS/nVision default to the date controls in each individual request.

Similarly, you can control the **Tree Effective Date** used by all the report requests in the book, either setting a specific override, defaulting to the individual requests, or defaulting to the As Of Date on each request.

The **Ignore Runtime Errors** option tells PS/nVision whether or not to stop the Report Book processing when an error is encountered. If this option is off, and one of the reports has an error (for example, a layout refers to an invalid tree node), the process will stop at that point. If this option is checked, PS/nVision will log the error and continue with the next report.

6. Save your changes.

7. Run the Report book, if desired.



For more information, see Running Report Books.

---

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## Running Report Books

Report Books are run through Process Scheduler from the same pages used to define them. You may want to note the Process Instance number assigned to your request.

Use Process Monitor to track the progress of your request. Remember that if you selected the Ignore Runtime Errors check box on the Report Book page, the completion status will be “Success,” even though one or more reports may have had errors.

To schedule your Report Book to run:

1. Click the magnifying glass to search for a report ID by either description or Report ID. Once you select a report from the search list, it appears on the Report Book page.
2. Choose the reports that you want to run by selecting the report in the **Run Control ID** column.
3. **Save** any changes that you’ve made.
4. Click the **Run** button to display the Process Scheduler Request page.

The Process Scheduler Request page shows all of the processes that you have the security to run. This page allows you to set the Process Scheduler server, run date and time, the frequency at which the process runs (the *recurrence* of the process), output type, format, and distribution of your Report Book.




For more information on setting Process Scheduler Request options, see Submitting a Process Request.

---



**Process Scheduler Request**

User ID: PTDMO Run Control ID: HRRpts

---

Server Name: PSNT Run Date: 08/08/2000 

Recurrence: Run Time: 12:16:39PM


Time Zone:  

**Process List**

Select	Description	Process Name	Process Type	Type	Format
<input checked="" type="checkbox"/>	nVision Report Book	RPTBOOK	nVision-ReportBook	Default	Default

OK Cancel

Process Scheduler Request page

5. Select the **Server Name** and other run information.
6. Select the checkbox in the Process List for the Report Book that you want to run.
7. Select your output **Type** and output **Format** from the drop-down lists.
8. If you have chosen **Email** or **Web** as your output type, click  to set up the distribution of your Report Book.



For more information on output types and formats, see [Selecting Output Types](#). For more information on setting up your Report Book distribution, see [Setting Report Distribution](#).

9. Click **OK**.

When the report begins to run, you are returned to the Report Book page. If you want to check the status of your job, select the link to **Process Monitor**, where you can view the status of your job. Click **Report Manager** to see the list of reports that you have access to.



Report List Archived Reports

View Reports For

User: PTDMO Process Type: Status: Last: 1 Days Refresh

Select	Report ID	Prcs Instance	Report Description	Request Date/Time	Format	Status	Details
<input type="checkbox"/>	1	4	Employee Salaries by Dept.	11/03/2000 10:39:39AM	HTML Documents (*.htm)	Posted	<a href="#">Details</a> <a href="#">View</a>

Delete Click the delete button to delete the selected report(s)

Save

Report Manager - Report List page



For more information on monitoring the status of a process, see Using Process Monitor. To find out more about using Report Manager on the Internet, see Using Report Manager.

## Running Multiple Report Books

For this to work properly, you must ensure that your Process Server is defined properly in the Process Scheduler. Since a Report Book runs on the server, you can have concurrent nVision sessions.

To define your process server to handle multiple Report Book jobs:

1. Select PeopleTools, Process Scheduler Manager, Use, Server Definitions.
2. Choose the server name you're using for your Report Books (generally this will be **PSNT**).

On the lower half of the page, you'll see the **List of Servers available** to you.

3. Find the Process Type named **nVision – Report Book** and make sure that the Max Concurrent field is set to **1**.

This allows multiple Report Book jobs to queue up one after the other. Each Report Book job will not be processed until the one before it finishes.

## Using DrillDown on the Web

DrillDown provides quick access to supporting detail by showing detailed data in a different layout. This is especially useful when reporting is based on summary ledgers, as it provides underlying details when and where they are needed. DrillDown enables you to select a cell in your report and expand it according to new criteria contained in a “child” layout.

Performing a DrillDown from your browser is another quick and easy way to extract specific information that you want through a few simple navigations. Drill Downs are run on the nVision Report server (as are Report Requests and Report Books), and are accessed through Report Manager. You can perform a DrillDown on individual cells within the report by simply clicking on one of the amount cells within the report. DrillDowns are run from the Process Scheduler server on which you ran the original report.



**Note.** DrillDown in the browser does not include AutoDrill, Drill-to-Query, and Drill-to-Panel options. Those features are available in the Windows client only.

---

## Setting Up the Portal for DrillDown

To run DrillDown on the Web, you need to install the Portal when you install the PeopleSoft Internet Architecture. (This is not something that most end-users have to do, but something that your system administrators do when they install PeopleSoft.)

After you install Portal, you need to run PORTAL\_SETUP.DMS DataMover script to update the Portal table. If you have not run PORTAL\_SETUP.DMS, you will get a message that states, "Unable to find content provider Portal's URI in portal PORTAL for drilldown hyperlink". So even though you are able to run the report, you will not be able to drill down on the resulting instance.



For more information on how to install the Portal, see the Installation Guide, *Setting Up the PeopleSoft Internet Architecture*.

---

## Registering DrillDown Layouts

The DrillDown layout file must exist in the layout directory that is specified in the Process Scheduler Configuration file to be able to be used in the browser. All DrillDown layouts are created in the Windows version of nVision, but can be used in both Windows and a browser if they are located in the same file directory.



**Note.** The original report must be run in HTML format in order for PS/nVision to generate hyperlink on the drillable cells in the report.

Register a DrillDown layout by opening the **Register DrillDown Layouts** page. You only need to register those layouts that you want accessible to Web users.


When you register your DrillDown layout, you are associating it with a specific Process Scheduler server. This means that you can have a set of DrillDown layouts specific to Financial applications registered to a Process Scheduler server that is dedicated to only Financial applications and have a set of DrillDown layouts specific to Human Resources registered to its

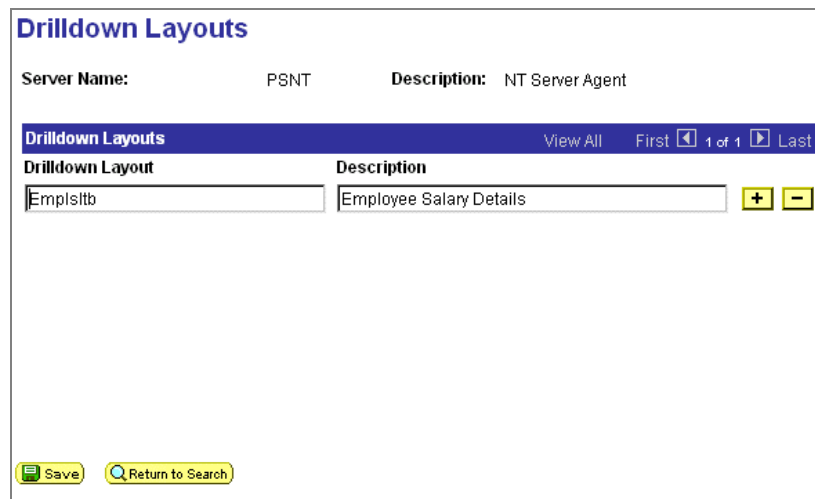
own Process Scheduler server. If you want a DrillDown layout to be available to multiple Process Scheduler servers, you *must* register the DrillDown layout on each server individually. After nVision posts a report to Report Manager, you will be able to use the DrillDown layouts that are registered for that particular server.

To register a DrillDown Layout:

1. Select PeopleTools, PS/nVision, Use, Drilldown Layout Registration.

The Drilldown Layouts page appears.

2. Click  to add another row to the page.
3. Enter the name of the **Drilldown Layout** and its **Description**. The name of the layout must match exactly the name of the DrillDown layout that you have created in Windows.
4. Click **Save**.



**Drilldown Layouts**

Server Name: PSNT      Description: NT Server Agent

Drilldown Layout	Description
EmplsItb	Employee Salary Details

View All   First 1 of 1 Last

Save   Return to Search

Drilldown Layouts page



For more information on setting up your drilldown layout files, see the section of Process Scheduler documentation entitled, Report Distribution.

## Using DrillDown on the Web

Using a DrillDown layout to create instances of a report is a quick way to access detailed data in your browser. Once a report has been run as a Web or HTML output type and posted to Report Manager, you can open it and run a DrillDown on specific amount fields. You will know that a field is “drillable” if you pass your cursor over the field and the cursor changes to a hand.



**Note.** If the Portal is not set up correctly in PeopleSoft Internet Architecture, there will be no hyperlinks associated with the instance and you will not be able to drill.

To perform a DrillDown:

1. Open the report in Report Manager and click the hyperlink for the field that you want to drill on.

Department	Description	Head Count	FTE	Total Monthly Rate
10200	Human Resources	23	22.5	\$95,018
10200	Human Resources	23	22.5	\$95,018
10300	Controllers	13	12.5	\$41,750
10300	Controllers	13	12.5	\$41,750
10400	Retail Services	3	3.0	\$14,508
10500	Business Services	6	6.0	\$22,844
10600	Branch Office Administration	3	3.0	\$8,447
10700	Walnut Creek Office	7	7.0	\$18,417
10800	Lafayette Office	5	5.0	\$13,365
10400	Retail Services	24	24.0	\$77,581
10900	Operations Administration	3	3.0	\$14,242
11000	Information Systems & Technlgy	8	7.8	\$21,084
11100	Item Processing	13	12.0	\$37,200
10900	Operations Administration	24	22.8	\$72,525

PNLRPT Report page

2. Next, click **Run Drilldown** for the DrillDown layout you want to use.

Run Drilldown	
Server Name:	PSNT
Report Instance:	4_1
Row:	5
Column:	12
Available Drilldown Layouts	
View All First 1-2 of 2 Last	
Description	Run Drilldown
Employee Salary Details	Run Drilldown

Available DrillDown Layouts page

The Report List page appears again.

3. Click Refresh to refresh the screen.

After your DrillDown runs, it appears as a report in your report list. DrillDown report descriptions always include *DR*, the drill number, and the original Report Description.

Report List Archived Reports

View Reports For

User:  Process Type:

Status:  Last:  Days

Report List View All First 1-2 of 2 Last

Select	Report ID	Prce Instance	Report Description	Request Date/Time	Format	Status	Details
<input type="checkbox"/>	2	5	DR_5_EMPLSAL.HTM	11/03/2000 10:47:39AM	HTML Documents (*.htm)	Posted	<a href="#">Details</a> <a href="#">View</a>
<input type="checkbox"/>	1	4	Employee Salaries by Dept.	11/03/2000 10:39:39AM	HTML Documents (*.htm)	Posted	<a href="#">Details</a> <a href="#">View</a>

Click the delete button to delete the selected report(s)

Report List page

- Click **View** to see the hyperlink for the DrillDown on the Report/Log Viewer page.

**PEOPLE**  
*Soft*

**Report/Log Viewer**

---

**Instance:** 5      **Type:** nVision-Report  
**Name:** DRILLDOWN      **Run Cntl ID:** nVision Drilldown  
**Status:** Success      **Submitted By:** PTDMO  
**Server:** PSNT      **Recurrence:**

---

[DR\\_5\\_EMPLSAL.HTM](#)

Name	Size	Creation Date
<a href="#">DR_5_EMPLSAL.htm</a>	17504 bytes	Fri Nov 03 10:47:39 2000

Report/Log Viewer page

- Click the hyperlink for the DrillDown to see the DrillDown results.

EmplID	Name	Department	Job Code	Head Count	Sum Monthly Rt
7705	Holt,Susan	10200	G061	1	2920
8121	Gregory,Jan	10200	6001	1	1900.578
8300	Vincent,Catherine	10200	G033	1	3928.038
8412	Little,Paula	10200	1503	1	2820
8641	Dobbs,Janice	10200	1101	1	9725.784
8750	Fuller,Darlene	10200	G032	1	2544.982
8840	Hill,Jeffrey M.	10200	7102	1	528.667
8894	Smith,Bernice	10200	G038	1	3674.813
8895	Gonzalez,Gemma	10200	1406	1	5384.513
F001	Larcon,Marcel	10200	2003	1	2013.109
G001	Gaston,Claudia	10200	G060	1	5456.356
G002	Matthews,Steven	10200	1504	1	2632.228
G003	Bishoff,Allan	10200	G001	1	8602.479
G006	Scott,Martin	10200	G030	1	4758.934
G011	Sherwood,Steven	10200	G002	1	7061.429
G012	Sherwood,Nancy	10200	G070	1	4600
G015	Kelly,William	10200	1407	2	10167.52
G100	Peterson,Beth	10200	G082	1	3609.088
G120	Miller,Anne M.	10200	G031	1	3876.6
G121	Guzic,Robert R.	10200	G033	1	3755.9
LT005	Seca,Wenda A.	10200	1801	1	2708.333
LT006	Daly,Susan B.	10200	5011	1	2348.667

#### DrillDown Report in the Report/Log Viewer

One of the great advantages of Web-based DrillDowns is that they *persist*—they are files that permanently exist on your file server (not just while you are viewing them, as in the Windows client). DrillDown instances in the Web can be viewed and distributed in the same manner as any other report that you run on the browser.



**Note.** You can *only* run a DrillDown from Report Manager. Although you can navigate to the option **Run Drilldown** from your PeopleSoft **Use** menu, this option does not function when accessed from the menu.

## Troubleshooting nVision on the Web

There are several things to check when your nVision report doesn't run, or when it runs and produces errors.

### Using DrillDown on Multiple Application Servers

If you have multiple Application Servers set up on a single database, nVision will use the PORTAL\_URI\_TEXT (the default web server) from Portal Content Provider as the URI address for the hyperlinks in all drillable cells. If you perform the Drilldown on any of the non-default web servers, you will still be prompted for the DrillDown Layout Page from the default web server even if the actual DrillDown is kicked off from another machine. This means that your default web server must be running when you perform the DrillDown.

---

## Troubleshooting Report Books

Whenever Report Books do not run successfully, the first thing you should do is make sure the report requests that are specified in Report Books will run on their own from the Process Scheduler. Also, make sure to check that your template settings are correct on the report request.

To check for a bad report request:

1. Open your browser and select the link to **Report Request**.
2. Run the report and see if you receive any errors.

If it does, then the problem is not with Report Books but with the associated report request. More than likely, it is because the layout specified in the report request does not exist in layout file.

3. Open nVision and add the layout to the location specified in Configuration Manager.

## Process Scheduler Settings and Report Books

Incorrect Process Scheduler settings will also cause Report Books to fail to run. You can check your Process Scheduler settings to avoid these errors.

To check for correct Process Scheduler settings:

1. On the Process Scheduler Request page, verify that the process name matches that of your Report Book.
2. If the process name does not appear to exist, select **Process Scheduler Manager, Use, Process Definitions** and verify that there is an **nVision-Report Book (RPTBOOK)** process definition that corresponds to your Report Book.

Process Definition | Process Definition Options | Override Options | Destination ▶

**Process Type:** nVision-ReportBook  
**Name:** RPTBOOK

**Description:** nVision Report Book  
**Long Description:**   
**Priority:** Medium ▼

☒ API Aware  
☒ Log client request  
☐ SOR Runtime

Save Return to Search Add Update/Display

Process Definition | Process Definition Options | Override Options | Destination | Page Transfer | Notification

Process Definition page

3. If the process definition appears to be valid, select **Process Scheduler Manager, Use, Server Definitions** page from Process Scheduler.

For your Process Scheduler server, make sure you have a process type entitled *nVision Report* and *nVision-ReportBook* in the Process Type list. If not, add them.



Server Definition   **Distribution**   Notification

**Server Name:** PSNT

**Description:**

**\*Sleep Time:**  Seconds

**\*Heartbeat:**  Seconds

**Max API Aware:**  Concurrent Tasks

**\*Operating System:**

**Purge Options**

**Days Before Purge:**

**Purge Process Files** ☐

**Process Types run on this Server**

*Process Type	*Priority	*Max Concurrent
Application Engine	Medium	3
COBOL SQL	Medium	3
Crw Online	Medium	3
Crystal	Medium	3
Cube Builder	Medium	3
Database Agent	Medium	3
Winword	Medium	3
nVision-Report	Medium	3
nVision-ReportBook	Medium	3

Save   Return to Search   Add   Update/Display

Server Definition page

- If those settings are correct, make sure that PSNT exists as a server on the system.
- Select **Process Monitor, Inquire, Process Requests, Server List** from the Process Scheduler. Make sure PSNT exists and that it has a **Status** of *Running*.

Process List   **Server List**

Refresh

**List of Servers available.**

Server	Description	Begin Date/Time	Last Update Date/Time	Status	Details
PSNT	NT Server Agent	08/07/2000 11:13:18AM	08/08/2000 12:44:25PM	Running	<a href="#">Details</a>
PSUNX	UNIX Server Agent		09/08/1997 12:00:00AM	Down	<a href="#">Details</a>
PS_NF	PS_NF	07/24/2000 7:23:18PM	07/24/2000 7:23:18PM	Down	<a href="#">Details</a>

Save

Process Monitor's Server List page

6. If PSNT is **Down**, use PSADMIN to start the server.



For more information on these settings or starting a Process Scheduler Server, see Process Scheduler.



**Note.** If you are not using PSNT as your server and have created your own, make sure that you have physically started the Process Scheduler or the server will not show up on the list of servers.

## Error Logs

If there are errors encountered when running a Report Book, PS/nVision logs them and enables you to view them through Process Monitor. Select **Details** from the Process Monitor. From the Process Details page, select the link to **Message Log**. The log file contains one line per error message, with the same message information you would have seen in a dialog box if you had run the report interactively. Other helpful messages about the report startup are also logged into this file.

Message Log			
Process			
Instance:	1059	Type:	nVision-ReportBook
Name:	RPTBOOK	Description:	nVision Report Book
		View All	First 1-7 of 7 Last
Severity	Log Time	Message Text	Explain
	2:37:14PM	- Report Book 'DAILY' for Operator ID 'VP1' in Database 'E800R79A'	<a href="#">Explain</a>
	2:37:14PM	-- Started Report Request 'BUDGET' for Business Unit 'M04'	<a href="#">Explain</a>
	2:37:14PM	Report Book 'DAILY' for Operator ID VP1 contains an invalid Report Request: BUDGET, Bus. Unit 'M04'.	<a href="#">Explain</a>
	2:37:15PM	Report Book 'DAILY' for Operator ID VP1 contains an invalid Report Request: BUDGET, Bus. Unit 'M04'.	<a href="#">Explain</a>
	2:37:15PM	-- Started Report Request 'EXPDETL' for Business Unit 'M04'	<a href="#">Explain</a>
	2:37:15PM	Report Book 'DAILY' for Operator ID VP1 contains an invalid Report Request: EXPDETL, Bus. Unit 'M04'.	<a href="#">Explain</a>
	2:37:15PM	Report Book 'DAILY' for Operator ID VP1 contains an invalid Report Request: EXPDETL, Bus. Unit 'M04'.	<a href="#">Explain</a>
<a href="#">Return</a>			

Message Log page

## CHAPTER 16

# Using Tree Manager to Distribute Reports

In PeopleTools 8.12, we are delivering a set of pages that can be used with tree manager to allow customers to attach routing information to the trees that are used for bursting nVision reports when you use a tree and scopes.

The main record that stores the distribution information is DEPT\_NODE\_TBL, which is a clone of TREE\_NODE\_TBL, plus two additional fields. The DEPT\_NODE\_TBL record must be included in the structure of any tree that you want to use to control report distribution.

The two fields in this table, DISTLIST and EMAIL\_TO, are used by the system as scopefield variables in the report request, and will control the distribution of the report when that tree is used in a scope.

---

### Creating DEPT\_NODE\_TBL

You may already have a tree that is made up of the nodes you want to use for report distribution. If that's the case, then you can simply run a script to move the nodes from TREE\_NODE\_TBL to DEPT\_NODE\_TBL. If you don't have a tree that you want to clone, you can skip this step.

The following are SQL statements that can be used to populate these tables from existing trees.

**To move all nodes where the tree has detail values based on a given field** (such as DEPTID), then you can use the following script. (Change the structure name in blue to the structure you want to key from).

```
INSERT INTO PS_DEPT_NODE_TBL

SELECT DISTINCT A.SETID, A.TREE_NODE, A.EFFDT, A.EFF_STATUS, A.DESCR, ' ', ' '

FROM PS_TREE_NODE_TBL A, PSTREENODE B

WHERE A.TREE_NODE = B.TREE_NODE

      AND B.TREE_NAME IN (SELECT C.TREE_NAME

FROM PSTREEDEFN C, PSTREESTRCT D

WHERE D.TREE_STRCT_ID = C.TREE_STRCT_ID

      AND ( C.EFFDT = B.EFFDT
```

```

AND C.SETID = B.SETID

AND D.DTL_FIELDNAME = 'DEPTID' ))

```

**To move all nodes for given tree name,** you can use the following script. (Change the tree name in blue to the tree name you want to key from.)

```

INSERT INTO PS_DEPT_NODE_TBL

SELECT DISTINCT A.SETID, A.TREE_NODE, A.EFFDT, A.EFF_STATUS, A.DESCR, ' ', ' '

FROM PS_TREE_NODE_TBL A, PSTREENODE B

WHERE A.TREE_NODE = B.TREE_NODE

AND B.TREE_NAME = 'MFG_DEPARTMENTS'

```

**To move all nodes where the tree is based on a specific tree structure ID,** use the following script. (Change the structure name in blue to the structure ID you want to key from.)

```

INSERT INTO PS_DEPT_NODE_TBL

SELECT DISTINCT A.SETID, A.TREE_NODE, A.EFFDT, A.EFF_STATUS, A.DESCR, ' ', ' '

FROM PS_TREE_NODE_TBL A, PSTREENODE B

WHERE A.TREE_NODE = B.TREE_NODE

AND B.TREE_NAME IN (SELECT C.TREE_NAME

FROM PSTREEDEFN C

WHERE C.TREE_STRCT_ID = 'DEPTID'

AND ( C.EFFDT = B.EFFDT

AND C.SETID = B.SETID ))

```

---

## Granting Access to Pages

The next step is to grant user access to the pages in the project. This will make them available to users when they maintain the tree (and add distribution information to the nodes).

To grant security permissions for the tree:

1. Select PeopleTools, Maintain Security, Use, Permission Lists.
2. Open the permission list that you wish to grant access to.
3. Click the Pages tab.

4. Find the TREE\_MANAGER item in the list and click on Edit Components link
5. The Component Permissions page should pop up and the Dept Node component should be in the list (and not authorized). If you don't see the Dept Node component in the list, then you need to re-apply the project file in step 1.

**Component Permissions (48,190)**

TREE\_MANAGER

Authorized?	Bar Label	Component	Edit Pages
<input checked="" type="checkbox"/>	Structure	New	<a href="#">Edit Pages</a>
<input checked="" type="checkbox"/>	Structure	Open	<a href="#">Edit Pages</a>
<input checked="" type="checkbox"/>	Structure	Rename	<a href="#">Edit Pages</a>
<input checked="" type="checkbox"/>	Structure	Delete	<a href="#">Edit Pages</a>
<input checked="" type="checkbox"/>	Structure	Print	<a href="#">Edit Pages</a>
<input checked="" type="checkbox"/>	Structure	Tree Node	<a href="#">Edit Pages</a>
<input checked="" type="checkbox"/>	Structure	Tree Level	<a href="#">Edit Pages</a>
<input type="checkbox"/>	Structure	Dept Node	<a href="#">Edit Pages</a>

Find First 1-8 of 8 Last

Select All

Deselect All

OK Cancel

Component Permissions page

6. Click Edit Pages in the row where the Dept Node component is listed.

**Page Permissions**

TREE\_MANAGER / Structure / Dept Node

Page	Authorized?	Display Only
Dept Node Tbl	<input type="checkbox"/>	<input type="checkbox"/>

Find First 1 of 1 Last

**Actions**

☐ Add

☐ Update/Display

☐ Update/Display All

☐ Correction

☐ Data Entry

Select All

Deselect All

OK Cancel

Page Permissions page

7. Click **Select All** to grant access to the page and click **OK**.
8. Click **OK** on the Component Permissions page.
9. Click **Save** on the Permission List page.

## Updating your Tree Structures to Use the New Page

The next step is to enable your trees to use the new page. To do this, you need to find all structures that correspond with the trees that you want to base report distribution on. Perform the following steps for each tree structure in the list.

To set up Tree Manager to use this page:

1. Select PeopleTools, Tree Manager, Setup, Tree Structure.
2. Select the structure that you want to open.
3. Click the Nodes tab to change where the node information is being stored
4. Modify the structure to utilize the new DEPT\_NODE\_TBL page.

We have also included in PeopleTools 8.12 a sample Structure definition called TREE\_NODE\_DISTRIB that can be used as a starting point for creating a new structure that uses this set of pages.

The screenshot shows the 'Nodes' tab of the 'Tree Structure' page. The form is populated with the following values:

- Structure ID: TREE\_NODE\_DISTRIB
- Record Name: DEPT\_NODE\_TBL
- FieldName: TREE\_NODE
- Page Name: DEPT\_NODE\_TBL
- Component Name: DEPT\_NODE
- Menu Name: TREE\_MANAGER
- Menu Bar Name: STRUCTURE
- Item Name: DEPT\_NODE

At the bottom of the form, there are three buttons: 'Save', 'Add', and 'Update/Display'.

Tree Structure - Nodes page

We have included a sample structure definition called TREE\_NODE\_DISTRIB that can be used as a starting point for creating a new structure that uses this set of pages.

## Populate Routing Information in your Tree

At this point, you can add the distribution routing information to your tree. You can enter either email addresses or distribution IDs in this page or a combination of both. When populating distribution IDs, you are populating the users or roles that Report Manager uses.

Dept Node Tbl

SetID: MFG Tree Node: ADMIN\_DIV

Scroll Area View All First 1 of 1 Last

'Effective Date: 01/01/1900 'Status as of Effective Date: Active

'Description: Administration Division

Routing Information First 1-3 of 3 Last

Email ID	ID Type	Distribution ID
1 VP2@abc.com	User	VP2
2 Fred Smith	Role	CUSTOMER
3	User	APA1

First 1-3 of 3 Last

OK Cancel Apply

## Linking it into nVision

Now that you have set up Maintain Security and Tree Manager with the correct information, the final step is to hook it into nVision.

Should there be something in here that describes how to set up a scope based on the tree? It seems like we're missing a step.

You probably already have reports that use scopes against the trees with routing information. As long as you have made the changes in the previous steps to the same trees that are in the scope you want to use for your nVision reports, you do not need to modify that scope. In the even that you do not have existing scopes to use, you will need to create those scopes.

The next step is to open your report request, select the scope you plan to use for that report request, and use the scope field variables in the appropriate templates to distribute your report instances.



For more information about scopes, see [Applying Scopes to Your Reports](#).

## Distributing through Email

When distributing through email, you start by specifying that the type of distribution is email and then populate the template options page.

In the template options, the first thing you specify is the scope for which the report is being run. The scope is what drives the whole process for both email and web distribution.

There is an Email template field on the page, which is what tells nVision who to distribute the report to. Because we want to route each report to the person associated with each scope value that drives the generation of the report, we will use a scopefield variable in nVision (if any of this is unfamiliar to you, refer to the nVision documentation).

In this particular instance, you will want to use the DES variable to pick a field from the tree and use it. To use the application delivered here, put the following text in the Email Template field:

```
%DES...EMAIL_TO%
```

The following is what the page should look like.

**nVision Email Output**

**Business Unit:** M04    **Report ID:** PNLRPT

---

**Report Scope:**  
 Enter your report scope. [Scope Definition](#)

**File Template:**  
 Enter a file name for your instances. Use variables to create unique report file names.  
 Examples: expense.xls, %RID%.htm, %FY4% %RTT%.xls

**Directory Name Template:**  
 Enter a directory name for your instances. Use variables to create unique directory names. If the directory doesn't exist P5/nVision will create it.  
 Examples: Q:\Reports\%SFV%- %RID%.htm, C:\%FY4% %RTT%\

**Email Template:**  
 Enter a list of email addresses or use variables to specify who receives report instances.  
 Examples: username@xxx.com, %DES.DEPTID.EMAILID.EMAILID%

nVision Email Output page

When you run the report, nVision will now generate each instance and deliver the results through email to the email addresses associated with each node.

---

## Distributing through Report Manager

When distributing through the Web (or Report Manager), you start by specifying that the type of distribution is Web and then populate the template options page.

In the template options, the first thing you specify is the scope for which the report is being run. The scope is what drives the whole process for both Email and Web distribution.

There is a Security template field on the page, which is what tells nVision who to distribute the report to. Because we want to route each report to the person associated with each scope value that drives the generation of the report, we will use a scopefield variable in nVision (if any of this is unfamiliar to you, refer to the nVision documentation).

In this particular instance, you will want to use the DES variable to pick a field from the tree and use it. To use the application delivered here, put the following text in the Security Template field



%DES...DI STLI ST%

**nVision Web Output**

**Business Unit:** M04      **Report ID:** PNLRPT

---

**Report Scope:**  

DIVISIONS

Enter your report scope.

[Scope Definition](#)

**Content Description Template:**  

%RTT% FOR %SFD%

Enter a description of the report instances for identification in Report Manager. Use variables to dynamically create the descriptions.  
Examples: Stmt. Rev & Exp, Vacation Register - %SFV%

**Security Template:**  

%DES...DISTLIST%

Enter user IDs or variables to give access to report instances in the Content Repository.  
Examples: U:VP1, U:SMITHJ, %  
DES.DEPTID.OPRID.OPRID%

OK

Cancel

nVision Web Output page

When you run the report, nVision will now generate each instance and deliver the results to Report Manager. It will also grant access to that report to the individuals who are associated with the node that drove the generation of that report instance.

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