PeopleTools 8.12 Tree Manager Peoplebook

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ABOUT THIS PEOPLEBOOK

This book discusses Tree Manager, the PeopleTools feature you use to define tree structures. Its chapters explain how to modify, copy, and audit trees. It also discusses the different types of trees and shows you how to create tree branches.

This book is written for decision-support team members who want to design or create tree data structures. To take full advantage of the information covered in this book, you should 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, including PeopleSoft Query. It also assumes basic familiarity with relational database concepts and SQL. The book's chapters cover the following topics:

Introduction to Tree Manager explains what tree structures are, how they are used, and what types of trees the Tree Manager supports.

Using Tree Manager explains the basics of understanding and using Tree Manager functionality.

Creating Trees explains how to use Tree Manager to create simple as well as complex tree structures.

Modifying Trees explains how to modify existing tree nodes and structures.

Securing and Troubleshooting Trees discusses tree tuning issues, and it also explains how to gap large trees evenly and track down the causes of common tree problems.

TreeMover is a utility that handles the moving of all types of tree data, including the tree definition, tree structure, tree nodes, tree leaves, tree node data, and tree level data.

Using Tree Manager on the Web explains how to use the new, web-based Tree Manager to create and modify your trees.

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.

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`monospace font`	Indicates PeopleCode.
Bold	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 **Save** and **Run**).
Italics	Indicates a PeopleSoft or other book-length publication. We also use italics for *emphasis* and to indicate specific field values. When we cite a field value under the page on which it appears, we use this style: ***field value.*** We also use italics when we refer to words as words or letters as letters, as in the following: Enter the number *0*, not the letter *O*.
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 *italics* 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 Documentation on CD-ROM in *About These PeopleBooks:* 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).

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.

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

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

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CHAPTER 1

Introduction to Tree Manager

Using Tree Manager, you represent data graphically to show a hierarchy. Other parts of the system can use the tree when they need hierarchical information—for reports, ChartField combination editing, OLAP, summary ledgers, or security. If you need to modify the tree, you update it in Tree Manager, and your changes are then automatically applied throughout the system. Beginning with PeopleTools 8, you can use PeopleCode to manipulate trees.

For more information about using PeopleCode to manipulate trees, see Tree Classes.

This chapter describes Tree Manager and explains how PeopleSoft applications use the trees you create.

Understanding Trees

A tree defines the summarization rules for a database field. It specifies how the system groups together the values of the field for purposes of reporting or security access.

Trees depict the hierarchical structures that represent a group of summarization rules for a particular field. For example, a tree can specify how your manufacturing locations should be summarized or *rolled up* for reporting purposes. Or a tree can show the reporting relationships within an organization by specifying how the individual department should be summarized into territories, territories into regions, and regions into countries. Similarly, a tree can categorize items in a catalog.

The summarization rules depicted in a tree apply to the detail values of a particular field: vendors, departments, customers, or other values that you define. These detail values are summarized into *nodes* on the tree. The nodes may also be organized into *levels* to logically group nodes that represent the same type of information or level of summarization.

For example, the values of the DEPTID field identify individual departments in your organization. You use Tree Manager to define the organizational hierarchy that specifies how each department relates to the others—departments 10700 and 10800 report to the same manager, department 20200 is part of a different division, and so on. In other words, you build a tree that mirrors the hierarchy.

Once you've defined the organizational tree, the system can use it in a variety of ways:

- **Reporting.** When you want a report that summarizes results for a particular division or region, the system can check against the tree to determine which departments to include. Without the

tree, you'd have to explicitly specify which departments you wanted every time you created a report.

- **Summary ledgers.** Summary ledgers are used for reporting. To create a summary ledger that summarizes account balances by department, the system refers to the tree to find out what DEPTID values to include in the summarized ledger entries. (PeopleSoft Financials only)
- **Security.** You might want to restrict users so they can see data for only the division they're part of. The application tables tell the system what department the user is in; the tree tells it what other departments are in the same division. (HR only)

Additionally, you can create different organizational trees for different purposes. Suppose you want to group departments together differently for reporting and for security. Maybe you want to include data from regional offices in your summary reports, but you don't want to give corporate users access to regional employee records. In this case, you'd create two trees—a "departmental" one that groups departments by function, regardless of what region they're in, and a "regional" one that groups departments by their location—then use one for reporting and the other for security.

Your Chart of Accounts is another prime candidate for trees. You create trees that specify how you want to "roll up" accounts into summary ledgers or reports. You can create multiple trees, providing different roll-ups for different views of your account data.

Note. Trees always provide summarization rules for *a single database field.*

Advantages of Trees

By building trees, you give the system a single place to look for summarization rules. This centralization enables you to define the rules once and then use them throughout the system. For example, many different reports, ledgers, and security profiles will probably refer to parts of your company's organizational chart. All these objects can refer to the same predefined tree.

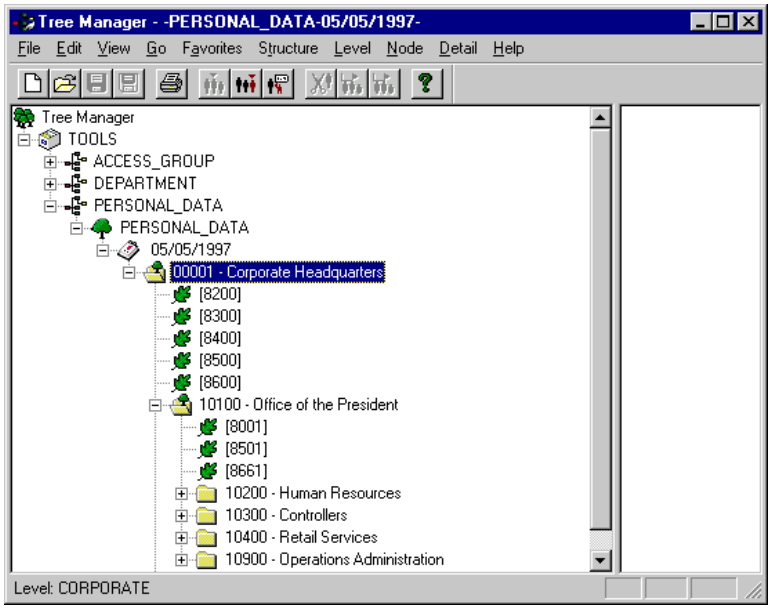
Trees make it easier to select the values you want to include in a report, ledger, or security profile. Rather than saying you want your report to include Departments 8202, 8203, 8513, 8515, and 8663, you can say you want the Lafayette Branch, which includes all these departments according to the tree. This approach makes maintenance easier, too: when the organizational structure changes, you update the tree once rather than updating an untold number of reports, ledgers, security profiles, and so on.

Another advantage of trees is that they present the summarization rules visually. Looking at a tree in Tree Manager, you can easily see how the values relate to each other.

Tree Components

A PeopleSoft tree has three major components: the definition, the nodes, and the leaves. Here's what a typical tree looks like in Tree Manager. This tree shows summarization rules for the

PERSONAL_DATA field. In other words, it's an organizational chart for the offices in a company's headquarters.



Tree Manager – Personal_Data page

As you can see, Tree Manager shows the hierarchy of values as a visual representation. Notice that the status bar below the tree shows the "level" of the highlighted node.

The following icons are used in Tree Manager displays:

	Top of Tree Manager	
	Category	A high-level grouping of trees and tree structures. A tree cannot belong to more than one category.
	Tree Structure	The definition of how a tree or set of trees will behave.
	Tree Definition	The graphic representation of a hierarchy or reporting structure.
	User Key or Business Unit /Effective Date	The specific business unit or effective date as defined on the Nodes tab. If you select User Defined Key, you can designate any field as the tree's key. The User Defined Key is set on the Nodes tab.
	SetID/Effective Date	The SetID or Effective Date of the tree. This allows you to specify new objects, departments, reporting relationships, or organizational structures in a advance and have them take effect automatically.

		You can also use trees with past, present, or future effective dates when reporting on current or historic data.
	Tree Branch	Allows you to break up a very large tree into smaller, more manageable trees
	Branch Node	A node on a “branched” tree.
	Node	An element of a tree that summarizes a group of objects, ChartField values, or other nodes that logically belong together for reporting purposes. Nodes define the hierarchical relationships within the tree.
	Expanded Node	This node is open, showing all lower levels of the hierarchy.
	Expanded Node (which skips levels)	This node is open but has been moved to a different level.
	Collapsed Node	A node with its contents out of sight until it is expanded.
	Collapsed Node (which skips levels)	A node that has been moved to a different level.
	Detail Value or “Leaf” (detail/summary trees only)	An individual field value attached to a node at the end of a branch. Detail values may also be specified as a range of field values such as departments, vendors, or customers.
	Record Definition (query access group trees only)	Represents a grouping of data elements, such as a table.

In addition to the tree icons, Tree Manager displays the level of the selected node on the status bar beneath the tree. Levels are an option that you can use with trees.

For more information on the use of levels, see Defining Levels.

The individual offices, such as 8200, represent the lowest level of organization and appear at the far right of the tree. The leaves representing them are called *detail values*. You can recognize detail values in a tree because they have square brackets surrounding them [like this] and they don’t have the descriptive information that the tree nodes have.

The detail values are the values organized by the tree. The system uses the tree to determine which detail values go together.

For more information on adding detail values, see Adding Nodes and Detail Values.

Nodes

Nodes define the hierarchical relationship within the tree. The nodes can be either categories (as in a group of assets) or items that need to be placed in a relationship with other items (such as an item in a catalog).

Each detail value reports to a *tree node* at the next higher level of the organization. Each tree node represents the group of detail values that "report" to it. Referring to the node is a shorthand way of referring to the group of detail values under it. For example, if a report refers to the Office of the President, it will include data from all the detail values under the Office of the President node—including the detail values under the Human Resources department, since Human Resources reports to the Office of the President.

In turn, each tree node reports to another tree node at a higher level of organization, until we reach the top level of the hierarchy, called the *root node*. The root node appears at the top left of the tree.

Node names cannot exceed 20 characters and should not contain such special characters as /, \, *, :, ", <, >, and |.

The box next to a tree node can have a + sign or a - sign in it, depending on whether the node is *collapsed* or *expanded*. When a node is collapsed, Tree Manager doesn't display any of the nodes that report to the collapsed node, and the box has a + sign. When a node is expanded, Tree Manager displays all the nodes that report to it, and the box has a - sign. You can collapse and expand a node by clicking in the box. This feature enables you to view the tree at different levels of detail. When a node has no box next to it, it is a terminal node and cannot be expanded or collapsed.

Note. You can also highlight the root node and press the asterisk key (SHIFT+*) or select **View, Expand All** from the menu to expand the entire tree down to the detail values.

Family Tree Terminology

When talking about trees, we use terminology derived from the idea of a family tree. The nodes that report to the root node are called its *children*; the root node is their *parent*. Nodes that have the same parent are called *siblings*.

These terms refer to the relationship between nodes and are not permanent attributes of the nodes themselves. A single node can be a parent, child, and sibling all at the same time. For example, in the example below, ASIA/PACIFIC is a child of MANUFACTURING, a parent of AUSTRALIA, and a sibling of both EUR/AFR/MID-EAST and AMERICAS.

Categories

Tree Manager enables you to organize tree structures under high-level groupings called *categories*. In the example below, there are two categories: DEFAULT and QUERY. The QUERY category contains a tree structure named ACCESS_GROUP.

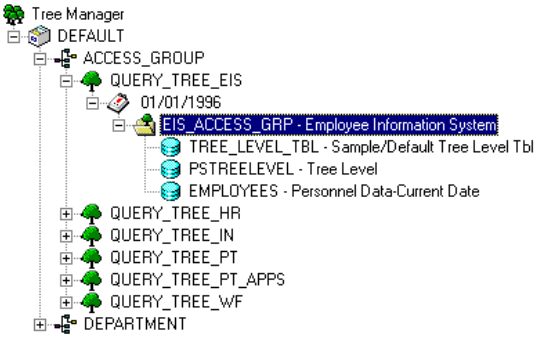
The category must conform to the same character limitations as the tree name. Category names cannot exceed 18 characters and should not contain such special characters as /, \, *, :, “, <, >, and |.However, there will be no edit checks to verify the category’s existence—if the category doesn’t exist, Tree Manager will add a new one.

Note. A tree cannot belong to more than one category.

Structures

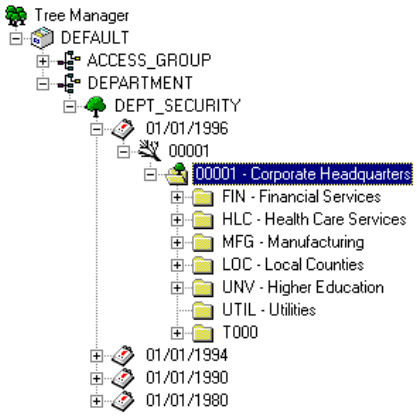
The structure identifies the field upon which the tree is built. You can expand tree structures to show individual tree names that use the same structure. The structure for a tree is specified in the tree definition when the tree is created.

In the following example, the ACCESS_GROUP tree structure contains several query access trees.



Expanding a structure containing query access trees

The following is another example of an expanded structure. In this case, the structure is named DEPARTMENT and contains a department security tree (DEPT_SECURITY). This is a node-oriented tree that contains no detail values (leaves).



Expanding a structure containing a department security tree

Effective Dates

Using effective dates with trees allows you to specify new objects, departments, reporting relationships or organizational structures in advance and have them take effect automatically. You can also use trees with past, present, or future effective dates when reporting on current or historic data.

SetIDs

Most data in control tables is stored by SetID. Trees are identified by the four key values shown in the Open Tree dialog box: SetID, User Key Value, Tree Name, and Effective Date.

Detail Values

Detail values or *leaves* are what link a roll-up structure to the supporting detail. Here is an example showing how detail values are used. The nodes in an account tree are not the actual accounts but, rather, categories of accounts. For the tree to have any meaning, you need to define the accounts that go into the most detailed nodes on the tree. This is where the detail values come in. The detail values are defined as children of the node, and in them you enter the range of values of other items that fall into that node. If we use the account tree as an example, we can have a node called “Assets,” with detail values specifying a range of accounts from 1000 to 1999 rolling up to it.

Tree Levels

When you create a tree, Tree Manager gives you the option to use levels. A level is an optional component that lets you show a vertical relationship among nodes. Levels provide you a “shorthand” way to refer to all nodes that either share a single parent or share different parents at the same level. This allows you to refer to a level and automatically obtain all of the nodes/detail values assigned to that level. Nodes that are assigned to a particular level will usually represent the same type of functional information such as region, division, or location.

When you choose to use levels, the names you give to the levels appear in the status bar below the tree display. Level names cannot exceed 10 characters and should not contain such special characters as /, \, *, :, “, <, >, and |.

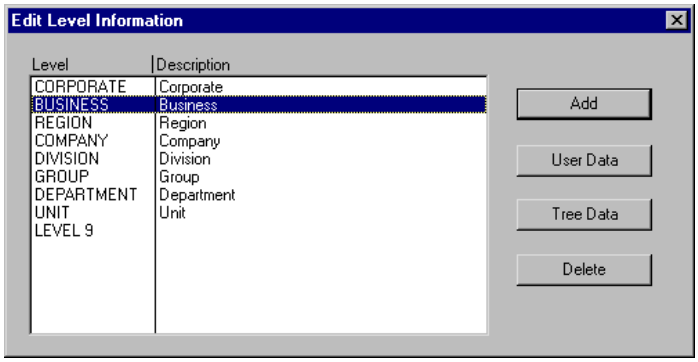
You can view the level name of the node in the status bar at the bottom left of the page, as in the following example:

You can choose whether the tree uses levels to organize its nodes. The Use of Levels options are as follows:

- **Strictly Enforced**. All the nodes at a particular level represent the same kind of information, the same level in the hierarchy. In an organization tree, for example, all nodes at one level represent companies, all nodes at the next level represent divisions, and so on. With strictly enforced levels, each node has a level assigned to it based on its position in the tree.
- **Loosely Enforced.** The nodes at the same visual level of indentation do not all represent the same kind of information, or nodes representing the same kind of information appear at multiple levels. With loosely enforced levels, you assign a level to each node individually; the level is not tied to a particular visual position.
- **Not Used.** The nodes in the tree have no real hierarchy or reporting structure but do form a logical summarization structure. With this option, nodes do not have levels associated with them.

To view all the levels that exist for a tree:

1. Select **Edit, Levels** or right-click on any node and select **Edit Levels** from the pop-up menu.
2. The **Edit Level Information** dialog box appears, showing all existing levels in the tree.



Edit Level Information dialog box

In most trees, all nodes at the same level represent the same kind of information—in other words, the levels have meaning. For example, in a tree that reflects the organizational hierarchy, all division nodes appear on one level and all department nodes on another. Similarly, in a tree that organizes your product catalog, the nodes representing individual products might appear on one level and the nodes representing product lines on the next higher level.

Sometimes you want to be able to identify all the nodes on the same level as a group, even when they don't share the same parent. For example, you might create a PS/nVision layout that summarizes the data for a division, then define a PS/nVision scope that creates one report instance for each division, regardless of what company it's in. To allow you to refer to all the nodes at a level, Tree Manager enables you to name each level. You'll use the level name when you define the scope for your PS/nVision report (rather than identifying all the nodes individually). Naming your levels gives you another way to "slice" the data in the tree.

For more information about your options for using levels when creating trees, see Defining New Trees.

Using Different Types of Trees

Tree Manager enables you to create many kinds of trees for a variety of purposes, but all trees fall into the following major types:

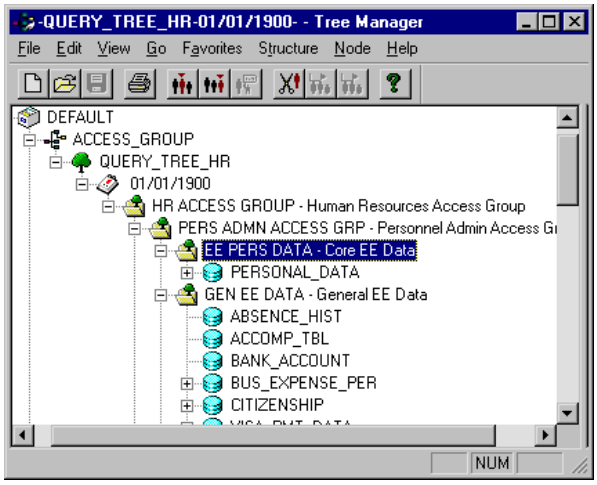
- Query access group trees, which organize database records for PeopleSoft Query security.
- Node-oriented trees, in which database field values appear as tree nodes.
- Detail trees, in which database field values appear as detail values.
- Summary trees, which provide an alternative way to group nodes from an existing detail tree, without duplicating the entire tree structure.

In this section, we describe these types of trees and explain where they're most commonly used.

Query Access Trees

PeopleSoft Query uses a special type of tree to manage PSQuery data security. A *query tree* organizes records into *access groups*. In the Query Security component, you specify which access groups the user has access rights to. Users can create or run queries on record definitions from only those access groups they have rights to.

In a query tree, access groups are shown as standard tree nodes and record definition nodes have the blue cylinder icon.



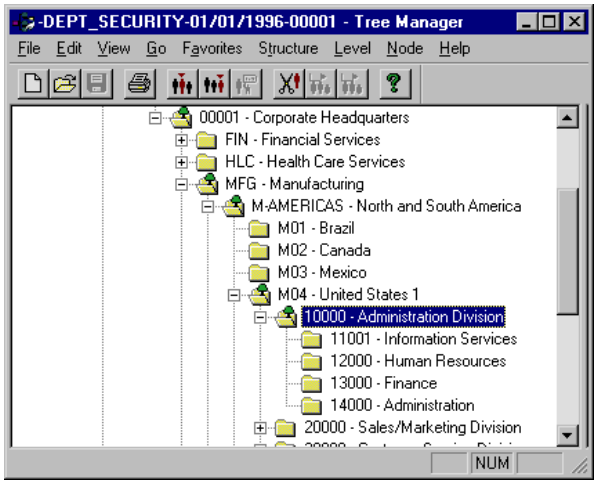
Human Resources query access tree

For more information about query access trees and their role in PeopleSoft Query security, Setting up Query Security.

Node-Oriented Trees

In the types of trees we've discussed so far, the detail values represent data values from a database field and the tree nodes represent roll-up points for detail values. The nodes have no meaning outside the context of the tree. This type of tree is the most common, but it's not the only kind you can create with Tree Manager. You can also create *node-oriented trees*.

In a node-oriented tree, the tree *nodes* represent the data values from the database field. The system uses node-oriented trees for special purposes. For example, PeopleSoft HRMS applications use the Departmental Security tree to help enforce data security by giving users access to information about employees in their department only.



Departmental Security node-oriented tree

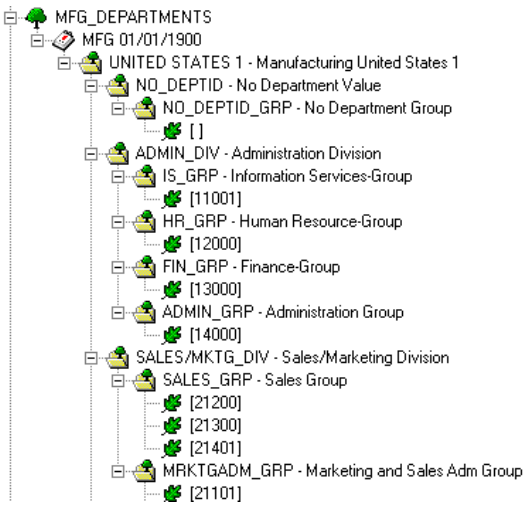
This tree has no leaves. (Because of this, such trees are sometimes called *winter trees*.) Instead, each node is a possible value of the DEPTID field.

Detail Trees

In the most basic type of tree, the "lowest" level—that is, the level farthest to the right in the Tree Manager window—holds detail values. The next level is made up of tree nodes that group together the detail values, and each subsequent level defines a higher-level grouping of the tree nodes. This kind of tree is called a *detail tree*.

You can recognize a detail tree by the fact that the lowest level in its hierarchy consists of the detail values, which are represented by leaves. You can use a detail tree to represent account hierarchies, product hierarchies, business unit hierarchies, and so on.

Detail trees are used most often for nVision reporting from the Genera Ledger.



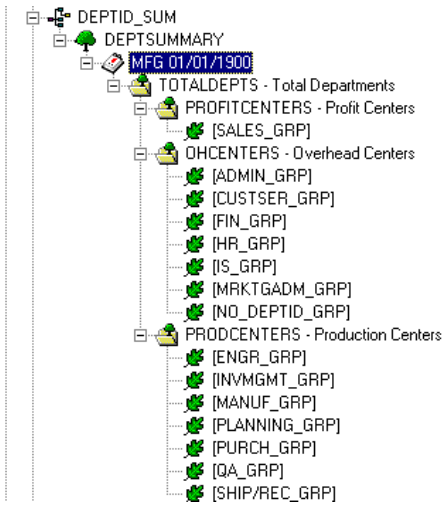
Manufacturing Departments detail tree

Summary Trees

You can also create *summary trees,* which are only used for General Ledger. A summary tree is a tree that provides an alternative grouping of the nodes from a detail tree without duplicating its entire structure. In a summary tree, the detail values are tree nodes from an existing detail tree rather than values from a database field. The tree groups the nodes from a specific level in the detail tree differently from the way it groups the higher levels in the detail tree itself.

For example, suppose you want to roll up your departmental hierarchy differently for two reports. The first report shows the reporting structure, so you want to group your departments according to which division they report to. The second report is a financial report showing profit centers, overhead centers, and production centers. From the group level down, the two hierarchies are the same.

You have two options. You could create two complete detail trees, identical from the group level down. Or you could create one complete detail tree, then create a summary tree whose detail values are the group-level nodes on the first tree.



Manufacturing Departments summary tree

When you use a node from a summary tree in a report or summary ledger, the system refers back to the detail tree to determine which detail values report to that node. For example, suppose you want to report on production centers. You've created a summary tree that shows which groups are production centers, and you pick the Production Center node. The summary tree shows that the Engineering Group and the Manufacturing Group (among others) are production centers but doesn't show which departments are in these groups. The system goes to the detail tree to determine which departments are in the group.

Summary trees make it easier to maintain your trees. If you make a change in the lower part of the tree, you need to update only one tree.

The most common use of summary trees is to create summary ledgers in PeopleSoft Financials applications. You create summary trees based on your basic ChartFields to create alternative roll-ups. You create reports based on the various summary trees to view your financial data from a variety of perspectives.

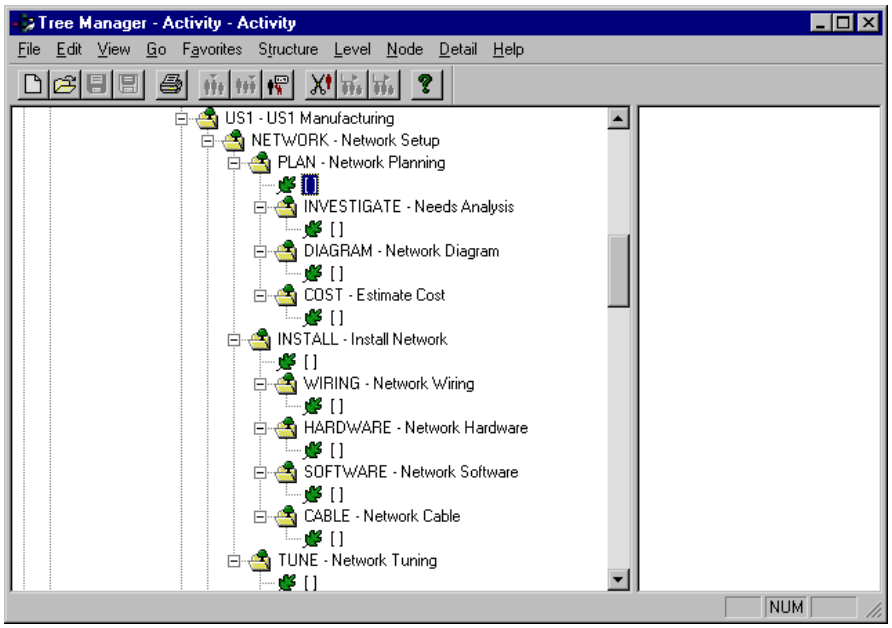
Dynamic Detail Trees

A fifth kind of tree is a *dynamic detail tree*. Like other node-oriented trees, a dynamic detail tree has tree nodes representing the data values for a database field. In a normal detail tree, the detail values that fall under each node are defined by a specific value or range of values. A dynamic detail tree determines the detail by matching the node name with a field on the value table. However, a dynamic detail tree also has detail values, although these are a different kind of detail value than other trees have.

In all other trees, you explicitly identify which detail values report to each node at the next higher level. In a dynamic detail tree, you tell the system to dynamically determine appropriate values at the time it uses the tree. Instead of specific values, the detail values are blank.

Another distinctive feature of dynamic detail trees is that the detail values represent values from a different database field than the one the tree nodes come from. Dynamic detail trees are the one exception to the rule that trees organize the values from a single database field. Instead, they organize the values for a pair of fields that jointly serve as the key fields for the data you're organizing.

The best example of a dynamic detail tree is a project tree from PeopleSoft Projects or PeopleSoft Manufacturing.



Manufacturing project dynamic detail tree

Each node represents a value of the PROJECT_ID field. The structure of the tree determines the relationships between projects and their subprojects, so that your reports can roll up project data. Projects are not the lowest level of detail, though. Each project consists of activities, and when you assign a manufacturing cost, you assign it to a particular project *and* an activity. These two fields, PROJECT_ID and ACTIVITY_ID, are both key fields for the project data. So to capture these costs, the project tree needs to group the activities for each project. That's where the detail values come in.

The detail values in this tree represent values for ACTIVITY_ID. Rather than listing each ACTIVITY_ID value separately, however, you tell Tree Manager to *use all the activities associated with the parent PROJECT_ID*. For example, if you ask for a report on the WIRING project, the system will roll up the data whose PROJECT_ID is WIRING and whose ACTIVITY_ID is *any value*.

CHAPTER 2

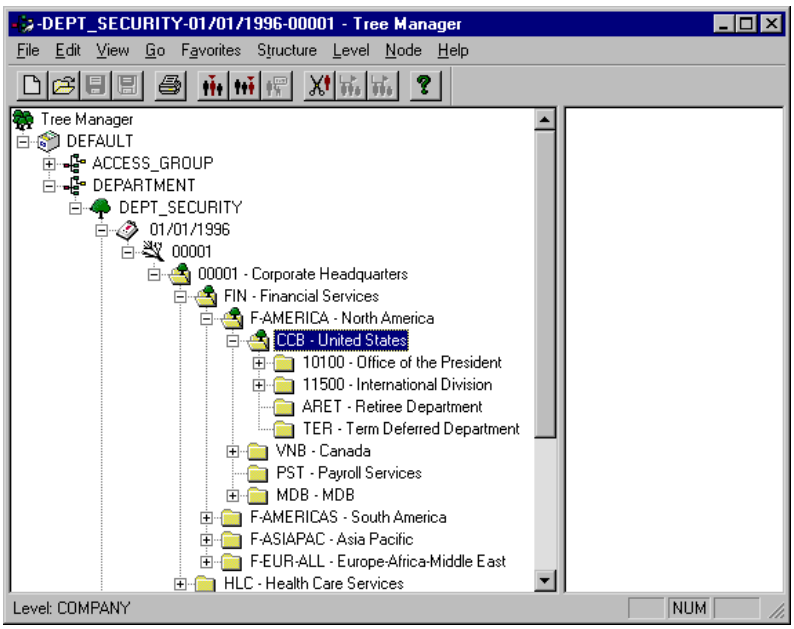
Using Tree Manager

Tree Manager lets you view, create, and modify the trees that you use in PeopleSoft applications. This section describes the basic procedures for using Tree Manager.

To start Tree Manager:

1. Select Go, PeopleTools, Tree Manager.
2. The Tree Manager page appears. Expand the nodes to display them.

   The illustration below shows what you see after you expand a tree. When you first open Tree Manager, the tree display is collapsed—the nodes are not shown until you expand them.



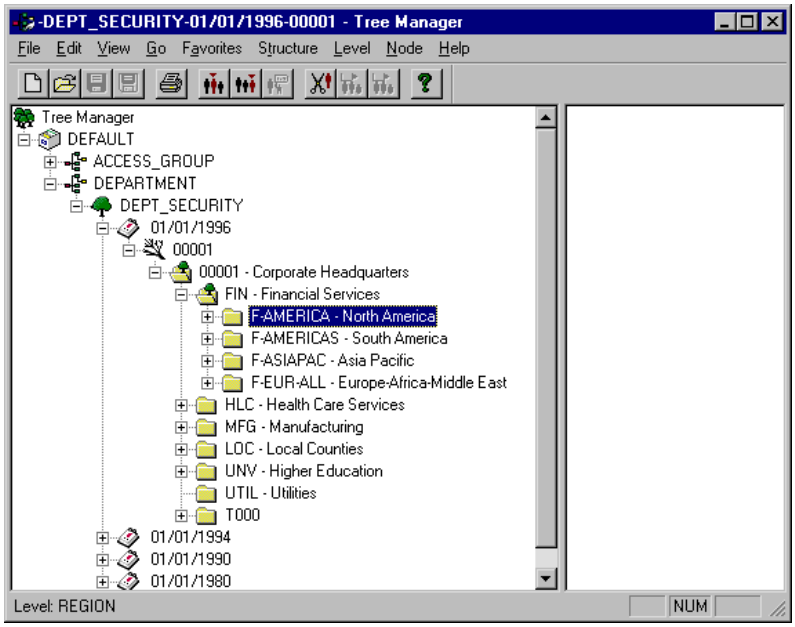
Tree Manager page

Understanding Your Workspace

PeopleSoft provides several convenient features to help you make the most of your Tree Manager sessions, including a “split screen” option, an option to move the toolbar, and extensive use of context-sensitive menus.

Controlling the Tree Manager Display

By default, Tree Manager displays its toolbar just below the menu bar and its status bar at the bottom of the window. If you open a tree that has levels, Tree Manager displays the level name of the selected node on the status bar. (Note that this is a change in behavior from previous releases, in which Tree Manager displayed a level bar below the toolbar.) You can move and reshape the toolbar.



Tree Manager shows level names in the status bar

To specify when and where the toolbar appears:

1. Select View, Tool Bar to display or hide the toolbar.

   View, Tool Bar is a toggle option. If the toolbar is currently displaying, selecting this option turns it off; if it isn't displaying, this option turns it on. A check mark appears next to the menu item when the toolbar is on.

2. Click the toolbar between buttons and drag it to the location you want.

   As you move the mouse pointer, a dotted rectangle in the shape of the toolbar moves with it. When the rectangle is in the position you want, release the mouse button. The toolbar moves to its new position.

3. Reshape the toolbar.

   When you move the cursor over an edge of the toolbar, it turns into a double-headed arrow. Click the mouse button and hold it down. The border of the toolbar becomes dotted. Drag the pointer until the dotted rectangle is the shape you want.

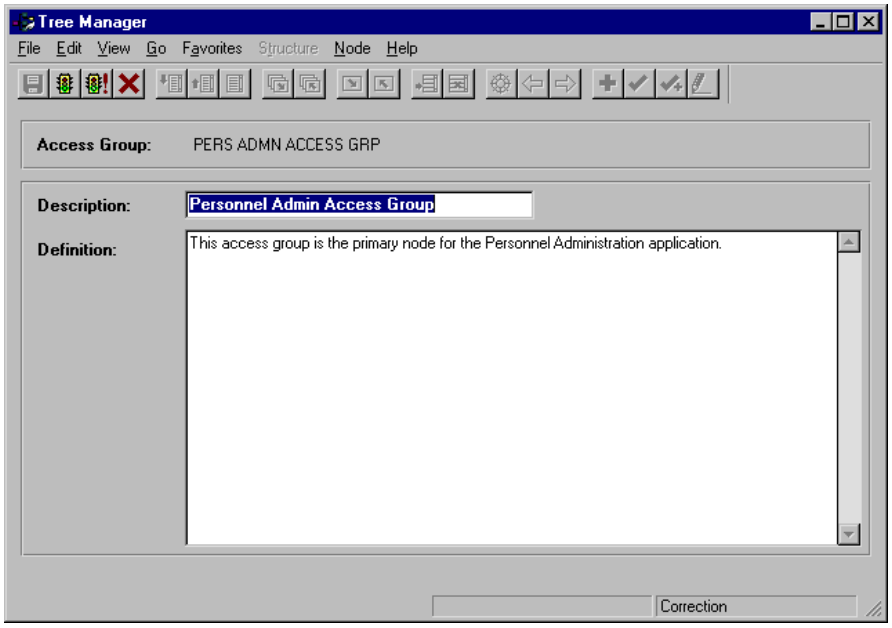
Note. The dotted outline of the toolbar doesn't track to the mouse pointer as you drag it. The selected side "jumps" to the mouse pointer when the toolbar is an appropriate shape.

Split Screen Option

When selecting a node associated with a page, you can decide how you would like Tree Manager to display the page. There are two options: full screen and split screen.

Full Screen Page

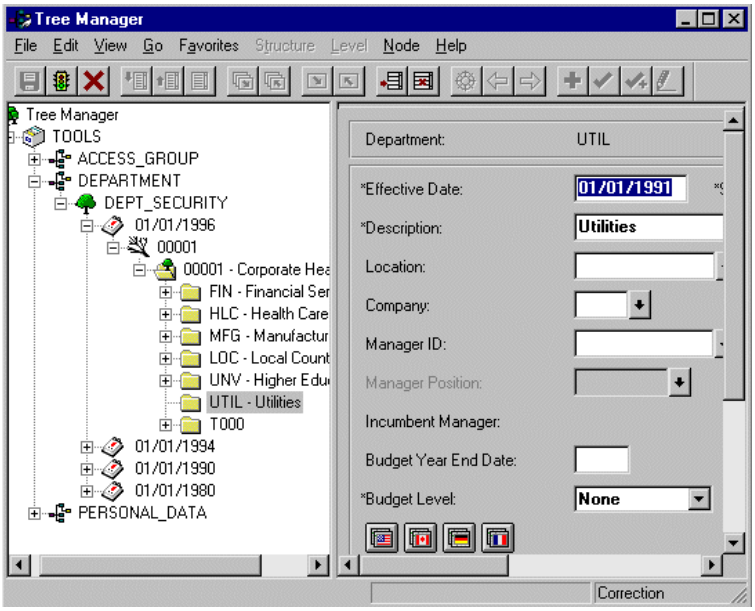
You can view the full page in the same display area that Tree Manager was occupying. To do this, select View, Full Screen Page. When this feature is enabled, you see a check mark next to this menu item. You'll see that the associated page seems to replace Tree Manager but that the words *Tree Manager* still appear in the title bar at the top of the page.



Viewing a full screen page directly from Tree Manager

Split Screen Page

With the Full Screen Page option turned off, Tree Manager will make use of its split screen capability to show the page in the right pane, as shown below.



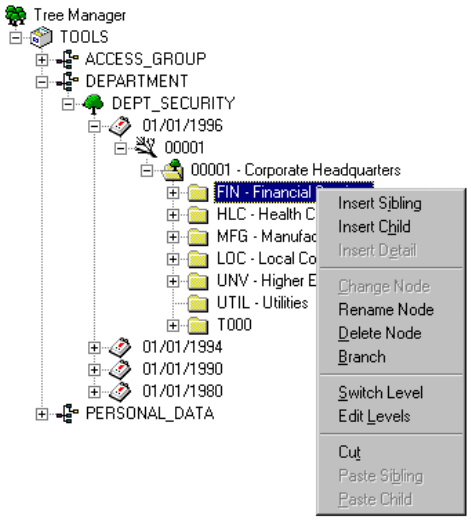
Taking advantage of Tree Manager's split screen functionality

If you are using the split screen option (Full Screen Page is turned off), then the type of display you see on the right is governed by the Page Sizing control on the Configuration Manager's Display tab.

The two options for the page size are *Clip* and *Scale*. If you choose *Clip*, the display will use the normal font size and be "clipped" to fit the window. If you choose *Scale*, the display will be scaled to any size necessary to fit the window. These options affect the display of *all* pages, not just those associated with Tree Manager.

Context-Sensitive Menus

You can right-click on just about any tree object to bring up a context-sensitive pop-up menu. Right-clicking works on every object in the tree hierarchy from the tree definition down—including nodes, detail values, and so on. The pop-up menus contain a subset of the options available through the full Tree Manager menu and are simply a "shortcut" to these menu options.



Right-click to display context-sensitive pop-up menus

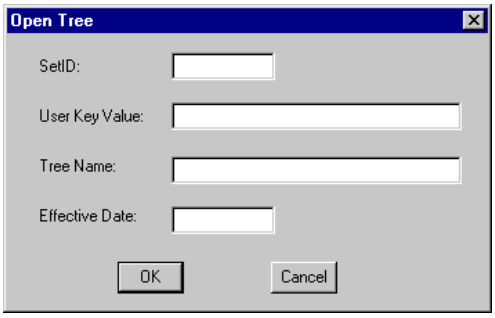
Opening and Viewing a Tree

Opening a tree using Tree Manager is much like opening a document in a word processing or spreadsheet application. With the tree open, you can view its different parts and navigate to its associated nodes and detail values.

To open a tree using the menu bar or toolbar:

1. Select File, Open or click the Open File button .

   The Open Tree dialog box appears.



Open Tree dialog box

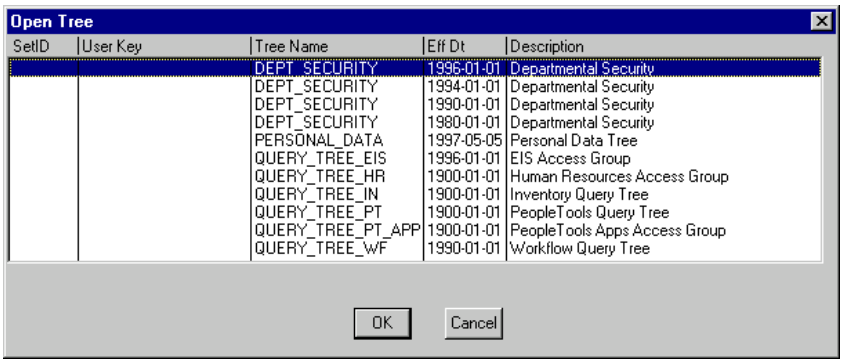
   You use the Open Tree dialog box to identify which tree in the system you want to open. Trees are identified by the four key values shown in the Open Tree dialog box: SetID, User Key Value, Tree Name, and Effective Date.

2. Enter values in the SetID or User Key Value, Tree Name, and Effective Date text boxes, then click the OK button. If you don't know all of the values for the tree, enter the ones that you

know and a search dialog box will appear with matching criteria.

For example, if you want to open the Personal Data tree, you would enter part of the key name, such as pers.

The Open Tree list box appears.



Open Tree list box

The system displays a list of the trees that match the data you've entered in the Open Tree list box.

3. Double-click the entry for the tree you want to open, or highlight it and click the OK button.

   The system opens the selected tree.

To open a tree using roll-up boxes:

1. Click the roll-up box next to the Category and Structure for the tree.

   If you know the category and structure for the tree that you want to open, you can click the roll-up boxes to see the tree's various components. (Roll-up boxes are the small boxes with a plus sign ⊞ or minus sign ⊟.)

2. Either double-click the SetID/Effective Date icon for the tree, or click the plus sign ⊞ next to it.

   The system opens the specified tree.

Viewing Parts of the Tree

You can view the parts of your tree by clicking the roll-up boxes to expand that part of the tree or by using commands from the menu bar.

To use either option, you must highlight the node that you want to expand.

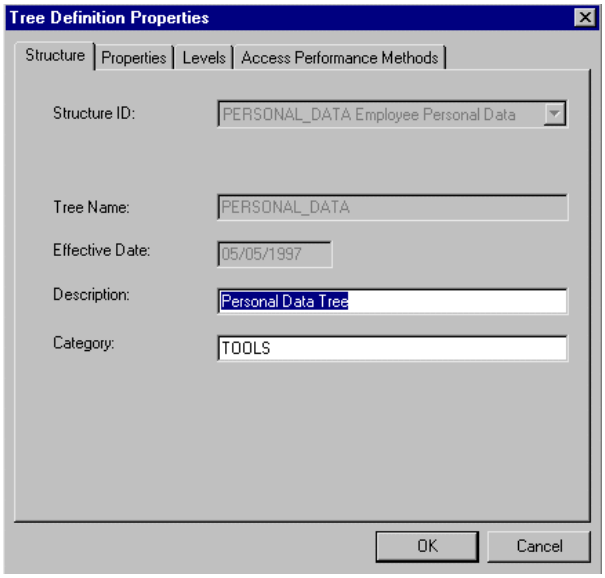
To view an open tree's definition:

1. Open the tree.

   Remember that only one tree at a time can be open. Tree Manager automatically closes a tree when a new one is opened.

2. Select Edit, Tree Definition from the menu bar or right-click the SetID/Effective Date icon and select *Tree Definition.*

   The Tree Definition Properties dialog box appears.



Tree Definition Properties dialog box

The Tree Definition Properties dialog box is the same one you see when you create a new tree, except that most of the fields here are display-only.

The parts of the tree definition that you can modify are its Description, which appears in prompt lists, and its method of handling detail values. You can also change the Category and the Use of Levels section (from the Levels tab), as long as you change to a less restrictive value. For example, you can change Strictly Enforced levels to Loosely Enforced levels, but you can't change from not using levels to using them or from Loosely Enforced levels to Strictly Enforced levels. You must save your modified definition to retain any changes.

Note. The Tree Name defaults to the name of the open tree.

For more information about what the various settings mean, see Creating Trees.

Expanding and Collapsing Nodes

You can collapse any node at any level, to give you a better overview of the entire tree. Boxes with a plus sign indicate that you can expand the node to show additional nodes and detail values.

To expand a node:

1. Click the roll-up box ⊞.

   Collapsed nodes have a plus sign to indicate that they have children you can't see. When you click the box, the node's children appear and the box shows a minus sign.

To expand all nodes below the highlighted node:

2. Select View, Expand All.

   Using Expand All from the menu expands the entire tree, allowing you to see all nodes and detail values.

Note. You can also use the keyboard shortcut SHIFT+8 to expand all nodes.

To collapse a node:

1. Click the roll-up box ⊟.

To collapse all nodes below the highlighted node:

2. Select View, Collapse All.

Searching for Nodes or Detail Values

Trees can be quite large and complex, with many nodes and detail values. In most cases, you can't see the whole tree at once. If you don't want to scroll through the tree looking for the node or detail value you want, you can search for it using Edit, Find from the menu bar.

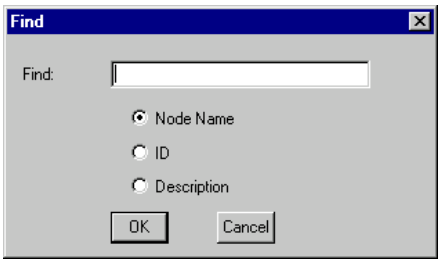
To search for a node or detail value:

1. Highlight the node from which to start the search or highlight the root node to search the entire tree.

   Tree Manager searches the tree starting from the selected node and works down its branch. It will expand any collapsed nodes during the Find process.

2. Select Edit, Find.

The Find dialog box appears.



Find dialog box

The Find dialog box is where you enter criteria to search for a tree.

3. Specify whether you're searching for a tree node or a detail value.

   Node Name searches based on the tree node name. Description searches based on tree node descriptions. ID searches based on the RFT short name of the field represented by the detail value.

Note. You can search for a node based on its description even if you've turned off the Tree Manager's node description display. If your tree doesn't include detail values, the ID option is grayed out.

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4. Enter a search string in the Find text box.

   The search string is case-sensitive. You can include wildcard characters: an asterisk (*) matches any sequence of characters and a question mark (?) matches any single character.

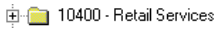
5. Click the OK button.

   If Tree Manager finds a node or detail value that matches your search string, it highlights it. If more than one node matches your search string, it highlights the first match. If the node or detail is not on the display because it is not expanded, Tree Manager highlights the first expanded parent. If Tree Manager doesn't find a matching node or detail value, it displays a message telling you so.

6. Press F3 or select Edit, Find Next to move to the next match (if there is one).

Working with Tree Nodes

A tree node in Tree Manager has four parts: the roll-up box with a plus or minus sign, the node icon, the node name, and a node description.



In this example, the node is collapsed, so the plus sign is shown along with the closed folder icon. The node name is 10400, and the node description is Retail Services.

When selecting a tree node in Tree Manager, you need to click or right-click the appropriate part for the action you want to perform.

To *expand* or *collapse* nodes, you click the roll-up box.

To *move* a node, you have the following three options:

- Click and drag the tree node name (this always results in a paste as a sibling).
- Select the node, choose Edit, Cut from the menu bar, select the destination, and choose Edit, Paste (Sibling or Child).
- Right-click the tree node name and select Edit, Cut and Paste as above from the pop-up menu.

To *delete* a node, *manipulate* level information, *insert* a child or sibling node, or perform similar actions, you can right-click the tree node name and select the appropriate options from the pop-up menu, or choose Edit, Delete from the menu bar.

The tree node description is for your reference only; you can't select it. If you don't want to see the descriptions, you can turn them off.

To display or turn off tree node descriptions:

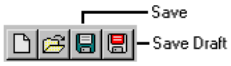
1. Select View, Node Descriptions.

   The View, Node Descriptions menu item is a toggle option. If the tree node descriptions are currently displayed, selecting this option turns them off; if they aren't displayed, selecting this option turns them on. A check mark appears next to the menu item when the node descriptions are in view.

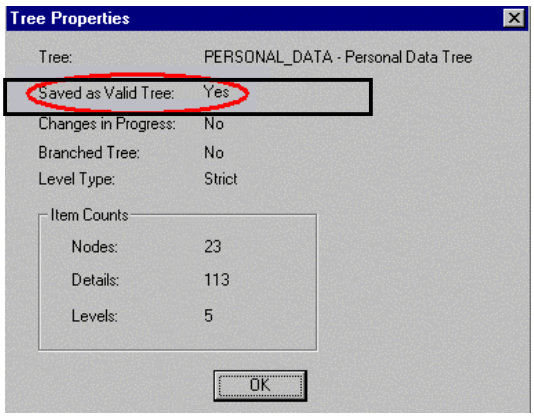
Note. Tree node descriptions may not be available if the effective date of the tree is earlier than the effective date of the node.

Saving Trees

You can, if you choose, save a tree in draft mode. This prevents the regular audits from being performed when a tree is saved. Thus, it's possible to create and save (in draft mode) trees that are invalid. When a tree is saved in draft mode, the system considers it an invalid tree and it can't be used in other PeopleSoft applications such as Query or PS/nVision until it has been saved as a valid tree. Trees are always marked "invalid" in draft mode. They will remain invalid until the tree audit is passed when you select the regular Save As command from the menu, or until the tree audit is performed when auditing a closed tree.



Your can see if your tree is a valid tree or draft tree by viewing the Tree Properties page. You can access this page from the Tree Manager by selecting View, Tree Properties.

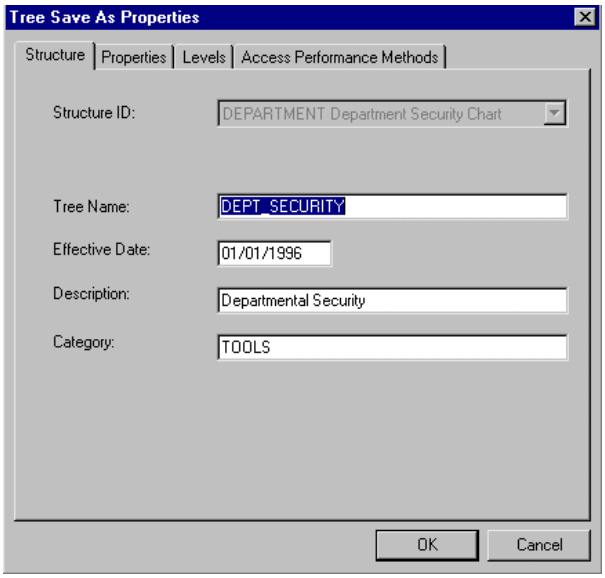


Tree Properties page

To save a tree:

1. Select File, Save or File, Save As or click the Save button .

   The Tree Save As Properties dialog box appears.



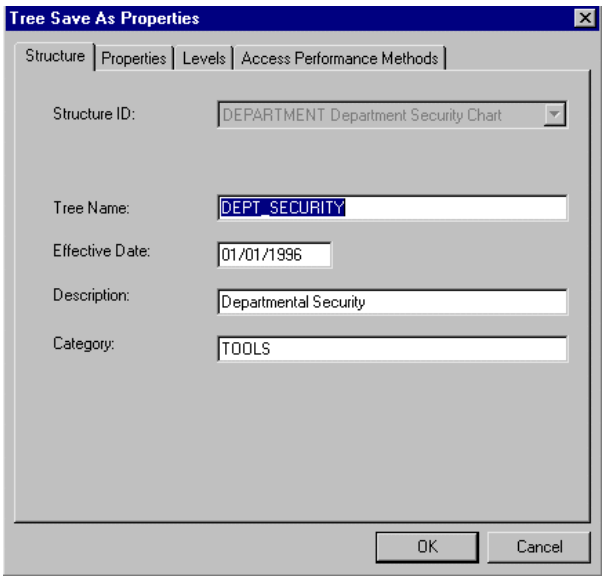
Tree Save As Properties dialog box

   Check each tab to make sure that the tree properties are correct.

2. Click OK.

To save a tree in draft mode:

1. Select File, Save Draft or File, Save as Draft or click the Save as Draft button on the toolbar.



Tree Save As Properties dialog box

Check each tab to make sure that the tree properties are correct.

Copying Trees

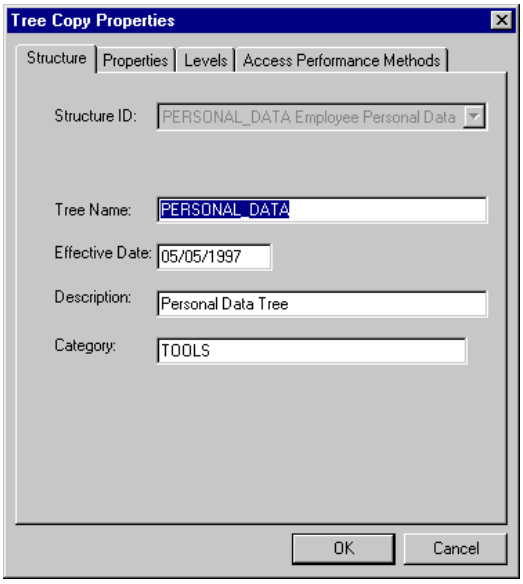
You can create a copy of a tree in two ways: by saving the tree with a new name (File, Save As), or by performing a "fast copy" (File, Copy). The File, Copy option is faster because it copies the appropriate rows in the database without opening the original tree. All the action happens on the database server rather than on your workstation.

Note. In PeopleSoft it is possible to copy a tree into another SetID. However, it is simply copying the tree data and not the supporting user data.

To copy a tree:

1. Highlight the desired tree and select File, Copy or right-click on the tree and select Copy Tree from the pop-up menu.

   The Tree Copy Properties dialog box appears.



Tree Copy Properties dialog box

This property box contains the same information, as does the Tree Definition property box.

2. Update the information for the new tree.

You must enter at least a new Tree Name and Effective Date. You can also change any of the other settings, although there are restrictions on your changes to the Use of Levels setting.

Note. You can change the Use of Levels setting, but only to a less restrictive value. For example, you can change Strictly Enforced levels to Loosely Enforced levels, but you can't change from not using levels to using them or from Loosely Enforced levels to Strictly Enforced levels.

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3. Click the OK button.

Tree Manager creates the new tree, and it's available for you to open.

Printing a Tree

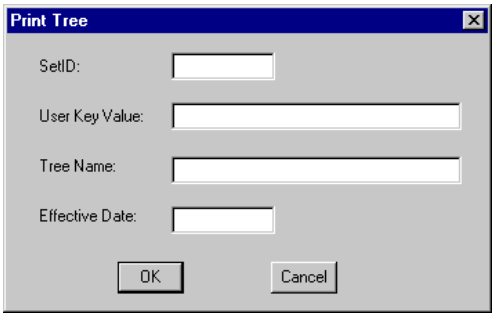
There may be times when you would like to print a tree to make it easier to see the tree's hierarchy and to locate its nodes and detail values. Printing can be very helpful when working with very large trees.

Printing a tree is just like printing a file from a word processing application. The tree does not need to be open for you to print it. You can use the menu bar or the Print button on the toolbar. Any open trees will be closed before your print job is sent to a printer.

To print a tree:

1. Select File, Print or click Print on the toolbar.

   The Print Tree dialog box appears.

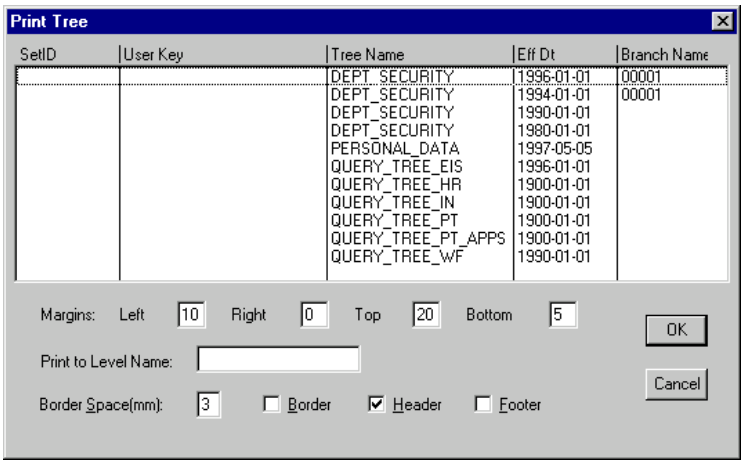


Print Tree dialog box

   The initial Print Tree dialog box is where you enter identifying information about the tree that you want to print.

2. Enter the SetID or User Key Value, Tree Name, and Effective Date (or as much of this information as possible), then click the OK button.

   If you don't provide complete information in the initial Print Tree dialog box, Tree Manager displays a list of trees available for printing, including partial keys.



Print Tree list box

   You can define the page Margins for the printout in this dialog box. You can also specify the level to which you'd like to print the tree (leaving lower levels unprinted) by entering a level name in the Print to Level Name text box. Tree Manager automatically adds a Border, Header, and Footer to the printout if you select these check boxes. The Border Space option specifies how much space to leave between the border and the first line of the tree printout.

3. Select the appropriate tree from the list, include margin or other print attributes, and then click OK.

Note. Tree print jobs are sent to your default printer. You can change printers and make other changes to printing parameters by selecting File, Printer Setup.

CHAPTER 3

Creating Trees

Trees are built from the highest level of the hierarchy (root node) to the lowest level of the hierarchy. There are some basic steps that you'll need to follow to create the trees you'll use to look at your data hierarchies.

First, create the tree definition. The tree definition specifies what tree structure it uses, what the tree's name and key values are, how it handles detail values, and whether it uses levels. Then, specify the levels in the tree, if it will be using them. Next, insert the tree nodes that define the hierarchy of the tree.

Finally, attach detail values as "leaves" on your nodes. Most types of trees—detail trees, summary trees, and dynamic detail trees—have detail values. However, you skip this step for node-oriented trees and query access trees.

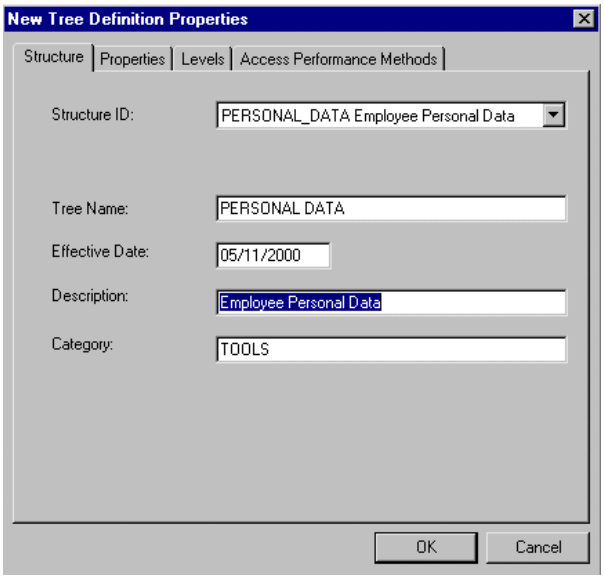
Defining New Trees

To create a tree, you select a tree structure, enter a name and description of the tree, and specify how to handle levels and detail values.

To create a tree:

1. Select File, New from the menu or click the New button on the toolbar.

   The New Tree Definition Properties dialog box appears.



New Tree Definition Properties – Structure dialog box

2. Go through each tab specifying the properties for the tree: Structure, Properties, Levels, and Access Performance Methods.

3. Click **OK** when you are finished with all of the tabs.

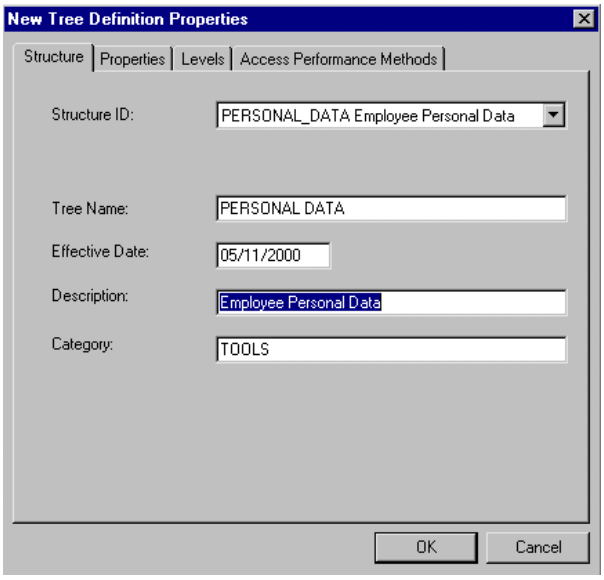
Defining the Tree Structure

This is where you define how this tree or set of trees will behave. The tree structure determines which PeopleSoft pages, records, and fields are used by Tree Manager when you build your trees.

To specify the structure:

1. Select the **Structure** tab.

   All fields initially will be blank, except for **Effective Date,** which will default to the current date.



New Tree Definition Properties - Structure dialog box

2. Select a **Structure ID** for the new tree from the drop-down list.

   The tree structure determines what database field the tree is based on, what pages you use to create tree nodes and detail values, and what record definitions Tree Manager saves tree-related data in. By selecting a tree structure, you don't have to specify all this information for the individual tree.

   The structure you select depends on the type of tree you're creating:

   - If you're creating a detail tree or a node-oriented tree, select a detail tree structure.
   - If you're creating a summary tree, select a summary tree structure.
   - If you're creating a query access tree, use the ACCESS_GROUP structure.

For more information on creating tree structures, see Creating Tree Structures.

3. Select the **SetID** or key information for the new tree.

   If you've implemented TableSet processing for your organization, select the SetID value you want to assign this tree in the SetID field. You can also choose a User Defined Key or a Business Unit as the tree's key.

4. Enter a unique name for this tree in the **Tree Name** field.

   Users use this name to identify the tree when they need to select one, and the name appears in the Tree Manager title bar when you open the tree. Tree names can be no more than 18 characters in length.

Note. Tree Manager does not support nonstandard table names when it creates the tree table for a new tree. For example, if you create a table to hold custom ChartFields and call it Custom_ChartFields, then create a tree based on that table, Tree Manager appends PS_ to the new tree table name automatically.

5. Enter an Effective Date.

   By default, Tree Manager uses today's date as the effective date. If you want the tree to go into effect on some other date, enter it into the Effective Date field. The date must be the same or later than the date of the detail values to be used in the tree, if those records are effective dated also. You can think of the Tree's effective date as a "good through" date for records that are brought up into the tree.

6. Enter a **Description** of the tree.

   Because you can create many trees with similar names, the description is a good way to distinguish between them.

7. Enter a **Category** name.

   The category is a high-level grouping under which you can organize your tree structures and tree definitions.

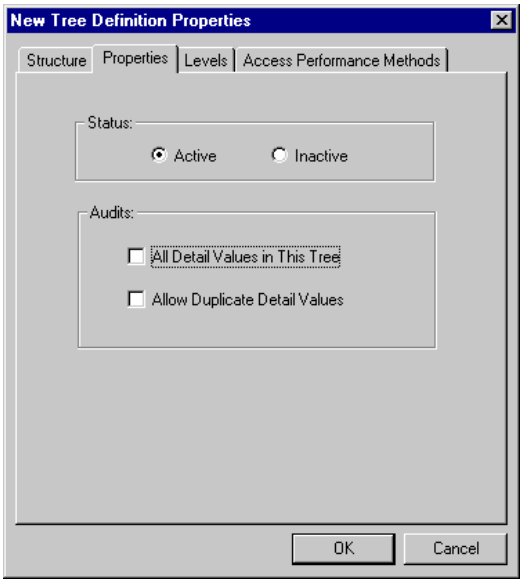
Defining the Tree Properties

Using the tree properties dialog box, you can change the status of a tree to keep others from using it. If you make a tree as inactive, you can ensure that no other users have access to your tree. You can also specify how trees are audited by the system by selecting different audit values.

To specify tree properties:

1. Select the **Properties** tab.

   The Properties dialog box appears.



New Tree Definition Properties - Properties dialog box

Select a status of **Active** or **Inactive.**

Typically, you'll leave the status of a tree active**.** An active tree can be used by other applications. An inactive tree, even though it is a valid tree, cannot be used within PeopleSoft.

2. Specify how to handle detail values. Select All Detail Values in This Tree or Allow Duplicate Detail Values.

All Detail Values in This Tree. You need to make sure that some trees, like trees that organize your Chart of Accounts, include a detail value for each and every defined Account ID. For such a tree, select the **All Detail Values in This Tree** check box. Whenever you save the tree, Tree Manager will verify that the tree includes all possible values and warn you if it doesn't. If you don't want Tree Manager to check the tree for all possible values, leave the check box clear.

Allow Duplicate Detail Values. In most trees, you want to make sure that each detail value only appears once in the tree. By default, Tree Manager warns you about detail values that appear under more than one tree node. If you want to permit duplicate values, select the **Allow Duplicate Detail Values** check box.

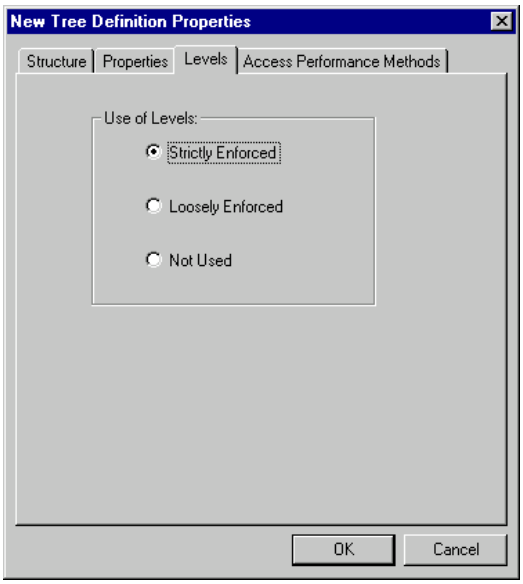
Defining Tree Levels

You can choose whether the tree uses levels to organize its nodes. Using levels in a tree helps you to identify all nodes at a certain level in your hierarchy.

To specify tree levels:

1. Select the **Levels** tab.

The Levels dialog appears.



New Tree Definition Properties – Levels dialog box

Note. Use of Levels defaults to Strictly Enforced.

2. Decide whether you want this tree to use levels.

   You can choose whether the tree uses levels to organize its nodes. The **Use of Levels** options are as follows:

   - **Strictly Enforced.** All the nodes at a particular level represent the same kind of information, the same level in the hierarchy. In an organization tree, for example, all nodes at one level represent companies, all nodes at the next level represent divisions, and so on. With **Strictly Enforced** levels, each node has a level assigned to it based on its position in the tree.
   - **Loosely Enforced.** The nodes at the same visual level of indentation do not all represent the same kind of information, or nodes representing the same kind of information appear at multiple levels. With **Loosely Enforced** levels, you assign a level to each node individually; the level is not tied to a particular visual position.
   - **Not Used.** The nodes in the tree have no real hierarchy or reporting structure, but do form a logical summarization structure. With this option, nodes do not have levels associated with them.

Note. You should use **Strictly Enforced** levels unless you have a compelling reason not to. Some features, such as creating summary trees, require trees that use levels. If **Strictly Enforced** levels are too restrictive for your application, use **Loosely Enforced** levels. You can't add levels later to a tree that doesn't use them.

Defining Access Performance Methods

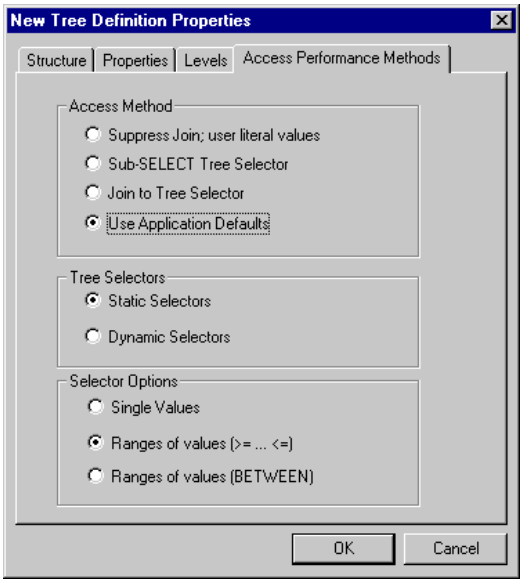
You can set various performance-enhancing options when creating your trees. These options help to improve the database performance of queries that use trees as selection criteria. This includes queries to which tree criteria are added by PeopleSoft nVision layouts and scopes.

Because of the many variations of data distributions, indexes, queries, and optimizers, you can choose SQL techniques that will tune your queries for optimum performance. By specifying these options at the tree level, your trees can be used in queries whether or not they are run through PeopleSoft nVision.

To specify Access Performance Methods:

1. Select the Access Performance Methods tab.

   The Access Performance Methods dialog box appears.



New Tree Definition Properties – Access Performance Methods dialog box

2. Select the appropriate options and click OK.

For more information about these performance options, see Setting Tree Performance Options.

Creating Tree Structures

Every tree you build is based upon a structure. It defines the link between your tree and the underlying tables to which it refers. There are two main kinds of tree structures: detail tree structures and summary tree structures. You use detail tree structures for all trees except summary trees, including node-oriented trees.

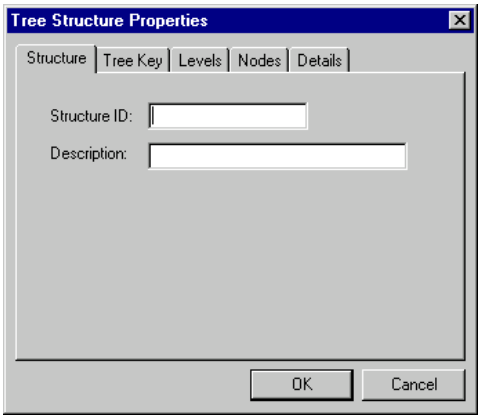
Defining Detail Tree Structures

In this example, we will create a detail tree structure. Detail tree structures are used for all types of trees except for summary trees.

To create a detail tree structure:

1. Select Structure, New, Detail.

   The Structure dialog box appears.



Tree Structure Properties– Structure dialog box

You use this dialog box to name the tree structure and to specify what pages and record definitions Tree Manager uses to gather and store data about the various parts of a tree.

You can enter page, record definition, field, and menu information for levels, nodes, and detail values. The values you enter in these fields determine what happens when you add or edit a node. Tree Manager displays the specified page and stores the data you enter in the specified record definition and field. If you include a menu and menu bar, Tree Manager gives you access to all the pages associated with that menu item.

To define the detail tree structure:

1. Enter a Structure ID for the tree.

   The Structure ID is the unique identifier of the tree structure, equivalent to a Company Code

or Department ID.

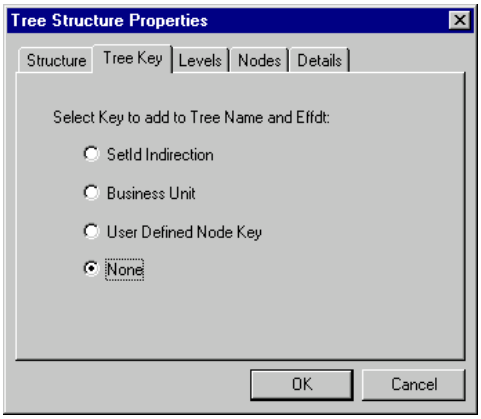
2. Enter a Description for the tree structure.

   The Description is the text that displays in list boxes or reports.

To define the tree key:

1. Select the Tree Key tab.

   The Tree Key dialog box appears.



Tree Structure Properties – Tree Key dialog box

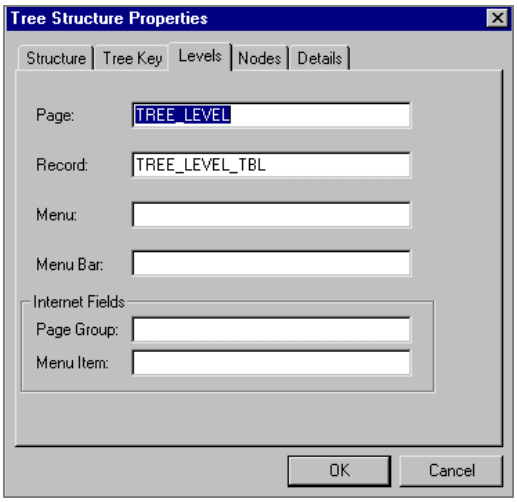
The Tree Key dialog box is where you select the type of key you want to use for this tree structure. The following options are available:

SetID Indirection	If you select **SetID Indirection**, the tree key acts as it always has, with the SetID of the tree acting as a pointer or link to one or more business units.
Business Unit	Select the specific **Business Unit** to act as the tree's key. The **Business Unit** field is defined on the Nodes tab.
User Defined Node Key	If you select **User Defined Node Key**, you can designate any field as the tree's key. **The User Defined Node Key** is set on the Nodes tab.
None	If you select **None**, your tree will not contain a key of any kind.

To define tree levels:

1. Select the Levels tab.

The Levels dialog box appears.



Tree Structure Properties – Levels dialog box

2. Enter the page and record definition to use for entering and storing information about levels.

When you create a new level in a tree, Tree Manager displays the page you specify in the Page field in the Levels dialog box and stores the data you enter using the record definition in the Record field.

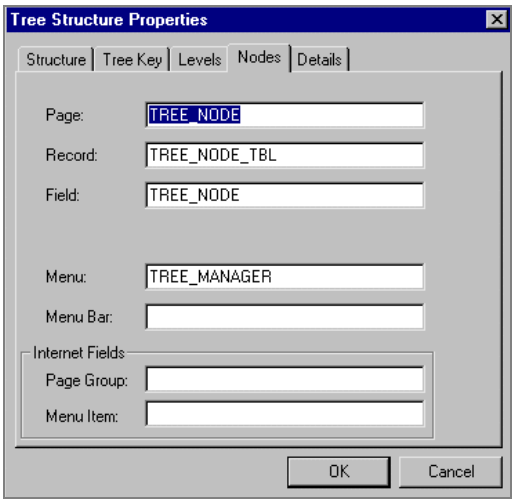
For most tree structures, you'll want to use the standard Tree Manager page for tree level information. To save you time, TREE_LEVEL is populated in the Page field and TREE_LEVEL_TBL in the Record field automatically. You don't need to enter anything in the Menu or Menu Bar fields.

Note. The Internet Fields group box is reserved for a future release. You may enter the Page Group and Menu Items fields now, but they will not be used by the system until Tree Manager is on the Web.

To define node properties:

1. Select the Nodes tab.

The Nodes dialog box appears.

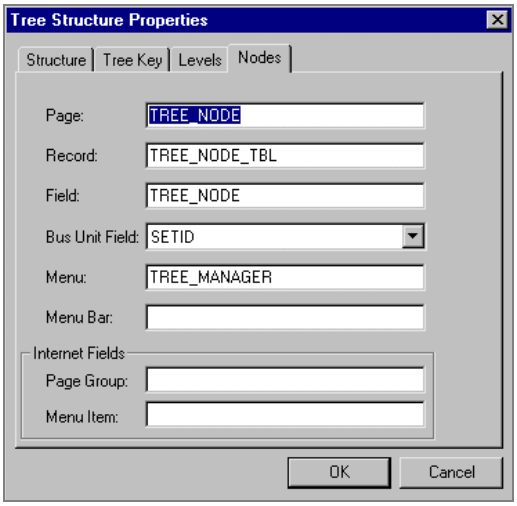


Tree Structure Properties – Nodes dialog box

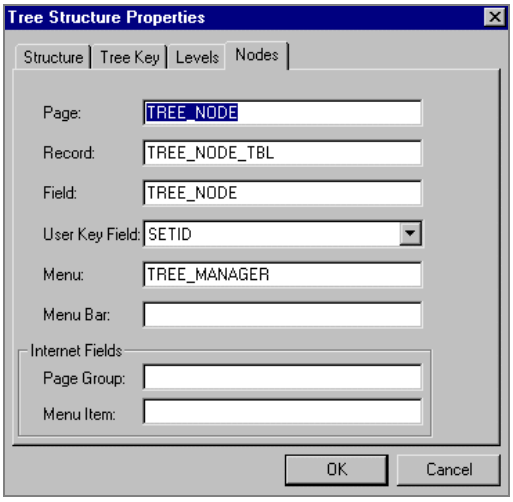
2. In the Nodes dialog box, enter the page, record definition, and field to use for entering and storing information about tree nodes.

The values you enter in the Nodes dialog box depend on the type of detail tree structure you're building.

- For a detail tree, simply leave TREE_NODE in the Page field, TREE_NODE_TBL in the Record field, TREE_NODE in the Field field, and TREE_MANAGER in the Menu field. You don't need to enter anything in the Menu Bar field.
- For a node-oriented tree, where each node represents a detail value, use the page, record definition, and field that correspond to the kind of detail value you're entering. For example, if each node represents a department (as in the Department Security table), use the DEPARTMENT_TREE page, the DEPT_TBL record definition, and the DEPTID field.
- If you are creating a Business Unit or User Defined Key tree structure, the Nodes dialog box changes to show the following options:



Tree Structure Properties – Nodes dialog box: Business Unit Tree



Tree Structure Properties – Nodes dialog box: User-Defined Key Tree

Sometimes the page you use for entering node values is part of a component, and you want to have access to the other pages in that group when you edit a node value in Tree Manager. Simply enter the name of the menu and menu bar for the component in the Menu and Menu Bar fields.

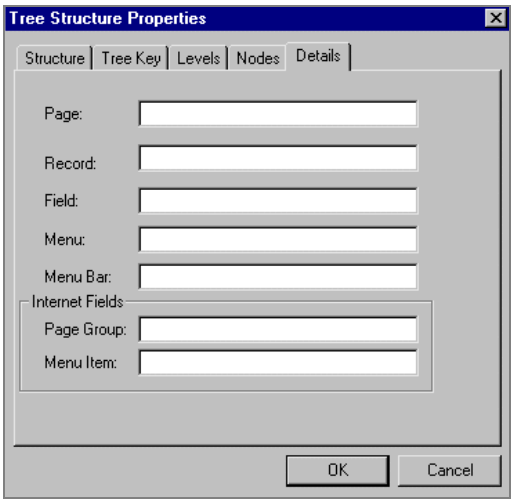
Note. The Internet Fields group box is reserved for a future release. You may enter the Page Group and Menu Items fields now, but they will not be used by the system until Tree Manager is on the Web.

For more information about the differences between detail trees and node-oriented trees, see Introduction to Tree Manager.

To define tree details:

1. Select the Details tab.

   The Details dialog box appears.



Tree Structure Properties – Details dialog box

2. For the **Details** tab, enter the information that Tree Manager needs for capturing and storing detail values.

Note. If you're defining a node-oriented tree structure, leave the Details dialog box blank.

In the fields in the Details dialog box, enter the name of the page, record definition, and field that correspond to the kind of detail value you're entering. For example, if each detail value represents a department, use the DEPARTMENT_TREE page, the DEPT_TBL record definition, and the DEPTID field.

Sometimes the dialog box you use for entering detail values is part of a component, and you want to have access to the other pages in that component when you edit a node value in Tree Manager. Simply enter the name of the menu and menu bar for the component in the Menu and Menu Bar fields.

3. Click the **OK** button to close the dialog box and create the tree structure.

Note. The Internet Fields group box is reserved for a future release. You may enter the Page Group and Menu Items fields now, but they will not be used by the system until Tree Manager is on the Web.

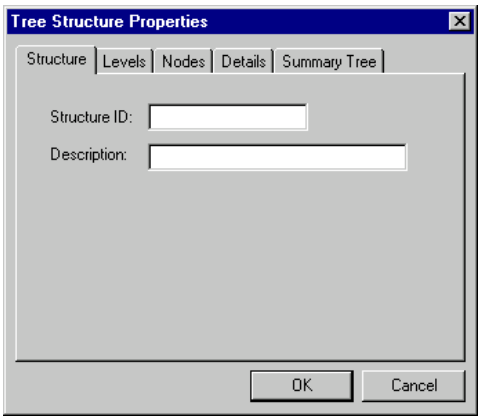
Summary Trees

In this example, we will create a summary tree structure. Summary trees provide another way to group nodes from an existing detail tree without duplicating the entire tree structure.

To create a summary tree structure:

1. Select Structure, New, Summary.

   The Structure dialog box appears.



Tree Structure Properties – Structure dialog box

   You use this dialog box to name the tree structure and to specify what pages and record definitions Tree Manager uses to gather and store data about the parts of a tree.

   This dialog box enables you to enter page, record definition, field, and menu information for levels, nodes, and to identify a detail tree and level from which to get detail values. The values you enter here determine what happens when you add or edit a node. Tree Manager displays the specified page and stores the data you enter in the specified record definition and field. If you include a menu and menu bar, Tree Manager gives you access to all the pages associated with that menu item.

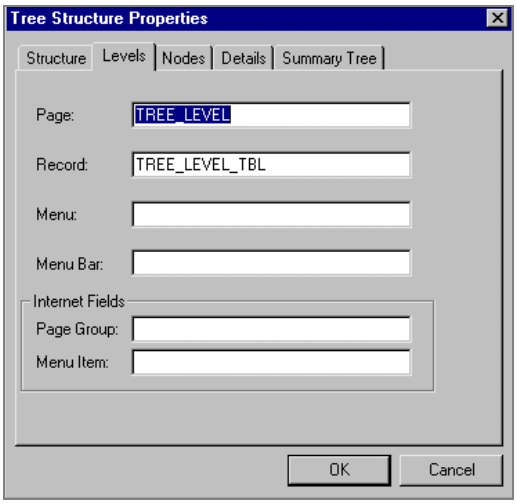
2. Enter a **Structure ID** and **Description** for the tree structure.

   The **Structure ID** is the unique identifier of the tree structure, equivalent to a Company Code or Department ID. The **Description** is the text that displays in list boxes or reports.

To define levels for the summary tree:

1. Select the **Levels** tab.

   The Levels dialog box appears.



Tree Structure Properties – Levels dialog box

2. Enter the **Page** and **Record** definition to use for entering and storing information about levels.

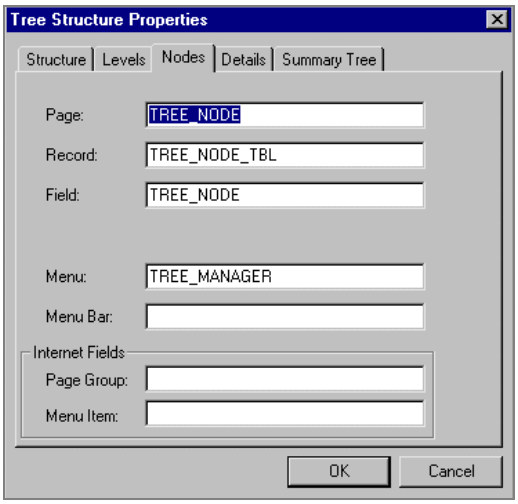
   When you create a new level in a tree, Tree Manager displays the page you specify in the **Page** field in the Levels dialog box and stores the data you enter using the record definition in the **Record** field.

   For most tree structures, you'll want to use the standard Tree Manager page for tree level information. To save you time, TREE_LEVEL is populated in the **Page** field and TREE_LEVEL_TBL in the **Record** field automatically. You don't need to enter anything in the Menu or Menu Bar fields. The table used for levels must have a column on it called TREE_LEVEL. This is the field Tree Manager uses since it is not specified on the Tree Structure, as it would be for Nodes and Details.

To define nodes in the summary tree:

1. Select the **Nodes** tab.

   The Nodes dialog box appears.



Tree Structure Properties for summary trees – Nodes dialog box

2. Enter the **Page, Record** definition, and **Field** to use for entering and storing information about tree nodes.

   For most tree structures, you'll want to use the standard Tree Manager dialog box for node information. To save you time, the Page field has been automatically populated with TREE_NODE, the Record field with TREE_NODE_TBL, and the **Field** field with TREE_NODE. Also, Tree Manager assumes nodes will be added to the TREE_MANAGER menu, but you can change this setting if you wish. You don't need to enter anything on the Menu Bar.

3. Skip the **Details** tab.

   Since you are creating a Summary tree, there are no details.

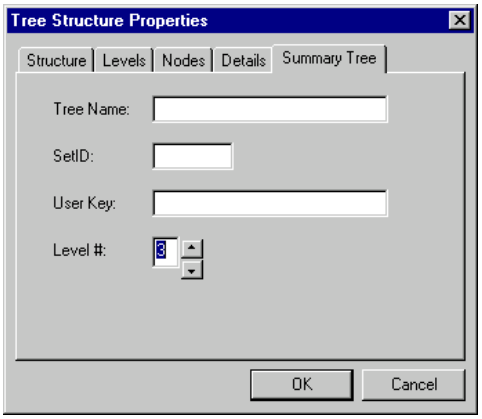
Note. The Internet Fields group box is reserved for a future release. You may enter the Page Group and Menu Items fields now, but they will not be used by the system until Tree Manager is on the Web.

For more information on the **Details** tab, see the section on defining tree details.

To define summary tree properties:

1. Select the **Summary Tree** tab.

   The Summary Tree dialog box appears.



Tree Structure Properties – Summary Tree dialog box

2. Identify the tree whose detail values the summary tree summarizes.

   To identify the detail tree, enter its **Tree Name, SetID,** and **User Key** or Business Unit Value.

3. In the **Level #** field, enter the number of the level in the detail tree whose nodes the summary tree will use as detail values.

   You can also click the up and down arrows to the right of the field to raise or lower the level number. The top (or leftmost) level in the detail tree is Level # 1, the next level is Level # 2, and so on.

Note. The detail tree must use levels.

For more information, see Defining New Trees.

4. Click **OK** to close the dialog box and create the tree structure.

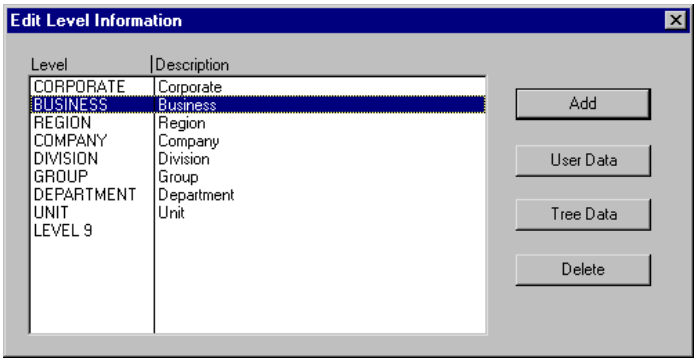
Defining Levels

If your tree uses strictly defined levels, you must add levels to it before you can add any nodes. If your tree uses Loosely Enforced levels or doesn't use levels, you don't need to define levels. Tree Manager's Edit Level Information dialog box provides a place to add, delete, and edit levels.

To add a level:

1. Select Edit, Levels or right-click on any node and select Edit Levels from the pop-up menu.

   The Edit Level Information dialog box appears.

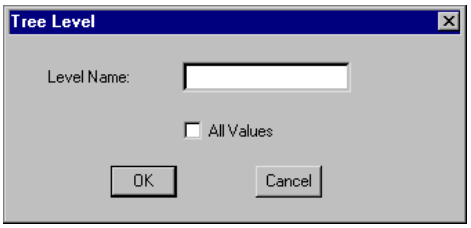


Edit Level Information dialog box

This dialog box lists the levels that have been defined for the tree (from top to bottom) and allows you to add levels, delete levels, or view the underlying tree data.

2. Highlight the level that you want the new level to follow and click the **Add** button.

   The Tree Level dialog box appears.



Tree Level dialog box

This dialog box is where you name the level you are adding.

3. Enter a name for the level.

   Use a name that reflects what the nodes at this level represent. For example, the first level in the Department Security tree is CORPORATE, indicating that the root node is Corporate Headquarters.

4. Specify whether nodes can "skip over" the level.

   The **All Values** check box specifies whether Tree Manager permits nodes to skip over the level you're defining to report to a higher level. Select this option if you want to make sure that all values from lower levels report to a node at this level. To allow nodes to skip a level, clear the **All Values** check box. For example, you might want to do this if you have one or more departments that aren't part of any division but report directly to the COMPANY level.

Note. When you are adding a top level (the Root Node), the **All Values** check box is selected but is grayed out. You can't skip over the top level.

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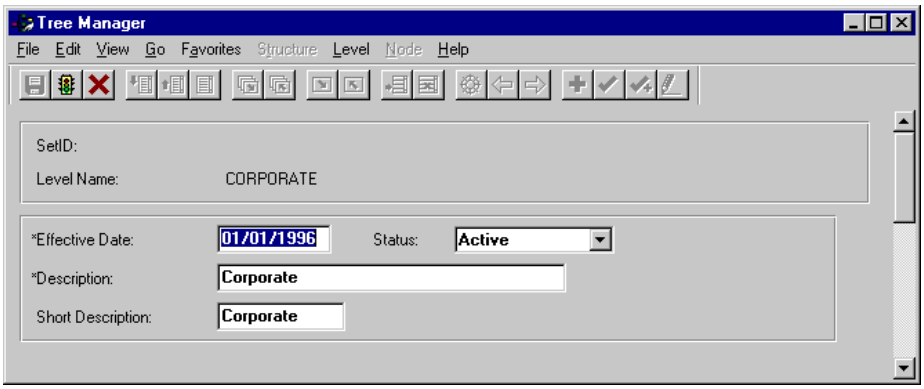
5. Click the **OK** button.

   The Tree Level dialog box closes. If you entered the name of an existing level from another tree, the level name is added. If you entered a new name, Tree Manager displays the page for entering tree level information. The displayed page is the page specified for levels in the tree structure. For most trees, it is the Tree Level page.



Tree Level page

6. Enter description information for the level.

   The Tree Level page enables you to enter both a **Description** and a **Short Description.** The descriptions appear in various prompt lists to help you identify the level.

   If the tree structure for this tree specifies a different page for creating tree levels, enter appropriate data into the fields of the page.

7. Save the page.

   Tree Manager creates the level, then closes the page and redisplays the tree view.

8. Repeat steps (1) through (7) for each level in the tree.

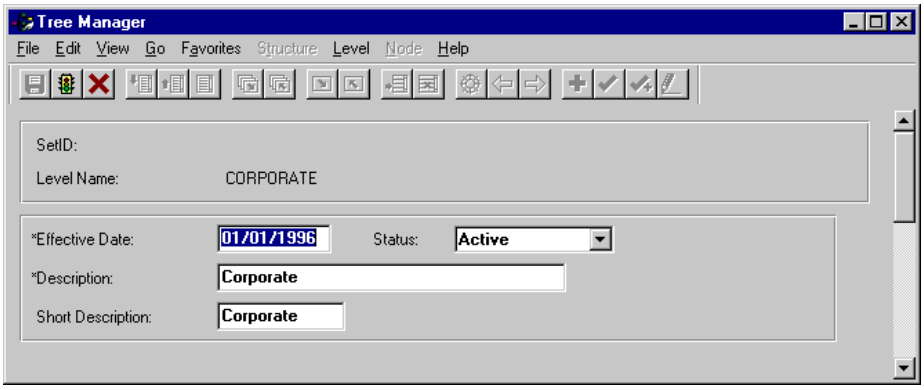
To delete a level:

1. Highlight the level in the Edit Level Information dialog box.
2. Press Delete.

To edit level information:

1. Click the User Data button on the Edit Level Information dialog box.

   Tree Manager displays the page for entering tree level information. The displayed page is the page specified for levels in the tree structure. For most trees, it is the Tree Level page.



Tree Level page

2. Enter a **Description** and a **Short Description.** The descriptions appear in various prompt lists to help you identify the level.

   If the tree structure for this tree specifies a different page for creating tree levels, enter appropriate data into the fields of the page.

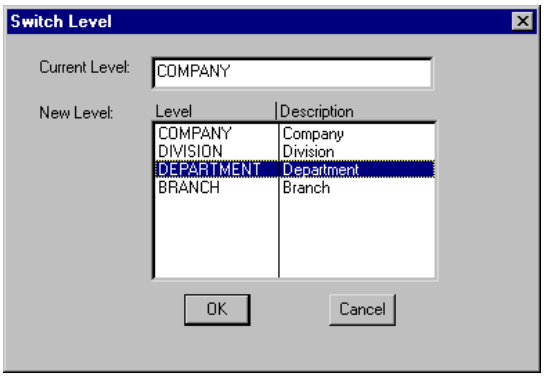
Changing a Node's Level

You may need to change the level to which a node corresponds. You can do this at any time with the Switch Level dialog box.

To change the level of a node:

1. Right-click on the node in the tree display and select Switch Level or select Edit, Switch Level from the Tree Manager menu.

   The Switch Level dialog box appears.



Switch Level dialog box

   This dialog box enables you to select a New Level for the currently selected node.

2. Highlight the new level you want this node to correspond to and click **OK.**

Note. Printing the tree might give you a better visual idea of the level hierarchy if you need to change many node levels at once.

Indenting Nodes at Different Levels

While most nodes are indented to show their hierarchy, nodes at *different levels* that report to the *same parent* are not shown indented. You should be aware of this possibility when viewing and working with trees. The only way to tell for sure which level a node is at is to check the status bar or the Edit Level Information dialog box. We suggest you make a habit of looking at the status bar when working with trees that use levels.

Note. The record used to define tree level descriptions in the tree structure must have the TREE_LEVEL column defined in it.

Adding Nodes and Detail Values

You create a tree from the top down. You start by creating the root node, then add the children of the root node, and continue down to the detail values (if the tree has them).

Creating Evenly Gapped Trees

All trees have a corresponding set of node numbers that are used internally by Tree Manager to keep track of all the levels and nodes. Because Tree Manager sets aside blocks of node numbers as you add nodes, it is possible to run out of numbers eventually (when your trees get very large). Therefore, when creating new trees in Tree Manager, you must be careful to insert nodes level by level rather than first create parents and then children. In other words, be sure first to insert the root node on the first level, all its children on the second level, then all the level 3 nodes, and so forth.

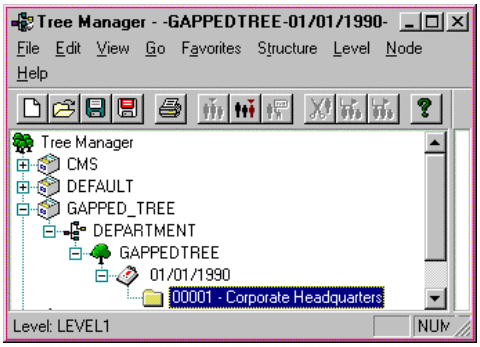
This means the tree's hierarchy will need to be planned in advance before you start to create it in Tree Manager. Generally speaking, after you've carefully planned out your tree's hierarchy, you should be using Tree Manager's Insert Sibling command more often than the Insert Child command.

A tree created with evenly spaced gaps will have evenly spaced node numbers, and thus can easily be modified in the future as it grows larger.

To create an evenly gapped tree:

1. After creating levels, insert the required Root Node on Level 1.

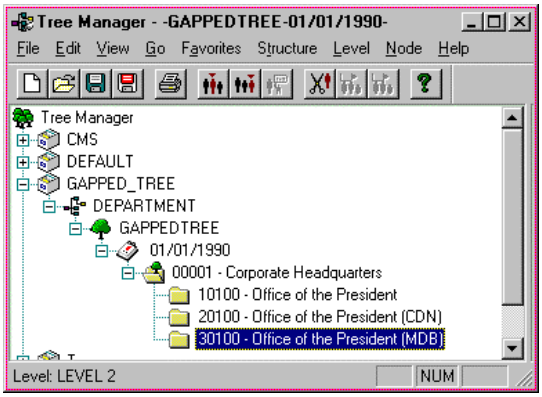
   In this example you would choose Edit, Insert Node 00001.



Creating an evenly gapped tree: Level 1

2. Insert all the Level 2 nodes that have the Root Node as parent, using Insert Child for the top node and then using Insert Sibling for the rest of the nodes.

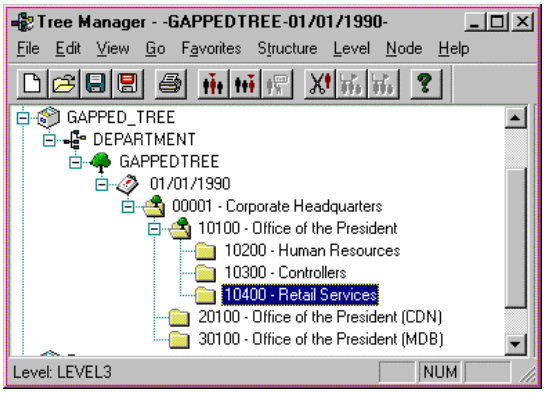
   In the example below, Select Node 00001, Edit, Insert Child 10100 (which becomes selected), Edit, Insert Sibling 20100, then Edit, Insert Sibling 30100.



Creating an evenly gapped tree: Level 2

3. Begin inserting the Level 3 nodes by selecting the first Level 2 Parent and adding its first child with Insert Child, and then using Insert Sibling for the rest of its Level 3 children.

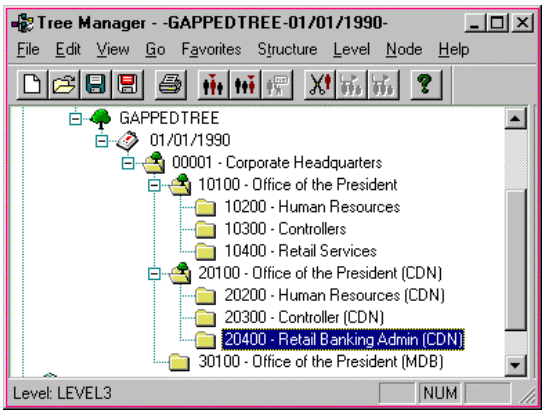
   In the example below, select Node 10100; Edit, Insert Child 10200; Edit, Insert Sibling 10300; and finally Edit, Insert Sibling 10400.



Creating an evenly gapped tree: Level 3

4. Continuing in Level 3, select the second Level 2 parent and insert its first child, then add all the rest of its children as siblings to each other.

   In the example below, select Node 20100; Edit, Insert Child 20200; Edit, Insert Sibling 20300; and finally Edit, Insert Sibling 20400.



Creating an evenly gapped tree: Level 3

5. Continue in this manner, ensuring that you use Insert Child for the first child and Insert Sibling for the rest of the child nodes.

6. Enter all the nodes for the same level before progressing to the next level even though they have different parent nodes.

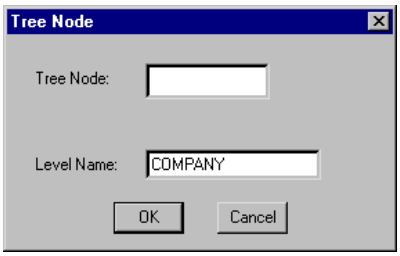
   Creating trees in this manner ensures a more evenly gapped tree, which will be easier to edit and maintain in the future.

For more information on troubleshooting gaps in trees, see PTUGAPTR.SQR.

To add tree nodes:

1. Select Edit, Insert, Node to add the root node.

   The Tree Node dialog box appears.



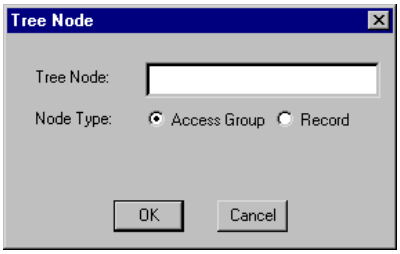
Tree Node dialog box

   If the tree uses levels, you must first define at least one level in the **Level Name** field of this dialog box before you can insert any nodes.

2. Enter a level name (in trees with Loosely Enforced levels) or specify what type of node to create (for query access trees).

   If your tree uses Loosely Enforced levels, enter a name in the **Level Name** field. Tree Manager assigns the specified level to the node. If you give the same level name to multiple nodes, Tree Manager considers them to be on the same level, regardless of their horizontal positions in the tree. If your tree uses strictly defined levels, the **Level Name** field is grayed out and displays the name of the level to which you're adding the node.

   If you're creating a query access tree—that is, a tree with the ACCESS_GROUP tree structure—the Tree Node dialog box displays a pair of radio buttons for you to specify what type of node to create.



Tree Node dialog box

   Select **Access Group** if the node type is a group of records used by Query to define user access. A **Record** is a PeopleSoft record as defined in Application Designer.

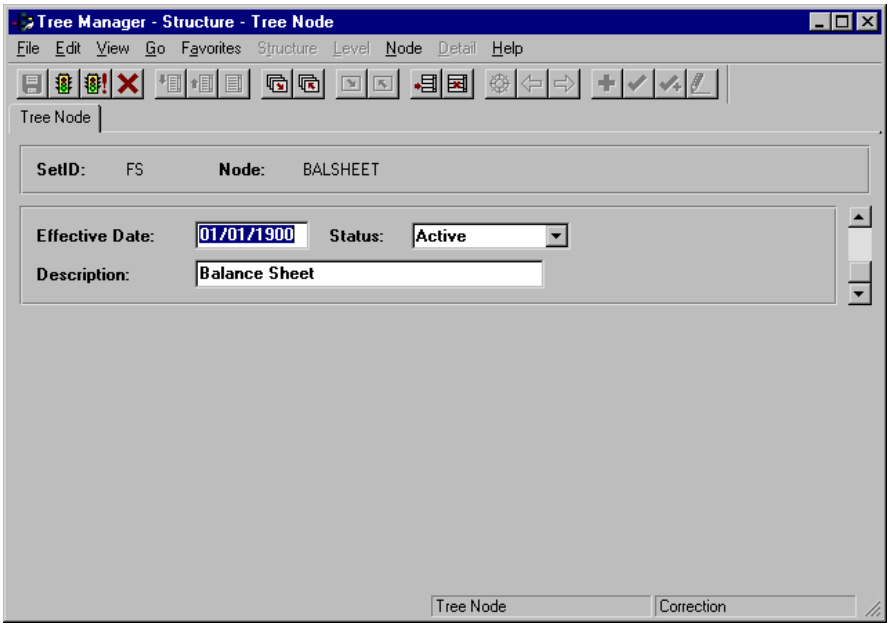
For more information about access groups and records in query access trees, see Using Different Types of Trees.

3. Enter a name for the node in the **Tree Node** field, then click the **OK** button.

The name you enter must be unique within the current tree. If it's not, Tree Manager displays a message and doesn't create the node.

If you're creating a node-oriented tree, the name you enter represents a possible value of the database field the tree is based on. If you enter an existing field value, Tree Manager adds the node to the tree right away; skip to step 5.

Tree Manager then displays the page you use to add new nodes. The tree structure determines which page this tree uses. For detail trees and summary trees, the page is usually the Tree Node page.



Tree Node page

For node-oriented trees, this page is the one you use to maintain values of the database field. For example, if the tree is based on the DEPTID field, Tree Manager displays the Department maintenance page.

4. Complete the tree node data on the page and save the page.

   To save the page, select File, Save or click the **Save** button on the toolbar. Tree Manager closes the page and redisplays the tree with your new node.

5. Highlight a sibling or the parent node of the next node you want to create.

6. Select Edit, Insert, Child or Edit, Insert, Sibling.

Note. If you've highlighted the root node, only Edit, Insert Child is available. You can't add additional nodes to the top level.

7. Repeat steps (2) through (6) until you've added all the nodes in the tree.

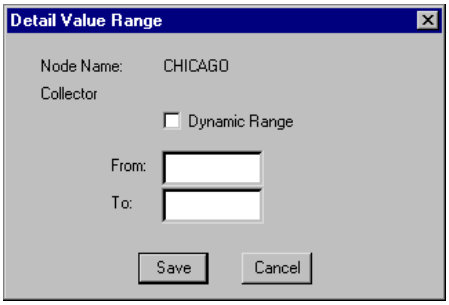
To add detail values:

1. Highlight the node you want the detail value to report to, or one of its other detail values.

   To complete the tree, you'll need to define detail values for each *terminal* node in the tree, which means each node that has no child nodes.

2. Select Edit, Insert, Detail .

   The Detail Value Range dialog box appears.



Detail Value Range dialog box

   This dialog box is where you enter value ranges for new detail nodes.

3. Enter a range of detail values from the database field on which this tree is based.

   If you're creating a dynamic detail tree, select the **Dynamic Range** check box. Tree Manager displays brackets [ ] in place of the detail value for the selected node. When you use the tree, the system will automatically select the appropriate detail values for the node. Skip the rest of the steps in this procedure.

   For a list of the valid values, press F4 in the fields. To enter a single value, enter the same value in the **From** and **To** fields.

Note. If you specify a range of values, keep in mind that you won't be able to specify another detail value that appears within the range. For example, if you specify a range from 0271 to 0278, you can't subsequently assign 0275 to another node (unless you selected Allow Duplicate Detail Values).

If you enter values that have already been defined for the database field, Tree Manager adds

the values to the tree. You're done; skip the rest of the steps.

If you enter new values, Tree Manager displays a message informing you that you've entered an undefined value. Depending on your security access, Tree Manager may enable you to add the new value. If so, it displays a second message asking you if you want to add the value.

4. To add the value to the database, click **OK;** to cancel the operation, click **Cancel.**

   If you click **OK,** Tree Manager displays the page for adding new values for the field.

5. To save the page, select File, Save or click **Save** .

   Tree Manager closes the page and redisplays the tree with your new detail value.

Creating Tree Branches

Tree Manager enables you to branch a tree. *Branching* means taking a limb of the tree—a section of the tree that reports into a single summary node—and creating an actual tree object to hold that limb. Branching a tree can improve Tree Manager performance (by reducing the amount of data it needs to load when you open a large tree), but its primary use is for security. Once you branch a tree, you can specify different security options for the branches.

When you branch a tree, you're really splitting the original tree into two parts. Tree Manager creates one new object for your branch and another object to hold the remaining part of the tree. After branching, you have three objects:

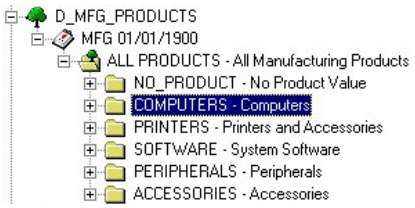
- The original tree.
- The new branch that you created.
- A "branch" that corresponds to the rest of the original tree (minus the new branch).

You can use Object Security to give users different security access to these objects. For example, by restricting access to the new branch, you can give users access to the entire tree *except* for that branch.

Once you've created a branch, you can use it as you use any other tree. You can open it independently of the larger tree, modify it, or even create branches from it. However, you can't add levels to it if the original tree didn't have them, and there is a limit of three levels of branching.

To create a tree branch:

1. Highlight the node that will be the "root node" of the branch.



Root Node - Computers highlighted

2. Select Edit, Branch or right-click on the node and select Branch.

   Tree Manager replaces the node icon with a branch node icon . None of the nodes or detail values reporting to the branched node appear in the tree display.

Root Node – Computers becomes a branch node

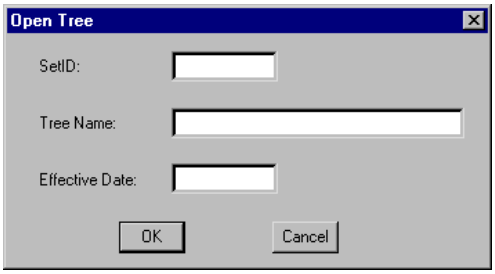
   Notice that the root node All Products is now represented by a tree branch icon , indicating that this is now a branched tree. The new tree branch is also shown as a sibling of the root node. This tree branch is simply a “shortcut” that you can use to navigate to the branched node.

Note. Branching a tree is a nonreversible process. Once you’ve branched a tree, the tree is branched forever. Even if you delete or unbranch all the branches in the tree, the root node will always appear as a branched node.

To open a tree branch:

1. Scroll to and expand the tree branch icon or the branch node icon , or select File, Open.

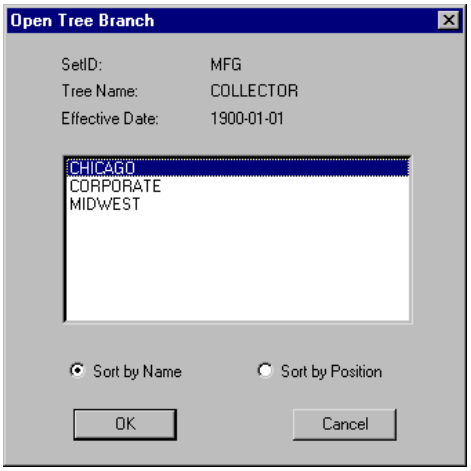
   If you scroll down to a branch and expand it, then you’ve opened it—you’re done. If you select File, Open, then the Open Tree dialog box appears.



Open Tree dialog box

2. Enter the identifying data for the original high-level tree, then click OK.

   If the selected tree includes branches, the Open Tree Branch dialog box appears.



Open Tree Branch dialog box

   In the Open Tree Branch dialog box, the list box displays the node names for the root nodes of each branch. By selecting one of the option buttons below the list, you can see the branches sorted alphabetically (**Sort by Name**) or in their hierarchical order (**Sort by Position**).

3. Highlight the branch you want to open, then click the **OK** button.

To remove a tree branch:

1. Highlight the tree branch node.

2. Select Edit, Unbranch or right-click on the branch and select Unbranch from the pop-up menu.

   Tree Manager replaces the branch icon with the node icon. Any nodes that report to the selected node are now available in the tree.

When you remove a tree branch, don't forget to update Object Security. For more information on Object Security, see Understanding Object Security.

To grant security access to a branch:

1. Open Object Security.
2. Open the Access Group you want.
3. Display the Tree view.

Note. You can either press the Tree icon or select View, Trees to view a list of trees and branches associated with an Access Group.

4. In the Excluded Trees list, click once on the appropriate branch.
5. Click the Up arrow to add this branch to the list of branches available to this Access Group.
6. Select File, Save to save your changes.

Auditing Trees

Once you have completed your tree, you can have Tree Manager review it to verify that it meets the restrictions you set for it. For example, if you selected the All Detail Values check box when you created the tree definition, the Tree Manager audit will verify that you've included all detail values.

Tree Manager displays a warning message in the following circumstances:

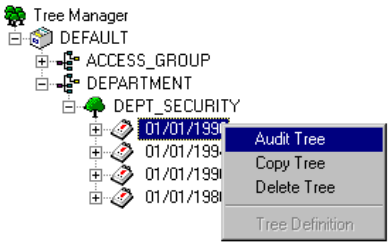
- One or more nodes have no detail values reporting to them.
- You selected All Detail Values, but one or more defined values for the database field don't appear in the tree.

The warning message tells you that the tree is invalid. You can save the tree as a Draft tree only, but you can't use it with other PeopleTools like PeopleSoft Query or PS/nVision until the tree is valid.

It is possible to audit trees whether they are open or closed. The audits happen automatically when you do a Save or Save As. Also, if you do a Save Draft or Save As Draft, no audits are performed.

To audit a closed tree:

1. Select File, Audit or right-click on the SetID/Effective date of the tree, and then select Audit Tree from the pop-up menu.



Auditing a closed tree

To audit an open tree:

1. Select the Save or Save As commands from the menu.

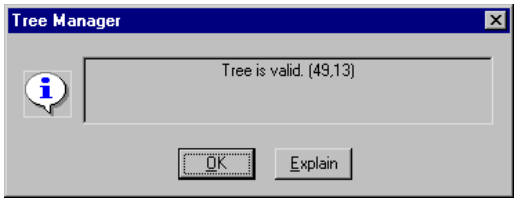
   On an open tree, Tree Manager performs audits only when you save the tree. You can't perform a normal Save or Save As on an invalid tree (one that has audit errors). However, you can use the Save As Draft option, which does not perform any audits.

For more information on saving trees, see Saving Trees.

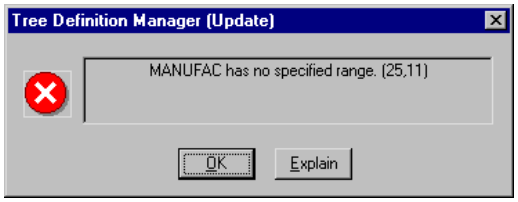
Note that a tree with audit errors can't be used with any other PeopleTools (like PeopleSoft Query, Cube Manager, or PS/nVision) until the errors are resolved and it is saved as a valid tree (as opposed to being saved in draft mode).

Audit Results

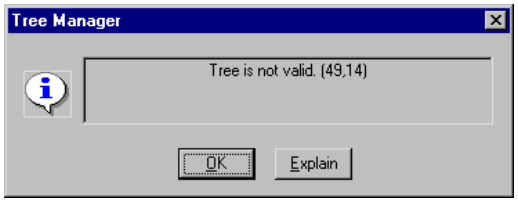
If every terminal tree node has detail values reporting to it either directly or through lower-level nodes, Tree Manager informs you that the tree is valid. If you selected All Detail Values in the tree definition, the tree must also include all defined values for the database field the tree is based on.



If the tree is not valid, Tree Manager displays a message telling you where the problem is.



After displaying the specific error message, Tree Manager tells you that the tree is not valid.



At this point, you can either correct the problem that is causing the tree to be invalid, or use the Save As Draft feature to save the tree in an invalid state.

All audits report the first occurrence found of any of the following problems. The audits are performed first on the displayed nodes and details, and then Tree Manager audits the nodes in the database when saving an edited tree.

Check For	***Purpose***	***When Check Occurs***
Overlapping Node Numbers	Reports first occurrence of two nodes whose internal node numbering is overlapping.	Always.
Nodes Outside of Parent's range	Reports first occurrence of a node whose internal node number does not fall within the parent node's internal node number range.	Always.
Nodes Without Parents	Reports first occurrence of a node whose internal node number for a parent does not have an actual node with that number.	Always.
Duplicate Node Names	Reports the first duplicate node name when it finds a node with the same name reporting to a	Always.

	different parent node.	
Overlapping Detail Ranges	In a detail tree, reports when it finds one detail whose From and To range overlaps the To and From range of a different detail.	Always.
Nodes Without Leaves	In a detail tree, reports when any terminal node has no leaves.	Always.
All Detail Values	Reports if you haven't included all detail values.	When the All Detail Values In This Tree option is checked on the Tree Definition dialog box.
Duplicate Detail Values	Reports the first duplicate detail value it finds reporting to a different parent node.	When the Allow Duplicate Detail Values option is not checked on the Tree Definition dialog box.
Skipped Levels	Reports when a level is skipped.	When the All Levels option is checked on the Tree Level dialog box.

CHAPTER 4

Modifying Trees

When you change a tree, the rest of the system automatically starts using the updated tree. You can change trees in the following ways:

- Move nodes within the tree.
- Change the description of a node or level.
- Remove nodes or detail values.
- Add new nodes or detail values.
- Rename nodes.

For more information about adding levels, nodes, and detail values, see Creating Trees.

Modifying the Tree Definition

Every PeopleSoft tree has a definition associated with it. The definition contains options related to Structure, Properties, Levels, and Access Performance Methods. You use the Tree Definition Properties dialog box to set and modify these options.

Tree structure options are set when you create a tree. After the tree is created, you can go back to the Structure tab of the Tree Definition Properties dialog box and modify the tree's text description and the category the tree belongs in.

Note. A tree can belong to only one category at a time.

Modifying Structure, Properties, and Levels Options

These three options allow you to specify various alternatives related to the following properties of a tree:

- Description

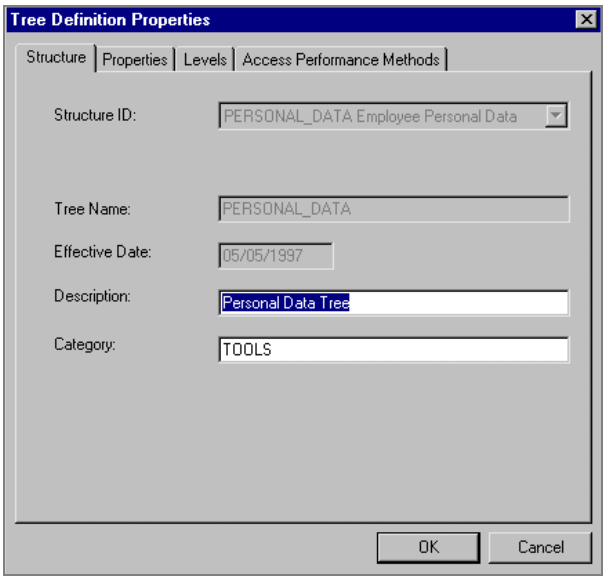
- Category
- Status
- Detail Values
- Levels

To edit tree structure options:

1. Open a tree and select Edit, Tree Definition.

Note. You can also right-click on the tree's Effective Date and select the Tree Definition context menu option.

The Structure tab of the Tree Definition Properties dialog box appears.



Tree Definitions Properties - Structure dialog box

2. Enter a new **Description** for the tree.
3. If necessary, choose a new **Category** for the tree.
4. Click **OK** to save your changes.

To edit tree properties options:

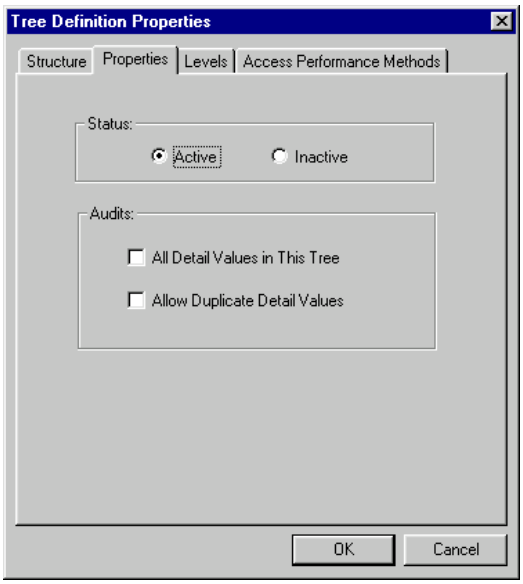
1. Open a tree and select Edit, Tree Definition.

Note. You can also right-click on the Tree's Effective Date and select the Tree Definition context menu option.

The Tree Definition Properties dialog box appears.

2. Select the Properties tab.

   The Properties dialog box appears.



Tree Definition Properties - Properties dialog box

The Properties dialog box allows you to change the status of the tree as well as the way the tree handles detail values.

3. In the **Status** section, select the status of the tree to be **Active** or **Inactive.**

   An **Active** tree can be used by other applications. An **Active** tree cannot be used by the system.

4. In the **Active** section, select how you want the tree to handle detail values.

To edit tree level options:

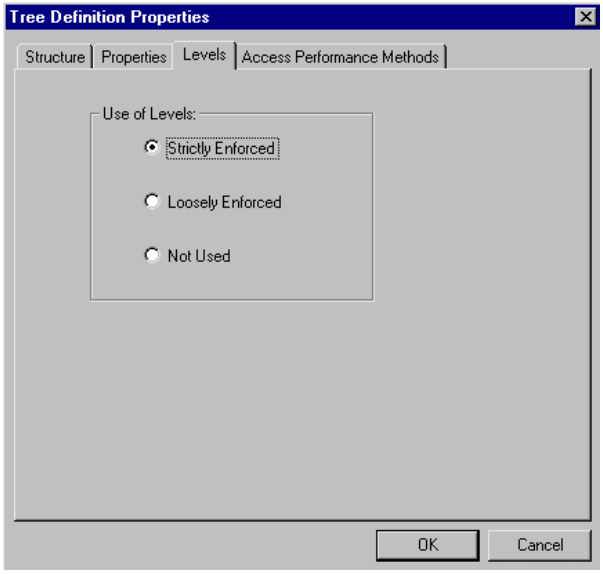
1. Open a tree and select Edit, Tree Definition.

   The Tree Definition Properties dialog box appears.

Note. You can also right-click on the tree's Effective Date and select the Tree Definition context menu option.

2. Select the Levels tab.

   The Levels dialog box appears.



Tree Definition Properties - Levels dialog box

   This dialog box is where you select how the levels in a tree are enforced.

3. Select one of the available options.

   The available options depend on the type of tree you have created.

For more information on levels, see the section of this documentation on Defining Tree Levels.

To edit tree Access Performance Methods:

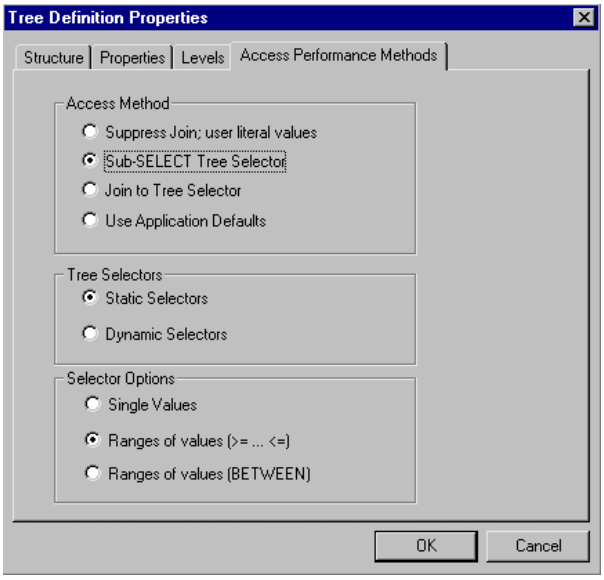
1. Open a tree and select Edit, Tree Definition.

   The Access Performance Methods tab of the Tree Definition Properties dialog box appears.

Note. You can also right-click on the Tree's Effective Date and select the **Tree Definition** context menu option.

2. Select the Access Performance Methods tab.

   The Access Performance Methods dialog box appears.



Tree Definition Properties – Access Performance Methods dialog box

This dialog box is where you select how the levels in a tree are enforced.

3. Choose between the available options.

   The available options depend on the type of tree you have created.

For more information on levels, see the section of this documentation on Access Performance Methods or your PeopleSoft nVision documentation.

Modifying Nodes and Detail Values

You can move a node, change its description, or delete the node and detail values.

Moving a Node

If the node that you are moving has nodes or detail values reporting to it, those will move, too. You can use the menu bar, the toolbar, or the mouse to move a node. If you use the mouse to drag and drop, make sure that both the source and target destinations are visible on your computer screen.

Note. Even though you can move nodes up to different levels, the node is still labeled as its original level even though you have moved it to a different level. You must remember to switch the node to the new level name if it is in a Strictly Enforced tree.

For more information **on switching levels,** see Switching a Node's Level.

To move a node using drag and drop:

1. Select the node you want to move and drag it to its new position.

   As you drag the mouse pointer over nodes, they are highlighted. When you release the mouse button, Tree Manager inserts the dragged node as a child of the highlighted node (that is, the node you dragged it to).

Note. An exception to this is that a detail value dragged on to another detail value is inserted as a sibling.

   Tree Manager moves the entire branch starting at the selected node. If the moved node has nodes or detail values reporting to it, they move to the new position, too.

To move a node using cut and paste:

1. Click the node you want to move.
2. Select Edit, Cut or click the button on the toolbar.

   You can also right-click on the node and select Cut from the pop-up menu. The selected node and all nodes that report to it remain in their current position until the paste is completed.

Note. Cut does not remove a node from a tree. Only Delete actually removes the node.

3. Select the parent node or a sibling node of the new position.
4. Select Edit, Paste Child or Edit, Paste Sibling .

   You can also right-click on the node and select Paste Child or Paste Sibling from the pop-up menu. The moved node appears as a child or sibling of the highlighted node.

Modifying Nodes

You can also change some of the information about nodes using the toolbar, menu bar, or mouse commands.

To change the description of a node:

1. Double-click the node name, or highlight the node name and press Enter, or highlight the

name and select Edit, Data from the menu.

The Tree Manager displays the page used to maintain tree nodes. This is a user-defined page. Selecting Enter on a dynamic detail tree generates a list of details you can choose from before editing the data for the selected detail in the page.

2. Update the value in the Description field.

3. Save the page, then close it.

To delete a node:

1. Highlight the tree node name or detail value and select Edit, Delete or press the Del key.

   You can also right-click on a node and select Delete Node from the pop-up menu (or select Delete from the pop-up menu for detail values).

   A dialog box appears, asking you to confirm that you want to delete the tree node or detail value.

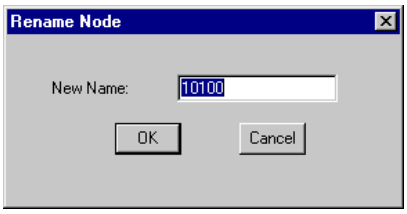
2. Click OK to delete, or Cancel to return to the tree without deleting.

To rename a node:

1. Highlight the tree node you want to rename and select Edit, Rename.

   You can also right-click and select the Rename Node context menu option.

   The Rename Node dialog box appears.



Rename Node dialog box

2. Enter new name for the node in the **New Name** box and click **OK** to save.

Switching a Node's Level

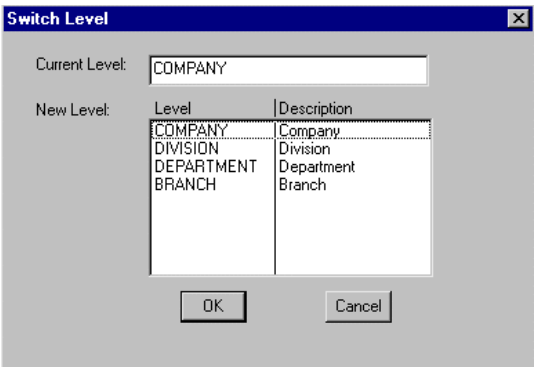
If you have moved a node to a different level, it will remain labeled as its former level until you change it. You must remember to change the level information on a moved node if you are using Strictly Enforced in your levels.

A node that has been moved to a different level has an arrow in the node icon.

To switch a node to a different level:

1. Highlight the node and select Edit, Switch Level or right-click the node and select Switch Level.

   The Switch Level dialog box appears with the node's current level information.



Switch Level dialog box

2. Highlight the **New Level** and click **OK.**

   The node level information is updated and changed.

Modifying Details

You can open any page associated with a detail value and modify the detail value information.

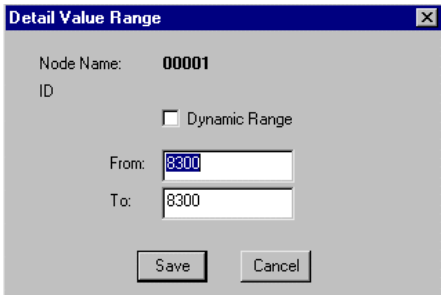
To change the description of a detail value:

1. Highlight the detail value and either right-click it or select Edit, Data from the menu bar.
2. The original page with the detail value information appears, allowing you to make your changes.

To change the range of a detail value:

1. Highlight the detail value and either right-click it and select Change Range from the popup menu, or select Edit, Change from the menu bar.

   The Detail Value Range dialog box appears.



Detail Value Range dialog box

2. Enter the range values in the **From** and **To** fields.

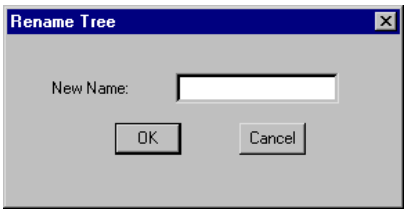
Renaming a Tree

You can change the name of a tree at any time.

To rename a tree:

1. Highlight the tree Effective Date or User Key and select File, Rename, or right-click on the Effective Date or User Key and select Rename Tree from the pop-up menu.

   The Rename Tree dialog box appears.



Rename Tree dialog box

2. Enter a **New Name** for the tree and click **OK.**

If you rename a tree, other applications that use this tree will not be automatically updated with the name change.

Deleting a Tree

You can delete an entire tree at any time.

To delete a tree:

1. Highlight the tree's Effective Date or User Key and select File, Delete, or right-click on the tree and select Delete Tree from the pop-up menu.

Tree Manager displays a confirmation dialog box, allowing you a chance to cancel the deletion.

2. If you're certain you want to delete the tree, click **Yes;** otherwise, click **No.**

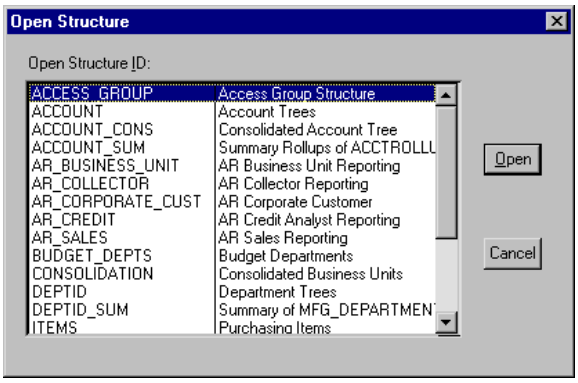
Working with Tree Structures

You can open an existing tree structure and rename, delete, or print it.

To open a structure definition:

1. Select Structure, Open.

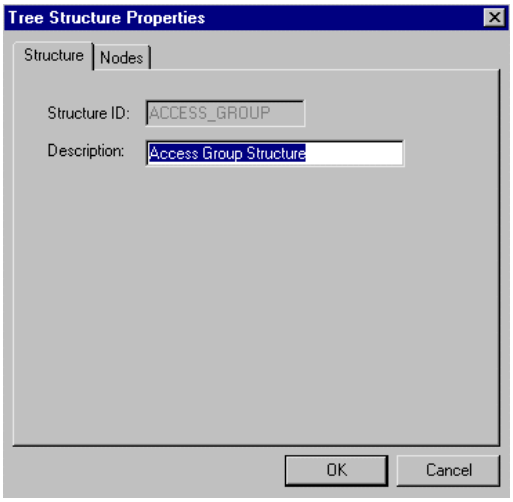
   The Open Structure search dialog box appears.



Open Structure search dialog box

2. Select a structure from the **Open Structure ID** list by double-clicking it or by highlighting and clicking **Open.**

   The Tree Structure Properties dialog box appears, with the Structure tab selected.



Tree Structure Properties – Structure dialog box

3. Click **OK** to open the structure.

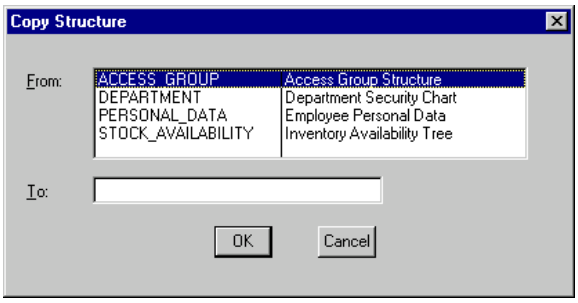
Warning! Changing the record and field on the structure can invalidate and break a tree that already uses this structure.

Note. You cannot open a structure if an open tree is currently using it.

To copy a structure:

1. Select Structure, Copy.

   The Copy Structure dialog box appears.



Copy Structure dialog box

The Copy Structure dialog box allows you to select a structure in the From list box and select a new structure name in the To field.

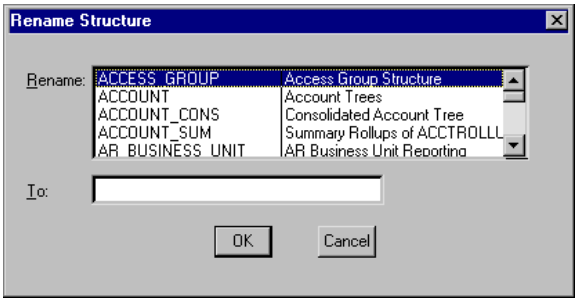
2. Select a structure in the **From** list box.

3. Enter a new structure name in the **To** field and click **OK.**

To rename a structure:

1. Select Structure, Rename.

   The Rename Structure dialog box appears.



Rename Structure dialog box

   The Rename Structure dialog box allows you to select a structure in the **Rename** list box and select a new structure name in the **To** field.

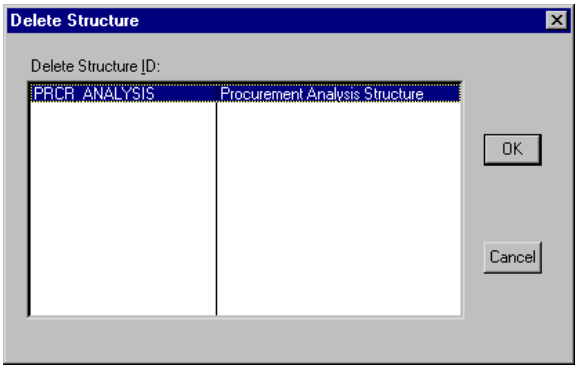
2. Select a structure in the **Rename** list box.

3. Enter a new structure name in the **To** field and click **OK.**

To delete a structure:

1. Select Structure, Delete.

   The Delete Structure dialog box appears.



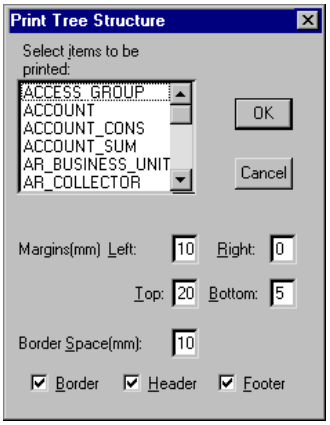
Delete Structure dialog box

2. Select the structure ID you want to delete in the **Delete Structure ID** list box and click **OK.**

To print a structure:

1. Select Structure, Print.

   The Print Tree Structure dialog box appears.



Print Tree Structure dialog box

2. Select the Tree Structure you want to print, select any **Margins** or **Border Space** parameters, and click **OK.**

The options for printing are similar to those available when printing a tree definition. For more information, see Printing a Tree.

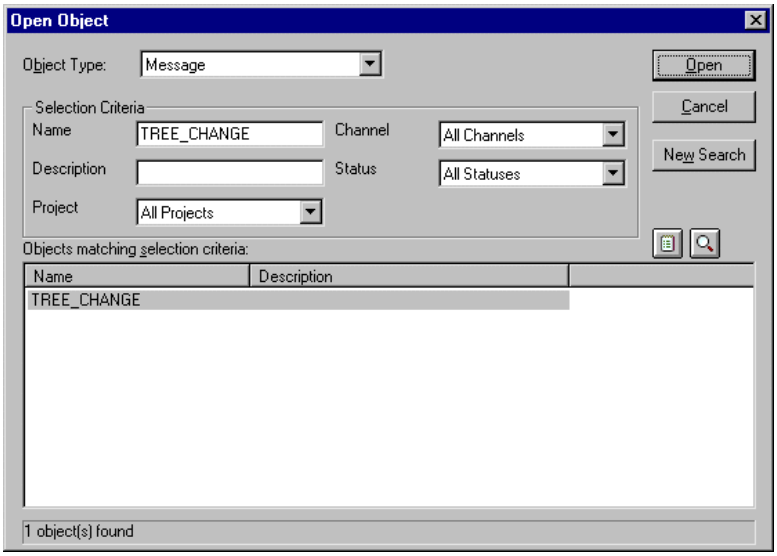
Subscribing to Tree Change Messages

Every time you perform an action in Tree Manager to change a tree (such as rename, delete, any kind of save, or copy), a TREE_CHANGE message is published with the Tree Key information in the PSTREEPUBSUB record. Through Application Designer, you can enter a subscription process that will run every time this message is published.

For more information about messaging, see PeopleSoft Application Messaging .

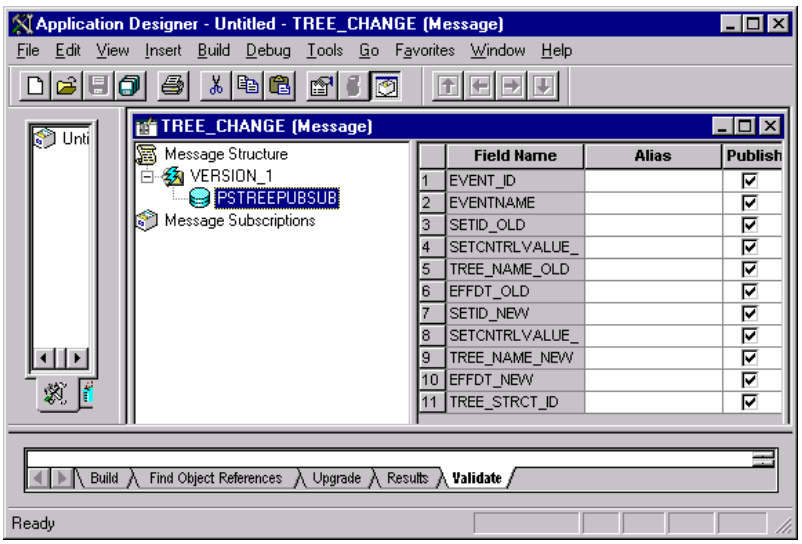
To enter a subscription process:

1. Select Go, PeopleTools, Application Designer.
2. Select File, Open.
3. Open a Message as the Object Type.



Open Object dialog box

4. Enter the **Selection Criteria** for the message and click **Open.**



Tree_Change (Message)

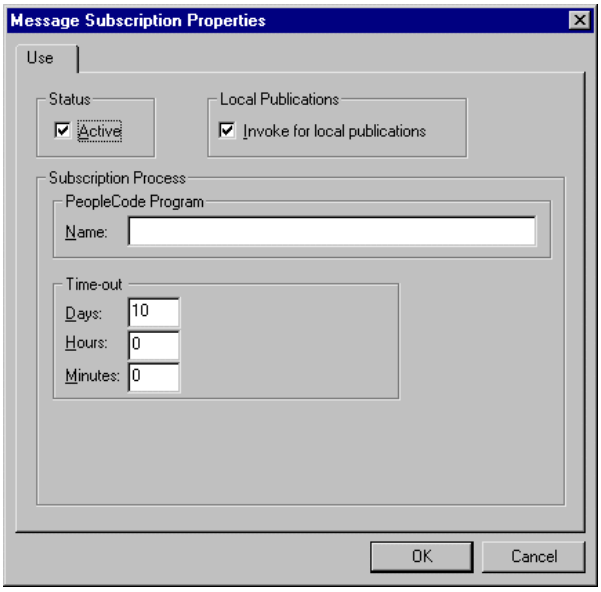
The record that is published is shown to the right. Your program can check for the following EVENT_ID numeric values:

- TreeCopyMsg
- TreeCreateMsg
- TreeDeleteMsg
- TreeRenameMsg
- TreeChangeMsg (this includes any type of save)

To enter your subscription program:

1. Right-click on **Message Subscription** and select ***Insert Message Subscription.***

   The Message Subscription Properties dialog box appears.



Message Subscription Properties dialog box

2. Enter the name of the **PeopleCode Program** you want to run.

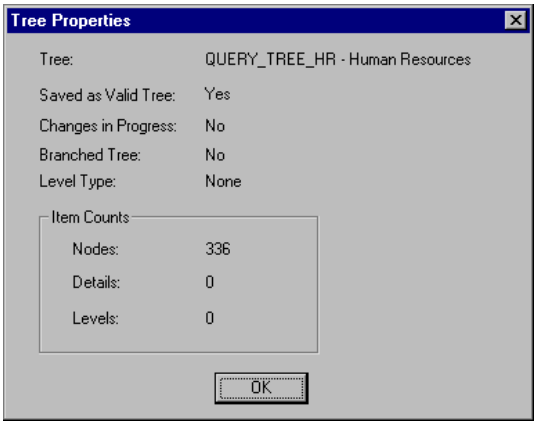
Tree Properties

You can use the Tree Properties dialog box to check information about the currently selected tree.

To view the properties of a tree:

1. Select View, Tree Properties.

   The Tree Properties dialog box appears.



Tree Properties dialog box

The Tree Properties dialog box displays information about the currently selected tree.

2. When you are finished viewing the properties, click **OK.**

Note. The **Item Counts** displayed are for the whole tree (if the tree is not branched) or for the current branch (if the tree is branched).

CHAPTER 5

Securing and Troubleshooting Trees

This chapter is designed to help you secure Tree Manager menus and tune the performance of trees you've created. You can check your trees for various performance-related problems, including incorrect node numbering and uneven gapping. Several SQRs are also provided with PeopleTools to help you troubleshoot problem trees.

Restricting Access to Tree Manager Menu Options

You can restrict user access to the following Tree Manager menu options and functions:

Menu Option	*Function*
Structure	Open
	Rename
	Delete
	Copy
	Print
Edit	Branch
	Unbranch

To restrict user access to Structure menu functions:

1. Go to Manage Security and open the User profile.
2. Select the Tree Manager menu and clear (unhighlight) the appropriate menu function (Open, Rename, Delete, or Print).
3. Save the profile and close all PeopleSoft applications.

The function is now unavailable (grayed out) to the user.

To restrict user access to Edit menu functions:

1. Open the TREE_MANAGER menu in Application Designer.

2. Add an Edit menu bar item to the TREE_MANAGER menu, then BRANCH and UNBRANCH menu items to the Edit menu.

3. After saving in Application Designer, open Manage Security and restrict access to these new menus and items as necessary.

To restrict user access to the Delete Tree function:

1. Open the TREE_MANAGER menu in Application Designer.

2. Create a menu bar item called either TREE or FILE and a menu item called DELETE TREE.

Note. You can also include the BRANCH/UNBRANCH items under either a TREE or FILE menu.

3. After saving in Application Designer, open Manage Security and restrict access to these new menu items as necessary.

For more information about security issues, see Understanding PeopleSoft Security.

Special SQRs for Trees

Several SQRs are provided for use with problem trees. These SQRs should not be considered part of your routine system maintenance. Rather, you should consider them as “last resort” options for damaged trees. It is possible that running these SQRs could further damage a tree that is already experiencing problems.

Note. Before running these SQRs against any tree, you should run SYSAUDIT.SQR to ensure that you are starting with valid trees. You should also back up your database. You should run these SQRs only after first attempting to correct problems in Tree Manager.

PTUGAPTR.SQR

This SQR “regaps” a tree so that the intervals between nodes in the tree and their node numbers are evenly distributed. If you enter “ALL” at the SetID prompt, then this SQR will process every tree in the database. You should consider running this SQR only if you start to get messages that nodes can no longer be inserted into a tree. These messages can result from trees that have no gaps between the nodes. You can stop the running of the SQR by typing QUIT at the SetID Prompt.

Note. If you have problems with the tree, you can run SYSAUDIT and check the TREE sections for structure or tree problems to correct.

PTUPNNTR.SQR

This SQR ensures that parent node numbers are correct in the tree node table. It prompts you for the SetID, effective date, and tree name. If you enter *ALL* at the SetID prompt, then this SQR will process every tree in the database. Parent node numbers are used to "chunk" nodes when loading them. You should consider running this SQR if you have problems loading a tree that was upgraded to PeopleTools 7 from a previous release. You can stop the running of the SQR by typing QUIT at the SetID Prompt.

Note. If you have problems with the tree, you can run SYSAUDIT and check the TREE sections for structure or tree problems to correct.

CHAPTER 6

TreeMover

TreeMover is a utility that allows you to move PeopleSoft trees between different PeopleSoft application databases. It provides functionality to export a tree to a flat file and to import a tree from a flat file. TreeMover handles the moving of all types of tree data, including the tree definition, tree structure, tree nodes, tree leaves, tree node data, and tree level data.

Note. The only major feature that is not currently supported by TreeMover is *branched trees.* If you import a branched tree, you will lose your branches (the branches essentially become regular tree nodes).

Some of the advantages of using TreeMover over other methods of moving trees (such as using Application Upgrader or custom SQR) are the following:

- It can move trees between different versions of PeopleTools databases (for example, from a PeopleSoft Financials 7.5 database to a PeopleSoft EPM 8 database).
- It can move tree node data (description, SetID, effective date, effective status) for trees that have their node data stored in the PS_TREE_NODE_TBL (the table that stores the tree node data is specified as part of the tree structure).
- It can move tree level data (long description, short description, SetID, effective date, effective status) for trees that have their level data stored in the PS_TREE_LEVEL_TBL (the table that stores the tree level data is specified as part of the tree structure).
- It uses the new tree APIs, which means the same logic used for the Tree Manager application is used to load and unload trees using TreeMover.
- TreeMover consists of three distinct parts: a utility to export a tree from a PeopleTools 8 database, a utility to import a tree into a PeopleTools 8 database, and a utility to export a tree from a PeopleTools 7.x database. The import and export functionality for a PeopleTools 8 database is implemented as an Application Engine application process. As with other Application Engine processes, they can be scheduled to run automatically from the Process Scheduler. The Application Engine process makes use of the new PeopleCode Tree APIs, PeopleCode File APIs, and File Layout Definitions. The utility that allows you to export trees from a PeopleTools 7.x database is implemented as an SQR program (TMDOWNLD.SQR).

Creating PeopleSoft Trees with TreeMover

TreeMover can create unbranched trees of up to 2 billion nodes and 2 billion leaves. You can create branches on the tree after it is loaded into Tree Manager. All the same edit checks are performed on a tree created with TreeMover as would be performed on a tree created manually with Tree Manager, because both use the same Tree Manager functionality to create the tree. Since TreeMover processes are initiated from standard PeopleSoft pages, the ability to import and export tree data can be restricted by using PeopleSoft's standard security mechanisms for limiting access to pages.

Here are some examples of things you can do with the TreeMover utility:

- Load a 1,000,000-node winter tree from a legacy financial database quickly and easily into PeopleTools 8 databases.
- Automatically replace an account tree every month with a new tree based on current information.
- Easily load a dynamic detail tree using information entered through a spreadsheet.

Note. TreeMover currently supports fixed-format files only.

Using TreeMover with PeopleTools 8 Trees

As with other Application Engine processes, you initiate the TreeMover process from PeopleSoft pages. You need to submit a few required parameters at run-time, including the file name for each tree load (or unload). You can choose to run TreeMover yourself each time you need to load or unload a tree, or you can set the Process Scheduler to run a tree load or unload process for you automatically.

Note. The delivered TreeMover application can move only tree node data that's associated with the PS_TREE_NODE_TBL and only tree level data that's associated with the PS_TREE_LEVEL_TBL. You can easily modify TreeMover to support other tables for node and level data.

For more information about modifying TreeMover, see Modifying the TreeMover Application Engine Program.

When the TreeMover process runs, it will create a log file in your TEMP directory. The file naming convention for the log file is the following:

```
TreeMover-<current datetime value>.log
```

Here is a sample log file:

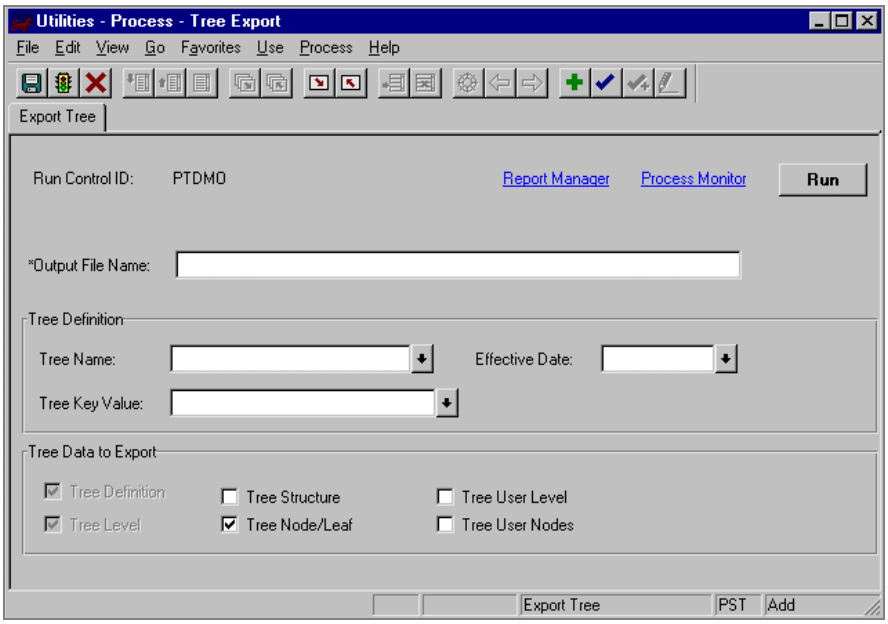
```
1999-11-30-16.37.54: Begin: PeopleSoft TreeMover
1999-11-30-16.37.54: Unloading tree ,,DEPT_SECURITY,1980-01-01.
1999-11-30-16.37.58: Completed processing tree definition.
1999-11-30-16.37.58: Completed processing tree user level information.
1999-11-30-16.37.58: Total number of tree user level definitions processed: 5.
1999-11-30-16.37.58: Completed processing tree levels.
1999-11-30-16.37.58: Total number of tree levels processed: 5.
1999-11-30-16.37.58: Warning - User tree node table is not one that is current:
(125,46)
1999-11-30-16.37.59: Completed processing tree nodes and tree details.
1999-11-30-16.37.59: Total number of nodes processed: 38.
1999-11-30-16.37.59: Total number of tree details processed: 0.
1999-11-30-16.37.59: PeopleSoft TreeMover Completed Successfully.
1999-11-30-16.37.59: End: PeopleSoft TreeMover
```

Sample log file created by TreeMover

Note. TreeMover currently does not maintain branch information when you import a tree. The branch nodes of a tree will become regular tree nodes on an import.

To export a tree to an external file:

1. Select PeopleTools, Utilities from the PeopleTools Go menu.
2. Then select Process, Tree Export, Add to open the Tree Export page. If you already have a run control to use, select Update/Display.



Utilities – Process – Tree Export page

3. Enter the correct **Output File Name.**
4. Enter the correct values for Tree Name, Effective Date, and Tree Key Value.

Note. The **Tree Key Value** applies to only SetID, Business Unit, or user-defined key trees (tree key type is set in the tree structure). For trees that have no additional key value, the field will be disabled.

5. Select the Tree Data to Export.

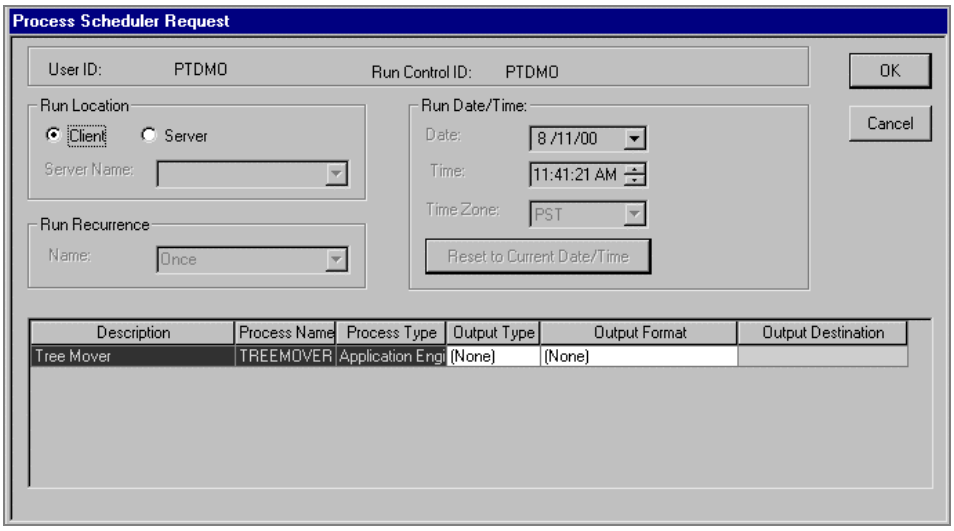
   You can export the tree structure data, the tree definition, the tree levels, the tree level data, the tree nodes and leaves, and the tree node data. By default, you'll probably want to export the tree definition, tree level, and tree node/leaf data.

Note. You will need to select **Tree Structure** if the tree structure does not already exist in the target database. You can also select **Tree User Level** to move related data from the PS_TREE_LEVEL_TBL table and select **Tree User Nodes** to move related data from the PS_TREE_NODE_TBL.

6. Click **Run** to move the tree.

Warning! Always use the button to move the tree. The **Run** button and the blue links for Report Manager or Process Scheduler are not supported in Windows and function only in the PeopleSoft Internet Architecture.

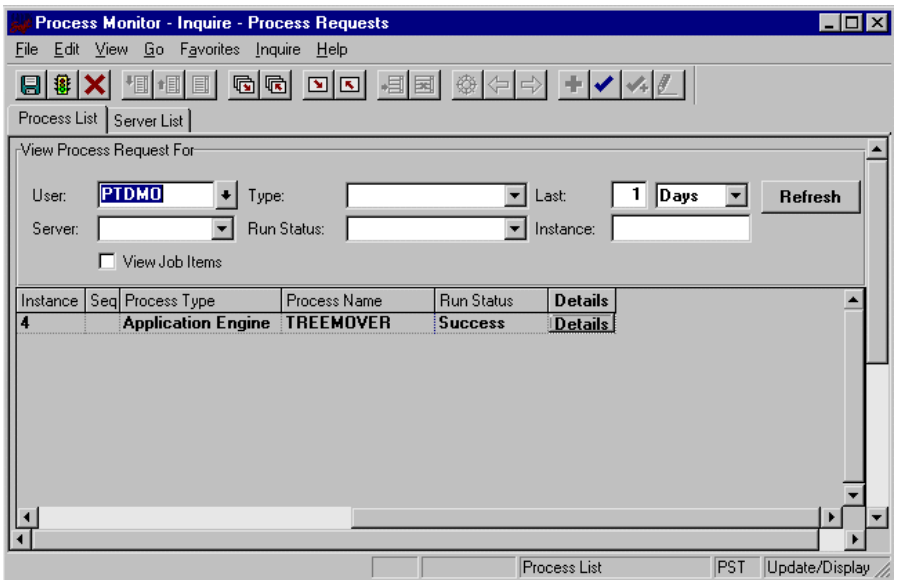
7. Verify that the settings on the Process Scheduler Request page are correct and click OK to run the process.



Process Scheduler Request page

8. Verify the successful completion of the process by selecting Go, PeopleTools, Process

Monitor.



Process Monitor – Inquire – Process Requests

9. Check the log file that is created in the TEMP directory (TreeMover-<datetime>.log). The second-to to-last line in the log file should be "PeopleSoft TreeMover Completed Successfully."

```
1999-12-02-13.09.31: Begin: PeopleSoft TreeMover
1999-12-02-13.09.31: Unloading tree ,,DEPT_SECURITY,1980-01-01.
1999-12-02-13.09.35: Completed processing tree definition.
1999-12-02-13.09.35: Completed processing tree levels.
1999-12-02-13.09.35: Total number of tree levels processed: 5.
1999-12-02-13.09.36: Completed processing tree nodes and tree details.
1999-12-02-13.09.36: Total number of nodes processed: 38.
1999-12-02-13.09.36: Total number of tree details processed: 0.
1999-12-02-13.09.36: PeopleSoft TreeMover Completed Successfully.
1999-12-02-13.09.36: End: PeopleSoft TreeMover
```

Sample log file created by TreeMover

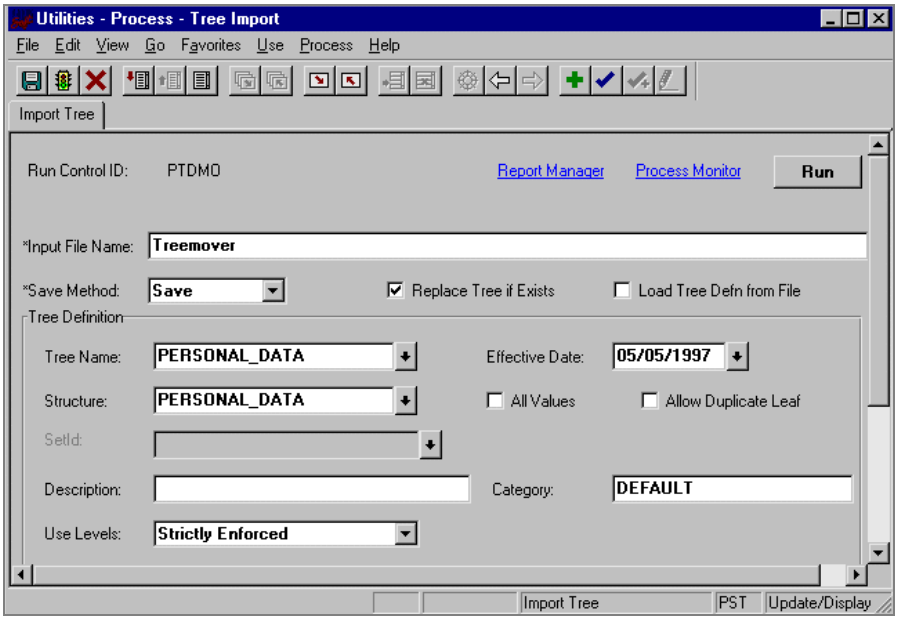
If you receive a warning in the log file, there could be several possible causes:

- You tried to export tree level data and the tree has no levels.
- You tried to export tree user level data and the tree does not use the PS_TREE_LEVEL_TBL for level data.
- You tried to export tree user node data and the tree does not use the PS_TREE_NODE_TBL.

To import an existing PeopleSoft tree:

1. Select PeopleTools, Utilities from the PeopleTools Go menu.
2. Then select Process, Tree Import, Add to open the Tree Import page. If you already have a

run control to use, select Update/Display.



Utilities – Process – Tree Import page

3. Enter the correct **Input File Name.**

4. Select the Save Method.

   By default, you should use ***Save.*** However, if you think the tree might not pass all the PeopleSoft tree audits, then select ***Save Draft. Save Draft*** saves the tree in draft mode and functions just as Save Draft does in Tree Manager.

5. If the tree already exists in your database, select **Replace Tree if Exists.**

Note. If the tree already exists in your database and you do not select the check box, the tree will not be imported.

---

6. Select **Load Tree Defn from File** (load tree definition from file) if the tree definition is contained in the input file and you want to load the tree with the same tree definition values.

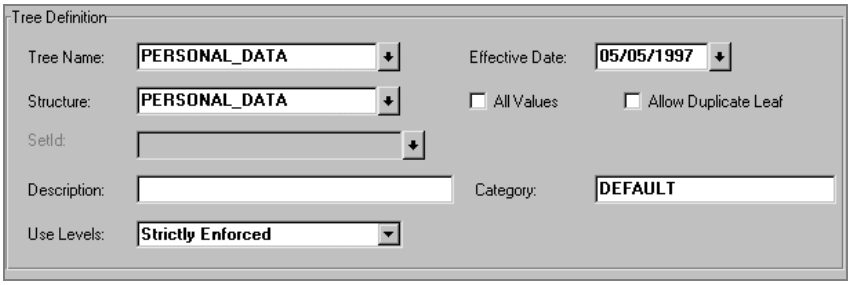
Note. In most cases, you will want to load the tree definition from the file. If you select this option and the tree definition *does not* exist in the input file, then the load process will fail.

---

7. Enter the base tree information if you are not loading the tree definition from the input file.

   If you are not loading the tree definition from the input file, then you'll be required to specify all the base tree information on the run control page. These fields correspond to the same

values that you'd have to enter if you were creating the tree manually using Tree Manager.



Entering base tree information

If you are not loading the tree definition from the file, then you must enter all the fields on the page. TreeMover will skip the input record that contains the tree definition information and instead use the values that you enter on the page.

You must load the tree definition from the file if you're also loading the tree structure from the file. If you try to load the structure from the file, but have overridden the definition values on the page, then the process will not run completely.

Note. If your TreeMover data file contains user level data or user node data and you are changing the SetID of your tree on import, the user data will retain the original SetID. TreeMover import does not support the changing of user data SetIDs.

---

8. Click **Run** to move the tree.

Warning! Always use the button to move the tree. The **Run** button and the blue links for Report Manager or Process Scheduler are not supported in Windows and function only in the PeopleSoft Internet Architecture.

---

9. Verify the successful completion of the process by checking the process status in Process Monitor.

10. Check the log file that is created in the TEMP directory (TreeMover-<datetime>.log). The second-to to-last line in the log file should be "PeopleSoft TreeMover Completed Successfully."

```
1999-12-02-13.09.31: Begin: PeopleSoft TreeMover
1999-12-02-13.09.31: Unloading tree ,,DEPT_SECURITY,1980-01-01.
1999-12-02-13.09.35: Completed processing tree definition.
1999-12-02-13.09.35: Completed processing tree levels.
1999-12-02-13.09.35: Total number of tree levels processed: 5.
1999-12-02-13.09.36: Completed processing tree nodes and tree details.
1999-12-02-13.09.36: Total number of nodes processed: 38.
1999-12-02-13.09.36: Total number of tree details processed: 0.
1999-12-02-13.09.36: PeopleSoft TreeMover Completed Successfully.
1999-12-02-13.09.36: End: PeopleSoft TreeMover
```

Sample log file created by TreeMover

Note. If you're loading a tree that contains detail values, then those detail values must exist in the target database before you load the tree. If they don't exist, then the tree import process will fail.

Using TreeMover with PeopleTools 7.x Trees

TreeMover also provides a means for unloading a PeopleSoft tree from a PeopleTools 7 or 7.5 database. (The SQR should also work against a PeopleTools 6 database, but it has not been tested against that version and is not certified for it.) The functionality is provided with the TMDOWNLD SQR program. This program will export most of the same tree information as does the Tree Export functionality provided with PeopleTools 8.

There are a few differences with the data exported using the TMDOWNLD SQR program from that exported using the Tree Export feature of PeopleTools 8:

- Tree Categories are not exported; the category is defaults to DEFAULT.
- Tree Performance Options (new to PeopleTools 7.5) are not exported.
- Tree Structures cannot be exported.

To install the TMDOWNLD SQR program:

1. Copy the TMDOWNLD.SQR file from your PeopleTools 8 PS_HOME/SQR directory to the SQR directory for your PeopleTools 7 or 7.5 install.

Note. When you run this SQR against a given version of a PeopleTools database, you must run it with the common SQC files that are delivered for that PeopleTools version. For example, if you run it against a PeopleTools 7 database, you should run it so that it uses the SQC files delivered with PeopleTools 7. Otherwise, the process will not run correctly.

To run the TMDOWNLD SQR program:

1. Run the TMDOWNLD SQR program from the SQR command line (see SQR documentation).

2. Follow the system prompts.

Note. There is no associated run control page with this SQR for PeopleTools 7 or 7.5 databases. In order tTo schedule this process to run easily without manual intervention, you'll need to create a run control for the process. See your PeopleTools manual for more information on creating run controls.

Understanding TreeMover

The following sections will help you familiarize yourself with the record types, file formats, rules, and layout details for TreeMover.

Populated Record Types

TreeMover uses the following PeopleTools system tables for trees during both the tree import and tree export processes:

- PSTREEDEFN
- PSTREENODE
- PSTREELEAF
- PSTREESTRCT
- PSTREELEVEL
- PS_TREE_LEVEL_TBL
- PS_TREE_NODE_TBL

TreeMover also reads the PSSTATUS table during the tree export process in order to identify the version of the tree data exported.

TreeMover File Format

As delivered, TreeMover uses five different file layouts All the data for an exported tree is contained in a single file. Prior to a change in the file layout used for the export file, TreeMover writes a header record to the file to indicate what the next file layout is. The following table lists the standard file formats, along with their actual file layout name and the text of the header record that precedes a given layout data:

File Layout	Description	Header Record Text
TREE_VERSION	Tree Version – contains the PeopleTools release number used to create the export data file. If a Tree version is not provided then the TreeMover import program assumes that the tree data is from a database before 8.1.	999TREE_VERSION
TREE_STRUCTURE	Tree – used for data from the PSTREESTRCT table	999TREE_STRCT
TREE_DEFN	Tree Definition – used for data from the PSTREEDEFN table	999TREE_DEFN
TREE_USERLEVEL	Tree Level Data – used for data from PS_TREE_LEVEL_TBL	999TREE_USERLVL
TREE_LEVEL	Tree Level – used for data from the PSTREELEVEL table	999TREE_LEVEL
TREE_USERNODE	Tree Node Data – used for data from PS_TREE_NODE_TBL	999TREE_USERND
TREE_NODE	Tree Node and Leaf – used for data from the PSTREENODE and PSTREELEAF table	999TREE_NODE

The TreeMover export program processes the data in the order listed in the preceding table. If you choose to write your own export file, then you must adhere to the following rules:

- The Tree Structure record, if present, must always come first in the file. If it is not present, the TreeMover import program defaults to the record layouts used prior to release 8.1.
- The Tree Definition record, if present, must come after the Tree Structure record.
- The Tree Level records (only for trees with levels) must come before Tree Node and Leaf records.
- The Tree Node and Leaf records are required for any export file.
- Prior to the change in the record layout, you must precede the next data record with the appropriate header record for that file format.

TreeMover File Contents
999TREE_VERSION Tree Version Data
999TREE_STRCT Tree Structure Data

TreeMover File Contents
999TREE_DEFN Tree Definition Data
999TREE_USERLVL Tree Level Data 1 Tree Level Data 2
Tree Level Data N
999TREE_LEVEL Tree Level 1 Tree Level 2
Tree Level N
999TREE_USERND Tree Node Data 1 Tree Node Data 2
Tree Node Data N
999TREE_NODE Tree Node 1 Tree Node 2
Tree Detail 1
Tree Detail 2
Tree Node 3
Tree Node 4
Tree Node N
Tree Detail 5
Tree Detail N

TreeMover file format

TreeMover Example file

```
999TREE_VERSION
08.10-M              0
999TREE_STRCT
1APERSONAL_DATA     Employee Personal Data        D NTREE_LEVEL_TBL TREE_LEVEL
999TREE_DEFN
2A                        PERSONAL_DATA     1997-05-05PERSONAL_DATA     Personal Data Tree
999TREE_USERLVL
3A     BRANCH    1990-01-01ABranch                        Branch
3A     COMPANY   1996-01-01ACompany                       Company
3A     CORPORATE 1996-01-01ACorporate                     Corporate
3A     DEPARTMENT1996-01-01ADepartment                    Department
3A     DIVISION  1996-01-01ADivision                      Division
999TREE_LEVEL
4ACORPORATE 1  Y
4ACOMPANY   2  N
4ADIVISION  3  N
4ADEPARTMENT4  N
4ABRANCH    5  N
999TREE_NODE
6A00001                                  G1
6A                   00001                                    8200                        8200
N
6A                   00001                                    8300                        8300
```

Sample file

TreeMover File Rules

TreeMover reads these records in the following strict order during an import:

1. **PeopleTools Version(optional)**

   Optional: only needed if loading data from an 8.1 or later PeopleTools database.

2. **Tree Structure (optional)**

   Optional: only needed if the structures don't already exist.

   1-n structure records can be loaded.

3. **Tree Definition (required)**

   The information needed to create a tree.

   Only 1-tree definition record can exist in the input file.

4. **Tree Level Data (optional)**

   The detailed level data for a tree.

   1-n level data records can exist in the input file.

5. **Tree Levels (required for leveled trees)**

   The levels defined for the tree.

   Must include enough to define all the nodes.

1-n level records can exist in the input file.

6. **Tree Node Data (optional)**

   The detailed tree node information (description, effdt, etc.).

7. **Tree nodes and leaves (required)**

   Tree node and detail information.

   Each node must contain either a parent node or a previous sibling node. The referenced node (parent or sibling) *must precede* the node that references it in the input file.

   Detail values for a tree must exist in the database before importing the tree.

   1-n node records listed in Level+Sibling order (that is, root node on the 1st level, nodes on the 2nd level, etc.) can exist in the input file.

File Layout Details

Each record starts with a unique identifier for that record type, followed by the associated column data. All data is in fixed format.

Tree Structure Layout (TREE_STRUCTURE)

For the Tree Structure layout, most column names map directly to the PSTREESTRCT record.

Note. Tree structure record is optional if the database already has the structure defined for the new tree.

Column Name	*Column Type*	*Length*	*Start Position*	*End Position*	*Comments*
File Record ID	number	1	1	1	Always 1
UPDATE_ACTION	character	1	2	2	Always A (only add mode supported at this time)
TREE_STRCT_ID	character	18	3	20	
DESCR	character	30	21	50	
TREE_STRCT_TY	characte	1	51	51	

PE	r				
DYNAMIC_RANGE	character	1	52	52	Y or N
SETCNTRL_IND	character	1	53	53	S, B, U, or N
LEVEL_RECNAME	character	15	54	68	
LEVEL_PNLNAME	character	18	69	86	
LEVEL_MENUNAME	character	30	87	116	
LEVEL_BARNAME	character	30	117	146	
NODE_RECNAME	character	15	147	161	
NODE_PNLNAME	character	18	162	179	
NODE_FIELDNAME	character	18	180	197	
SETCNTRLFLD	character	18	198	215	
NODE_MENUNAME	character	30	216	245	
NODE_BARNAME	character	30	246	275	
DTL_RECNAME	character	15	276	290	
DTL_FIELDNAME	character	18	291	308	
DTL_PNLNAME	character	18	309	326	
DTL_MENUNAME	character	30	327	356	
DTL_BARNAME	character	30	357	386	
DTL_SETID	character	5	387	391	
SETCNTRLVALUE	character	20	392	411	

DTL_TREE_NAME	character	18	412	429	
DTL_TREE_LEVEL_NUM	character	5	430	434	
LEVEL_PNLGRPNAME	character	50	436	486	Only for release 8.1 and greater
NODE_PNLGRPNAME	character	50	487	537	Only for release 8.1 and greater
DTL_PNLGRPNAME	character	50	538	588	Only for release 8.1 and greater
LEVEL_ITEMNAME	character	30	589	619	Only for release 8.1 and greater
NODE_ITEMNAME	character	30	620	650	Only for release 8.1 and greater
DTL_ITEMNAME	character	30	651	681	Only for release 8.1 and greater

Tree Definition Layout (TREE_DEFN)

Tree definition record columns require either a tree structure defined in the database or a previous tree structure record in the file. For the Tree Definition layout, most column names map directly to the PSTREEDEFN record.

Column Name	*Column Type*	*Length*	*Start Position*	*End Position*	*Comments*
File Record ID	number	1	1	1	Always 2
UPDATE_ACTION	character	1	2	2	Always A (only add mode supported at this time)
SETID	character	5	3	7	
SETCNTRLVALUE	character	20	8	27	
TREE_NAME	characte	18	28	45	

	r				
EFFDT	date	10	46	55	YYYY-MM-DD format
TREE_STRCT_ID	character	18	56	73	
DESCR	character	30	74	103	
NODE_COUNT	character	10	104	113	
ALL_VALUES	character	1	114	114	Y or N
USE_LEVELS	character	1	115	115	S, L, or N
DUPLICATE_LEAF	character	1	116	116	Y or N
TREE_CATEGORY	character	18	117	134	
EFF_STATUS	character	1	135	135	
TREE_ACC_METHOD	character	1	136	136	
TREE_ACC_SELECTOR	character	1	137	137	
TREE_ACC_SEL_OPT	character	1	138	138	
TREE_IMAGE		30	139	169	Only for Release 8.1 and greater
BRANCH_IMAGE		30	170	200	Only for Release 8.1 and greater
NODECOL_IMAGE		30	201	231	Only for Release 8.1 and greater
NODEEXP_IMAGE		30	232	262	Only for Release 8.1 and greater
LEAF_IMAGE		30	263	293	Only for Release 8.1

					and greater

Tree Level Data Layout

The columns in this layout correspond to the columns in the PS_TREE_LEVEL_TBL record.

Column Name	*Column Type*	*Length*	*Start Position*	*End Position*	*Comments*
File Record ID	number	1	1	1	Always 3
UPDATE_ACTION	character	1	2	2	Always A (only add mode supported at this time)
SETID	character	5	3	7	
TREE_LEVEL	character	10	8	17	
EFFDT	date	10	18	27	YYYY-MM-DD format
EFF_STATUS	character	1	28	28	
DESCR	character	30	29	58	
DESCRSHORT	character	10	59	68	

Tree Level Layout

The tree level layout requires a tree definition record in the file previous to this record type. The columns in this layout correspond to the columns in the PSTREELEVEL table.

Note. No-level records should be defined for no-level trees.

Column Name	*Column Type*	*Length*	*Start Position*	*End Position*	*Comments*
File Record ID	number	1	1	1	Always *4*
UPDATE_ACTION	character	1	2	2	Always *A* (only add mode supported at this

					time)
TREE_LEVEL	character	10	3	12	
TREE_LEVEL_NUM	character	3	13	15	
ALL_VALUES	character	1	16	16	***Y*** or ***N***

Tree Node Data Layout

The columns in this layout correspond to the columns in the PS_TREE_NODE_TBL record.

Column Name	*Column Type*	*Length*	*Start Position*	*End Position*	*Comments*
File Record ID	number	1	1	1	Always 5
UPDATE_ACTION	character	1	2	2	Always A (only add mode supported at this time)
SETID	character	5	3	7	
TREE_NODE	character	20	8	27	
EFFDT	date	10	28	37	YYYY-MM-DD format
EFF_STATUS	character	1	38	38	
DESCR	character	30	39	68	

Tree Node Record Columns

Tree node record columns Rrequires a tree definition record in the file previous to this record type and level records if the tree has levels. Node records must have parents defined before their children. Detail records can be interspersed between node records.

Note. Node type is either *G* or *R*. *G* is for standard nodes, and *R* is for Query Access Group record nodes. Branch nodes are not supported at this time

Column Name	*Column Type*	*Length*	*Start Position*	*End Position*	*Comments*
File Record ID	number	1	1	1	Always 6

UPDATE_ACTION	character	1	2	2	Always A (only add mode supported at this time)
TREE_NODE	character	20	3	22	Only for node record
PARENT_NODE_NAME	character	20	23	42	Tree TREE_NODE for the parent node of the node or detail
TREE_NODE_TYPE	character	1	43	43	Only for node record; G or R
TREE_LEVEL_NUM	character	3	44	46	Only for node record
TREE_NODE_PREV_SIB	character	20	47	66	Only for node record
RANGE_FROM	character	30	67	96	Only for detail record
RANGE_TO	character	30	97	126	Only for detail record
DYNAMIC_RANGE	character	1	127	127	Only for detail record record; Y or N
LEAF_IMAGE	character	30	129	159	Only for Release 8.1 and greater
NODECOL_IMAGE	character	8	160	168	Only for Release 8.1 and greater

NODEEXP_IMAGE	character	8	169	177	Only for Release 8.1 and greater

Customizing TreeMover for Additional Node and Level Data Records

PeopleSoft Trees generally have detailed node data stored in the PS_TREE_NODE_TBL table and detailed level data stored in the PS_TREE_LEVEL_TBL table. However, the records used to hold the detailed tree node data and the detailed tree level data are specified as part of the tree structure, so you have the ability to define them as anything. For example, you might have a department tree where the actual nodes of the tree are departments.

TreeMover has been built to handle the movement of PS_TREE_NODE_TBL data and PS_TREE_LEVEL_TBL data. (The tables are the default tables used by Tree Manager, and they aren't used to hold any other application data.)

However, TreeMover does not handle moving data from any other application table. Generally, when you move trees between different PeopleSoft databases, you should move the application data using other means, such as with an Extract, Transform, and Load tool such as Informatica's PowerMart. TreeMover has been developed so that you can add support for other records for the tree node data and the tree level data.

As with any PeopleSoft application, you should avoid performing any customizations if at all possible. TreeMover should never be modified for any reason, except to add support for:

- Tree node data records other than the PS_TREE_NODE_TBL.
- Tree level data records other than the PS_TREE_LEVEL_TBL.

Note. Before performing any customizations to TreeMover, you should carefully consider the tables that you intend to add support for. Application tables that hold data used by other parts of the PeopleSoft system should be moved by other means, such as an Extract, Transform, and Load (ETL) tool. As part of PeopleSoft's EPM product, most of the necessary ETL maps are already delivered to move data such as accounts, projects, and departments, so there's no need to modify TreeMover to support those tables.

Modifying the TreeMover Application Engine Program

The TreeMover process is an application engine process called TREEMOVER. To add support for additional node and level tables, you have to perform two basic steps: create the new file layout that should be used for the new data and modify the TREEMOVER_AET PeopleCode according to the following steps.

Note. You should *not* make any modifications to the actual application engine.

To modify the TreeMover Application Engine Program:

1. Create file layouts for your desired tree node data record or tree level data record using Applications Designer's file layout functionality.

   Use one of the existing TreeMover file layouts as an example (TREE_DEFN, TREE_NODE, etc.). Each file layout you add for TreeMover must have a unique file record ID (specified as part of the file layout record properties); the existing TreeMover file layouts use numbers 1–6.

   Each file layout you add must also have the UPDATE_ACTION field.

2. In the TREEMOVER_AET record, modify the PROCESS_INSTANCE FieldFormula PeopleCode as follows:

- In the **isValidUserNodeRec** function, add your desired PeopleSoft records for node data to the condition check.
- In the **isValidUserLevelRec** function, add your desired PeopleSoft records for level data to the condition check.
- In the **setUserNodeRecLayout** function, add code to set the correct file layout based on the node data record.
- In the **setUserLevelRecLayout** function, add code to set the correct file layout based on the level data record.
- In the **getUserNodeData** function, add code to get data from your new node records.
- In the **getUserLevelData** function, add code to get data from your new level records.

Note. In the steps above, you should be sure *not* to modify the original code in the functions. You should add new code only within new "if" conditions. If you change any of the existing code, trees based on the PS_TREE_LEVEL_TBL and PS_TREE_NODE_TBL will no longer be handled with TreeMover.

Modifying the TMDOWNLD SQR Program

If you've modified the TREEMOVER Application Engine program, then you'll also need to make similar changes to the TMDOWNLD.SQR, assuming you're using that SQR to download trees from a PeopleTools 7.x database.

To modify the TMDOWNLD SQR program:

1. Change the Download-TreeUserLevel procedure to handle the new tree level data tables.

   Be sure to add conditional logic so that the existing logic is still executed when the tree structure = PS_TREE_LEVEL_TBL. The tree level record name is stored in the variable

&TS.LEVEL_RECNAME.

2. Change the Download-TreeUserNode procedure to handle the new tree node data tables.

   Be sure to add conditional logic so that the existing logic is still executed when the tree structure = PS_TREE_NODE_TBL. The tree node record name is stored in the variable &TS.NODE_RECNAME.

CHAPTER 7

Using Tree Manager on the Web

Tree Manager lets you view, create, and modify the trees that you use in PeopleSoft applications. This section describes the basic procedures for using Tree Manager from PeopleSoft Internet Architecture.

The addition of Tree Manager to PeopleSoft Internet Architecture provides Web users a simple, intuitive way to create, view, and maintain trees using their browser. Casual users have an interface that is familiar and easy to understand, and gives users all of the functionality required for creating and maintaining trees. The steps used to create a tree on the Web are very similar to creating a tree in Windows. Now, instead of using drag-and-drop mouse actions, you'll use point-and-click to select nodes and other values for your tree.

This chapter is written for users who want to create and use standard trees using a browser. Building a tree and using Tree Manager on the Web follows the same basic principles and procedures as Tree Manager using Windows. If you know how to build a tree using the Windows client, using PeopleSoft Internet Architecture will be familiar and easy for you. The Windows version of Tree Manager is still available, and trees can be maintained from either environment (Windows or Web) depending on your preference.

New with web-based Tree Manager is the Tree Maintenance page that enables you to audit the tree, delete the entire tree, or make a copy of an existing tree all from one place in the application.

You can also create customized menus in your applications that include specific trees that are relevant for certain functions. For example, you can add a custom menu item that opens Chart of Account trees when you are working within General Ledger. The web-based Tree Manager uses a standard PeopleSoft search dialog box so that it can be accessed directly from applications menus or can be set up to open a specific tree based on a hyperlink or pushbutton from any application page.

Note. All trees are supported in web-based Tree Manager with the exception of Query Access trees. Those trees can be viewed or maintained using the Windows-based Tree Manager.

Opening and Viewing a Tree in a Browser

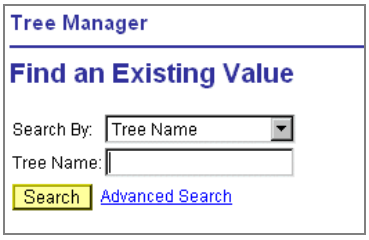
Once you have your browser open in PeopleSoft Internet Architecture, your next step is to navigate to Tree Manager so that you can open and view a tree. The new Search page for Tree manager has been designed to allow searches for trees using a variety of categories. With the tree open, you can view the tree hierarchy, add nodes, delete nodes, print the tree, and perform other

standard tree maintenance functions. Tree Manager has been designed to display one page of the tree at a time so that you can navigate through large trees quickly and easily.

To open a tree from your browser:

1. Select PeopleTools, Tree Manager, Use, Tree Manager.

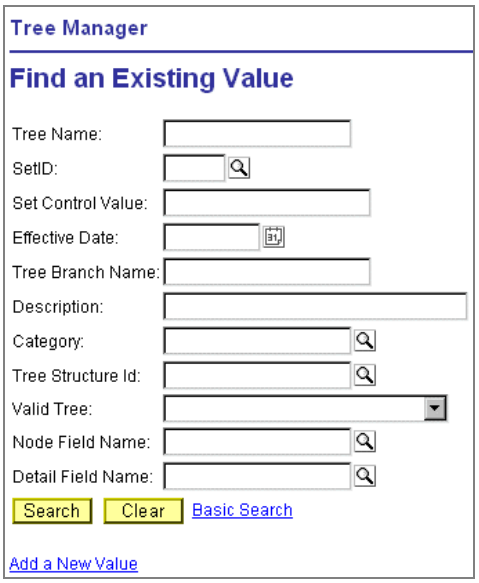
   The Tree Manager Search page appears



Search page

2. Select a value for how you want to find your tree from the drop-down box.

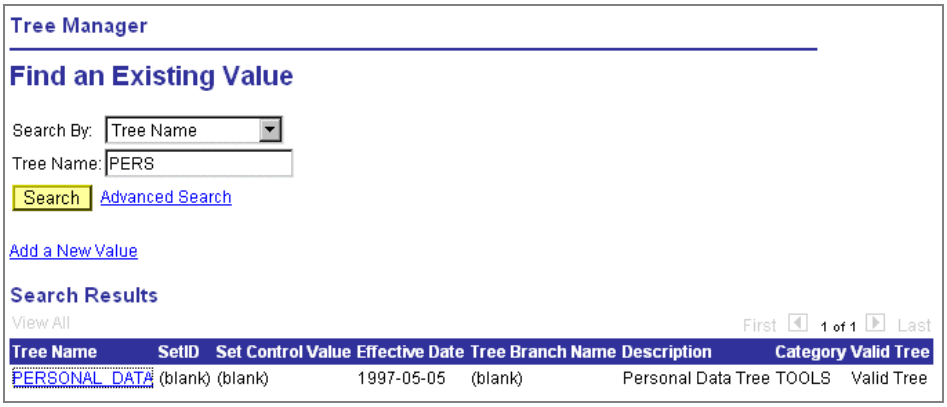
   You use the Search page to identify which tree in the system you want to open. You can search for a tree based on tree name, description, detail record name, effective date, level record name, node record name, set control value, SetID, tree branch name, tree structure ID, or valid tree status. If you select **Advanced Search**, you can select any combination of these values.



Advanced Search page

   For example, if you want to open the Personal Data tree, you would enter part of the key name, such as ***pers***.

The search results appear on your page.

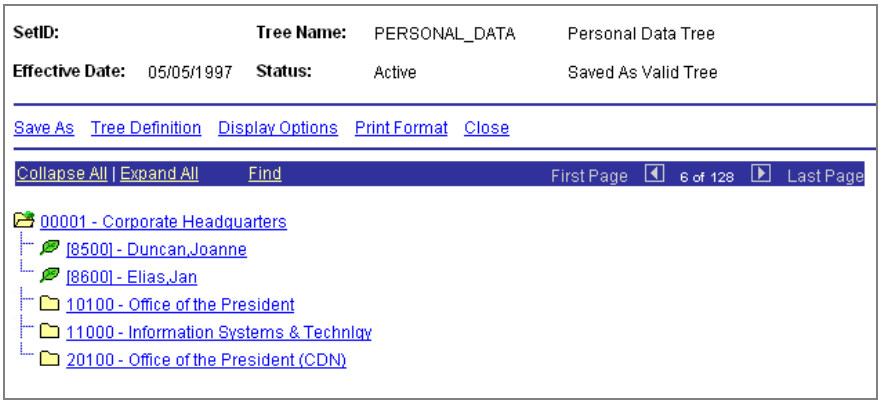


Search Results page

The system displays a list of the trees that match the data you've entered.

3. Click the hyperlink for the tree you want to open.

Tree Manager opens the selected tree.



Personal Data Tree page

From this page, you have the option to perform the following actions on the tree. (Not all of the options will appear on the screen initially. For example, Save As Draft doesn't appear until some modifications have been made to the tree.)

Save	Saves the tree or branch and performs audits on detail values.
Save Draft	Saves the tree or branch, but does not perform the detail audits. Trees will be marked as Draft until the audits are performed by saving the tree using the Save command or by manually performing the detail value audits from either the Tree Definition page or the Tree Maintenance page.

Save As	Allows you to save the current tree or branch along with any modifications you've made, such as changing the name or effective date.
Tree Definition	Displays the Tree Definition and Properties page from which you can change audits, edit levels, as well as the tree's category or description.
Display Options	Allows you to change the way trees appear on your page.
Print Format	Formats the completed tree so that it can be printed by using your browser's print function. It will also print only the branch of branched trees.
Close	Closes the tree or branch and displays the Search page.
	Note. When you are through editing a tree, it is very important that you save any changes you've made and use Close to let the system know that you are finished editing the tree.
Collapse All	Closes all of the visible nodes except for the root node. The root node is always expanded.
Expand All	Expands all of the nodes on the tree so that the entire tree or branch hierarchy is visible.
	Note. Expand All expands all parent/child relationships, but the tree hierarchy is still presented one page at a time. You will need to use Next and Previous page arrows to page forward and backward through the tree.
Find	Displays the Find Value page that allows you to search for nodes and detail values.

You can also edit the tree by highlighting the nodes and detail values and using the icons that appear.

For more information about editing an existing tree, see Editing an Existing Tree.

Viewing Parts of the Tree

The Tree Definition and Properties page is used to define basic attributes of the tree. This page gives you information about the tree name, structure ID, description, effective date and status, how detail values are handled, how levels are assigned, and so on.

Expanding and Collapsing Nodes

You can collapse any node at any level, to give you a better overview of the entire tree. Closed yellow folders indicate that you can expand the node to show additional nodes and detail values. Closed gray folders indicate a node that has no children (child nodes or leaves). Open yellow folders indicate a node that has been expanded and is showing child nodes or leaves.

To expand or collapse a node:

1. Click the folder icon related to the node name to expand the node.

   When you click the folder icon on a collapsed node, the node's children become visible and the other Tree Manager icons appear that allow you to perform operations such as cut, delete, insert nodes, edit tree values, branch the node, and so on.

2. Click the fold icon to close the expanded node.

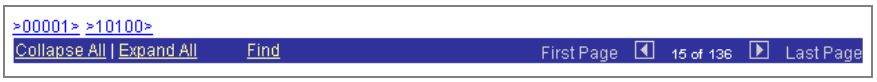
   If you click the folder icon of an expanded node, it will collapse and you will no longer see the children or the other operation icons.

For more information about editing node or detail values, see Editing an Existing Tree.

To expand or collapse all nodes in a tree:

1. Click the Expand All link in the navigation bar to expose all the levels of the tree.

   If you have a very large tree, you will need to navigate through many pages of information to view the entire tree. Use the buttons and links on the navigation bar or the breadcrumbs above the navigation bar to display different parts of the tree.



Navigation bar with breadcrumbs

2. Click **Collapse All** in the navigation bar to hide the levels of the tree.

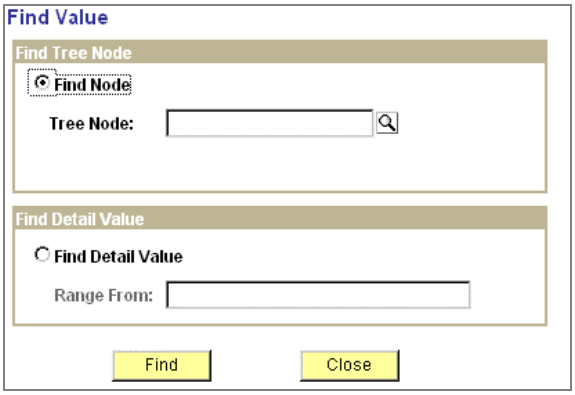
Searching for Nodes or Detail Values

Trees can be quite large and complex, with many nodes and detail values. When a tree is first opened, it appears on the page with just the root node expanded. In most cases, you don't want to see the whole tree at once—just the specific level you want to work on. If you don't want to navigate through the entire expanded tree looking for the node or detail value you want, you can search for it using Find from the toolbar.

To search for a node or detail value:

1. Select Find from the navigation bar.

   The Find Value page appears.



Find Value page

   The Find Value page is where you enter the values you want to use to search for in a tree or branch. Find will not search across branches and won't find nodes or leaves within another branch.

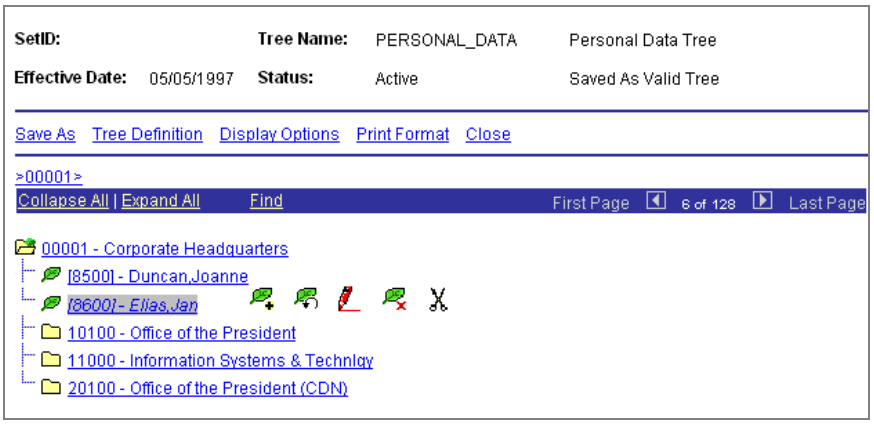
2. Specify whether you're searching for a node or a detail value and enter your search values.

   Tree Node searches are based on the tree node name. You may click the prompt button to display a list of nodes that are available to you.

   Select Find Detail Value to search for the detail value or range of values. If the leaf is defined as being a range of values, then it looks for the leaves that the specific value would fall under. If the leaf is defined as a specific value (Range From = Range To), then the value being searched for must be an exact match.

3. Click **Find**.

   If Tree Manager finds a node or detail value that matches your search string, it highlights it. In the following example, the detail value ***8660*** was entered in the Find Value page. Tree Manager displays that detail value and shows the root and parent node above the navigation bar.



Detail value highlighted

If Tree Manager doesn't find a matching node or detail value, it displays a message telling you so.

Working with Tree Nodes

A tree node in Tree Manager has three parts: the node icon, the node name, and a node description.

In the following example, the node is collapsed, so the folder icon is closed. The node name is 10900, and the node description is Operations Administration.

Node with a description

If a node does not have any children reporting to it, a gray folder icon will represent it.

Node with not children

Node that skips a level

When selecting a tree node in Tree Manager, you need to click the appropriate part for the action you want to perform.

To *expand* or *collapse* nodes, you click the folder icon.

To display icons that allow you to edit, insert nodes or details, branch, cut, and so on, simply click the description or node name rather than the folder icon.

Node with editing icons

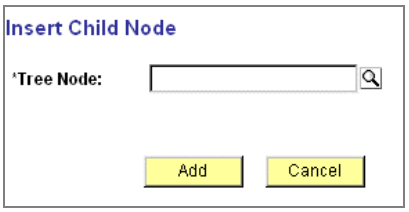
Editing an Existing Tree

	Insert child node	Inserts a new node that will be a child of the currently selected node.
	Insert sibling node	Inserts a new node that will share the same parent as the currently highlighted node.
	Update node properties	Displays the Node Properties page, which enables you to change the level of a node or rename a node.
	Delete node	Deletes the selected node.
	Insert Detail	Inserts a new detail value. This is only available if the detail value information has been entered on the Tree Structure Detail page.
	Edit data	Displays a page for maintaining or editing the application data for the node. The actual table that is used to store the data is defined on the Tree Structure maintenance page.
	Edit properties	Allows you to change the detail value itself. For example, you can change the range to and range from values.
	Delete detail	Deletes the selected detail.
	Cut	Marks the highlighted tree component as cut and copies it to the clipboard where you can use either Paste as Sibling or Paste as Child commands.
	Paste as Sibling	Allows you to paste a node that you have cut into the tree as a sibling.
	Paste as Child	Allows you to paste a node that you have cut into the tree as a child.
	Branch	Subdivides or splits that part of the tree into a separate component that can be maintained and viewed separately from the main tree. For more information about branching, see Creating Tree Branches.

To insert a node:

1. Highlight a node in your tree.
2. Select either the insert child or insert sibling icon.

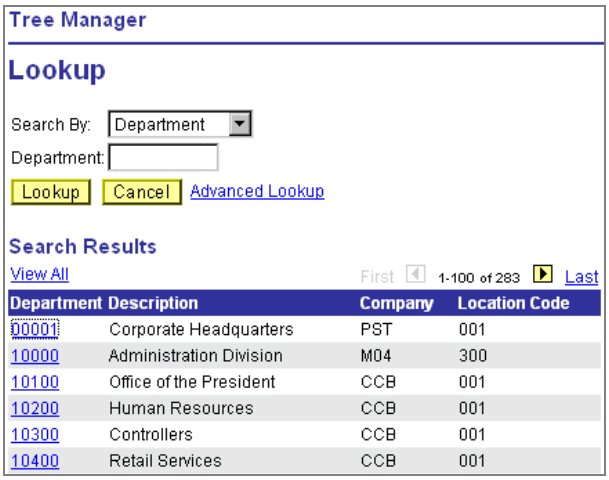
   In this example, we'll insert a child node.



Insert Child node dialog box

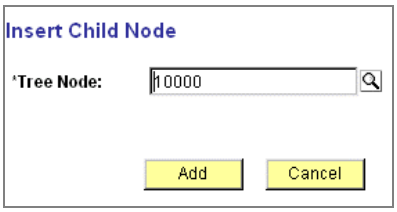
3. Click the search icon to find the node name.

4. Select the node from the list.



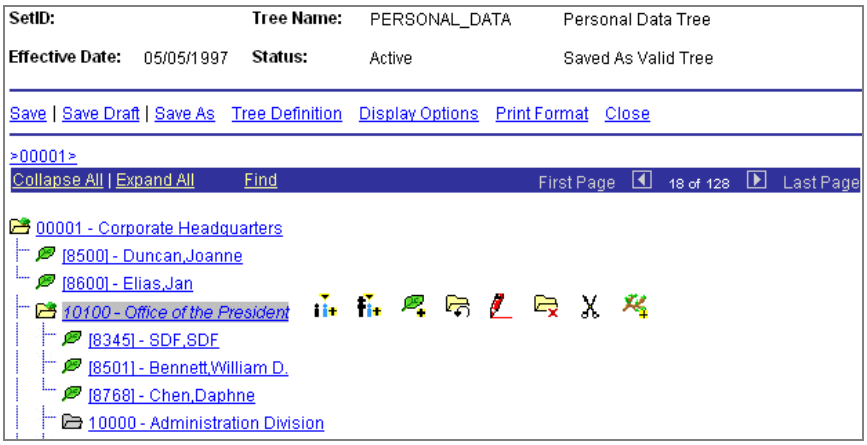
Lookup page

The Insert Child Node dialog box appears.



Insert Child Node dialog box

5. Click **Add**.



Tree with node 10100 – Office of the President

To move a node:

1. Highlight the node and click the Cut icon .
2. Select the destination, and choose Paste as Sibling or Paste as Child .

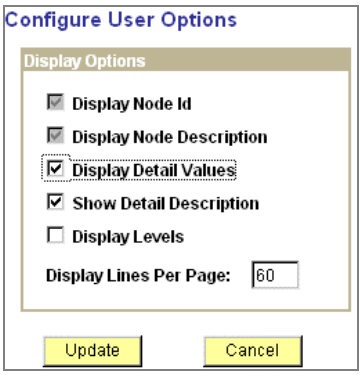
   The node is pasted into the position that you have specified. Remember that you can't insert a child node into a branch node, or insert a sibling node into a root node.

Setting User Options

To display or turn off tree node descriptions:

1. Select Display Options.

   The Configure User Options page appears.



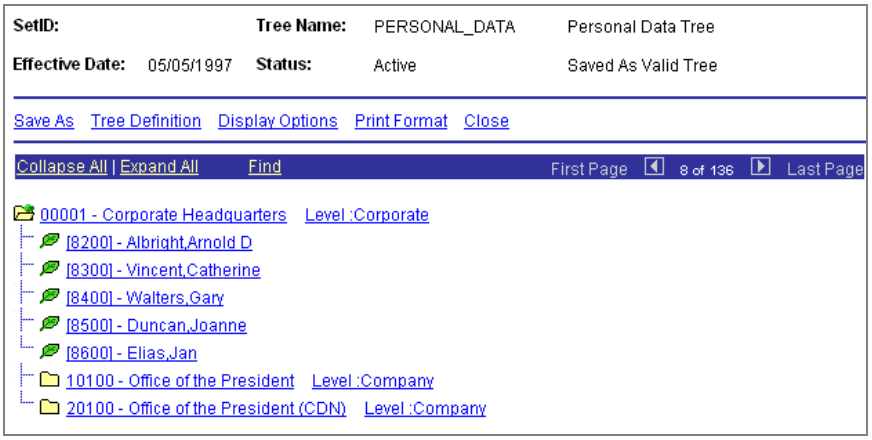
Configure User Options page

2. Click each box to select a display option.

   Using the options on this page, you can choose to display different parts of your tree.

3. Type in the number of lines you want each page to show. The default is 60 lines.

   The following page shows all display options on the screen: node ID, node description, detail values, and levels.



Personal_Data tree with all display options turned on

   You can click the level name next to the node to display the Levels page and edit the level information.

Note. Tree node descriptions may not be available if the effective date of the tree is earlier than the effective date of the node.

Tree Definition and Properties

The Tree Definition Properties page is the same one you see when you create a new tree. Using the Tree Definition and Properties page, you can change the status of a tree to keep other applications like nVision from trying to use a tree that is not complete. If you mark a tree as inactive, you can edit it later and still ensure that no other users have access to your tree from other PeopleSoft applications or tools. You can also specify how trees are audited by the system by selecting different audit values, and run an audit from this page.

The parts of the tree definition that you can modify are its category and description, which appear in prompt lists, and its method of handling detail values.

Category is a user-defined way of categorizing trees so that they are easier to find when using the tree search pages.

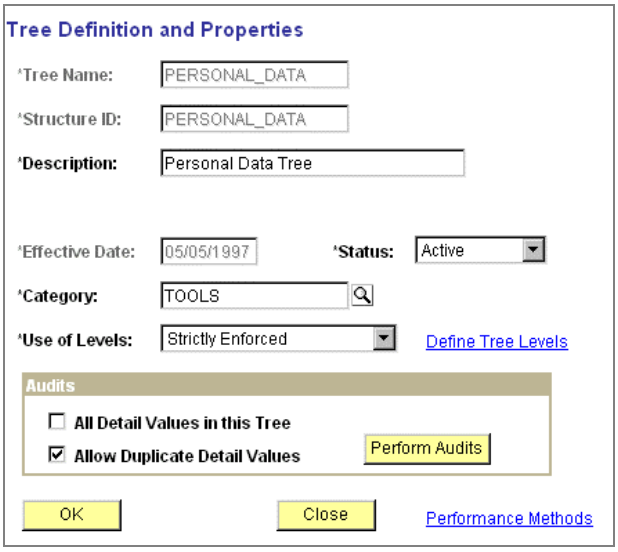
Note. When you use Tree Manager in Windows, the Category determines how the trees are arranged at the highest level and is an important visual clue in organizing trees. Category is really only used as a search value in web-based Tree Manager. If you are using Tree Manager in both environments, you might want to use categories that are already being used in Windows Tree Manager to ensure that your trees are arranged as expected.

You can also change the Use of Levels field, as long as you change it to a *less* restrictive value. For example, you can change Strictly Enforced levels to Loosely Enforced levels, but you can't change from not using levels to using them or from Loosely Enforced levels to Strictly Enforced levels. You must save your modified definition to retain any changes.

To view an open tree's definition:

1. Open the tree.
2. Select Tree Definition from the hyperlinks at the top of the page.

   The Tree Definition Properties page appears.



Tree Definition and Properties page

For more information about what the various settings mean, see Defining the Tree.

Defining Tree Levels

You can choose whether the tree uses *levels* to organize its nodes. Using levels in a tree helps you to identify all nodes at a certain level in your hierarchy. Levels are a way to group or identify all

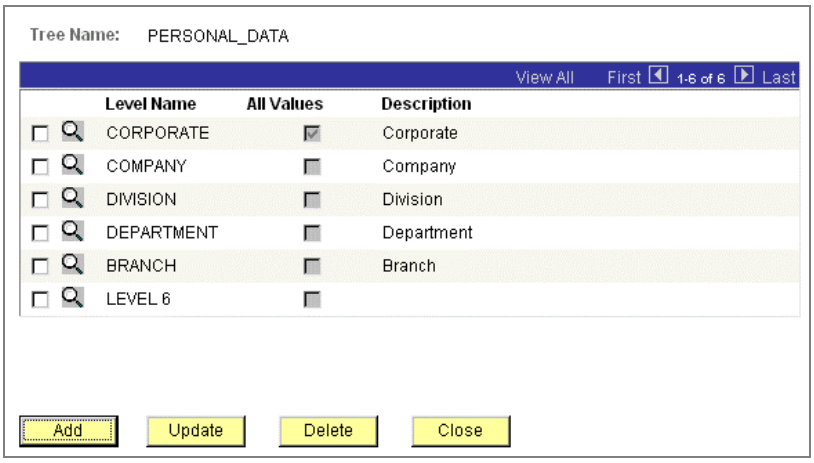
of the nodes that belong to a common class or group within the hierarchy. For example, for an organization tree you might define levels such as Company, Business Unit, Division, and Department.

If your tree uses strictly defined or loosely defined levels, you must set at least one level for the root node before you can add any other nodes. In the new web-based Tree Manger, generic levels are automatically added when you move nodes or when you add new nodes where the levels have not been defined. If your tree doesn't use levels, you don't need to define levels.

To add tree levels:

1. Select Define Tree Levels.

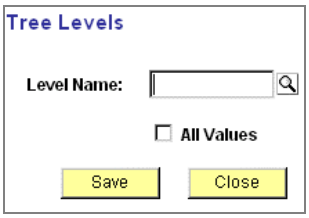
   This page lists the levels that have been defined for the tree (from top to bottom) and allows you to add levels, delete levels, or view the underlying tree data.



Tree Node Level Information

2. Click the **Add** button.

   The Tree Levels page appears allowing you to name the level you are adding. If the tree uses levels, you must first define at least one level in the **Level Name** field of this page before you can insert any nodes.



Tree Levels Add page

3. Enter a name for the level.

Use a name that reflects what the nodes at this level represent. For example, the first level in the Department Security tree is CORPORATE, indicating that the root node is Corporate Headquarters.

4. Specify whether nodes can "skip over" the level.

The **All Values** check box specifies whether Tree Manager permits nodes to skip over the level you're defining to report to a higher level. Select this option if you want to make sure that all values from lower levels report to a node at this level. To allow nodes to skip a level, clear the **All Values** check box. For example, you might want to do this if you have one or more departments that aren't part of any division but report directly to the COMPANY level.

Note. When you are adding a top level (the Root Node), the **All Values** check box is selected but is grayed out. You can't skip over the top level.

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5. Click the **OK** button.

The Tree Level page closes. If you entered the name of an existing level from another tree, the level name is added. If you entered a new name, Tree Manager displays the page for entering tree level information. The displayed page is the page specified for levels in the tree structure. For most trees, it is the Tree Level page.

To delete a level:

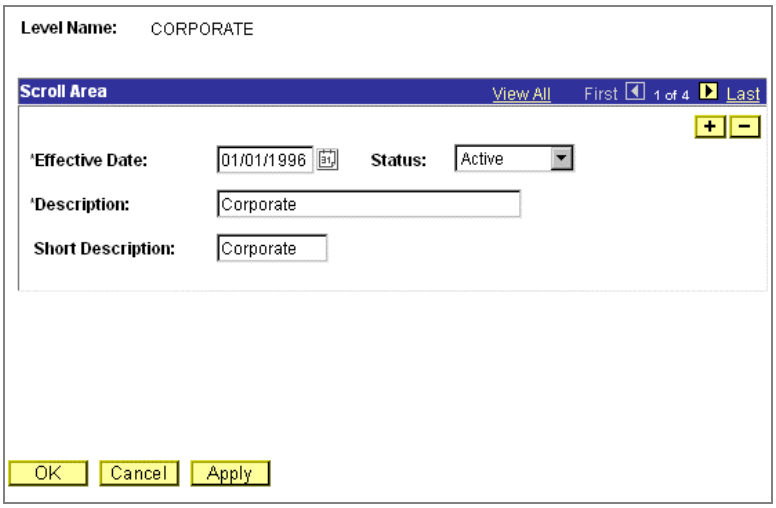
1. Click the Delete button.

2. The level will be deleted from the tree.

To edit level information:

1. Click the View Detail button on the Tree Node Level Information page.

Tree Manager displays the page for entering tree level information. The displayed page is the page specified for levels in the tree structure. For most trees, it is the Tree Level page.



Tree Level page

2. Enter the Status for the specific level. Your choices are ***Active*** or ***Inactive.***

3. Enter a **Description** and a **Short Description.** The descriptions appear in various prompt lists that help you identify the level.

   If the tree structure for this tree specifies a different page for creating tree levels, enter appropriate data into the fields of the page.

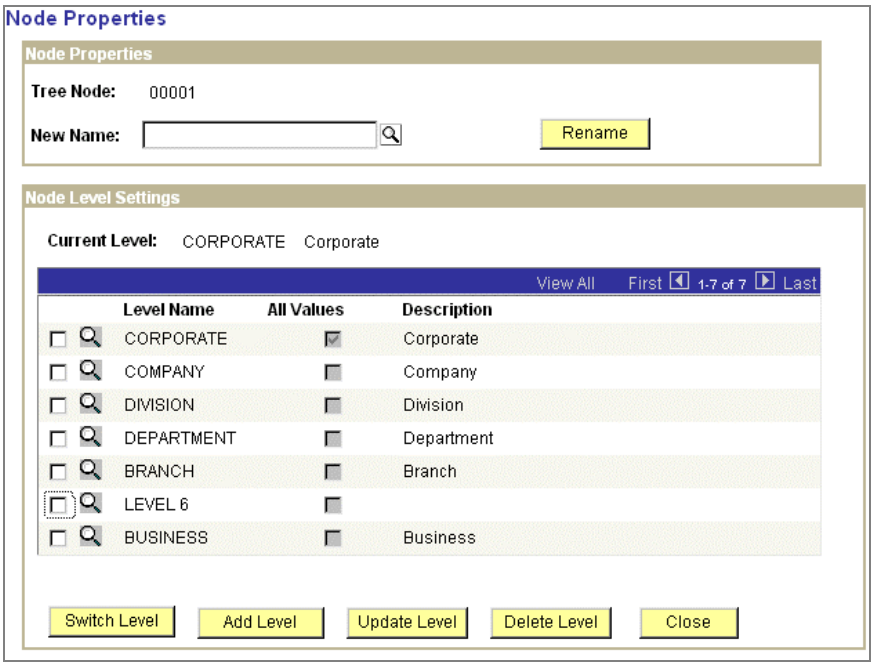
Changing a Node's Level

You may need to change the level to which a node corresponds. You can do this at any time with the Switch Level page.

To change the level of a node:

1. Highlight the node in the tree display and select Update Node Properties .

   The Node Properties page appears.



Node Properties page

2. Select the new level.

3. Click Switch Level.

   Notice that the current level will change.

   This page also enables you to select a new name for the node and change any of the node level settings.

Note. Printing the tree might give you a better visual idea of the level hierarchy if you need to change many node levels at once.

Performing Audits

Once you have completed your tree, you can have Tree Manager review it to verify that it meets the restrictions you set for it. For example, if you selected the All Detail Values check box when you created the tree definition, the Tree Manager audit will verify that you've included all detail values.

You can perform a tree audit from the Tree Definition and Properties page, by saving the tree, or by using the Tree Maintenance page. In the following example, we'll use the Tree Definition and Properties page. If you want to audit a *closed* tree, use the Tree Maintenance page.

To audit a tree:

1. Navigate to the Tree Definition and Properties page.
2. Select the **Perform Audits** button.

Tree Manager displays a warning message in the following circumstances:

- One or more nodes have no detail values reporting to them.
- You selected All Detail Values, but one or more defined values for the database field don't appear in the tree.

The warning message tells you that the tree is invalid. You can save the tree as a Draft tree only, but you can't use it with other PeopleTools like PeopleSoft Query or PS/nVision until the tree is valid.

It is possible to audit trees whether they are open or closed. The audits happen automatically when you do a Save or Save As. However, if you do a Save Draft or Save As Draft, no audits are performed.

If every terminal tree node has detail values reporting to it either directly or through lower-level nodes, Tree Manager informs you that the tree is valid. If you selected All Detail Values in the tree definition, the tree must also include all defined values for the database field the tree is based on.

If the tree is not valid, Tree Manager displays a message telling you where the problem is.

At this point, you can either correct the problem that is causing the tree to be invalid, or use the Save As Draft feature to save the tree in an invalid state.

All audits report the first occurrence found of any of the following problems. The audits are performed first on the displayed nodes and details, and then Tree Manager audits the nodes in the database when saving an edited tree.

Node audits are only performed on open trees. If you run an audit from the Tree Maintenance page (from a closed tree), you only run the Detail audit. When you audit a tree branch, the node audits are performed on the nodes in the current branch only, while the detail audits are performed on all branches.

Check For	*Purpose*	*When Check Occurs*
Overlapping Node Numbers	Reports first occurrence of two nodes whose internal node numbering is overlapping.	Always.
Nodes Outside of Parent's range	Reports first occurrence of a node whose internal node number does not fall within the parent node's internal node number range.	Always.
Nodes Without Parents	Reports first occurrence of a node whose internal node	Always.

	number for a parent does not have an actual node with that number.	
Duplicate Node Names	Reports the first duplicate node name when it finds a node with the same name reporting to a different parent node.	Always.
Overlapping Detail Ranges	In a detail tree, reports when it finds one detail whose From and To range overlaps the To and From range of a different detail.	Always.
Nodes Without Leaves	In a detail tree, reports when any terminal node has no leaves.	Always.
All Detail Values	Reports if you haven't included all detail values.	When the All Detail Values In This Tree option is checked on the Tree Definition dialog box.
Duplicate Detail Values	Reports the first duplicate detail value it finds reporting to a different parent node.	When the Allow Duplicate Detail Values option is not checked on the Tree Definition dialog box.
Skipped Levels	Reports when a level is skipped.	When the All Levels option is checked on the Tree Level dialog box.

Setting Performance Levels

You can set various performance-enhancing options when creating your trees. These options help to improve the database performance of queries that use trees as selection criteria. This includes queries to which tree criteria are added by PeopleSoft nVision layouts and scopes.

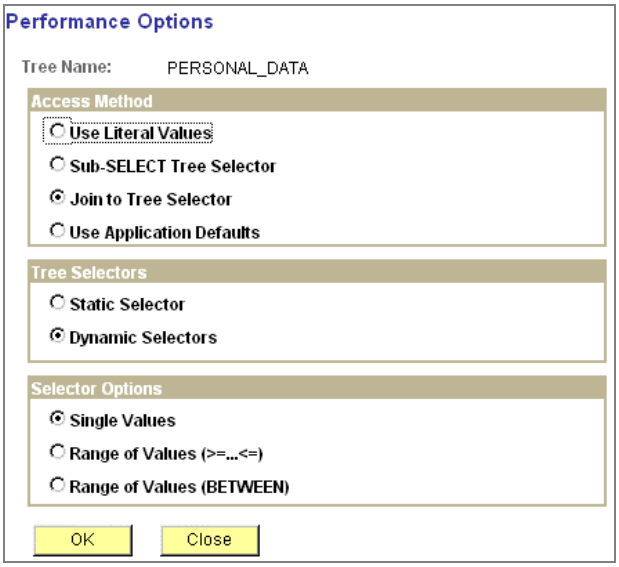
Because of the many variations of data distributions, indexes, queries, and optimizers, you can choose SQL techniques that will tune your queries for optimum performance. By specifying these options at the tree level, your trees can be used in queries whether or not they are run through PeopleSoft nVision.

For more information on Performance Levels, see Setting Tree Performance Options.

To specify Access Performance Methods:

1. Select the Performance Methods link .

   The Access Performance Methods page appears.



Performance Options page

2. Select the appropriate options and click OK.

For more information about these performance options, see Setting Tree Performance Options.

Saving Trees

You can, if you choose to, save a tree in draft mode. This prevents the regular audits from being performed when a tree is saved. Thus, it's possible to create and save (in draft mode) trees that are invalid. When a tree is saved in draft mode, the system considers it an invalid tree and it can't be used in other PeopleSoft applications such as Query or PS/nVision until it has been saved as a valid tree. Trees are always marked "invalid" in draft mode. They will remain invalid until the tree audit is passed when you select the regular Save command from the menu, or until the tree audit is performed from either the Tree Definition page or the Tree Maintenance page.

Your can see if your tree is a valid tree or draft tree by viewing the status on the Tree Manager display at the top of the page. You can also check the status of a tree from the Tree Maintenance page.

You have the following methods for saving a tree:

Save	Saves the current tree and performs audits.
Save Draft	Saves the current tree without performing audits
Save As	Creates a new version or copy of the tree under a new name or effective date. Any changes you make to it are then saved to the new tree.
Save As Draft	Creates a new version or copy of the tree under a new name or effective date, but does not perform the audit.

Copying Trees

You can create a copy of a tree in two ways. You can save the tree with a new name using Save As from the navigation bar, or you can use the copy function from the Tree Maintenance page. The whole tree is copied, including its branches.

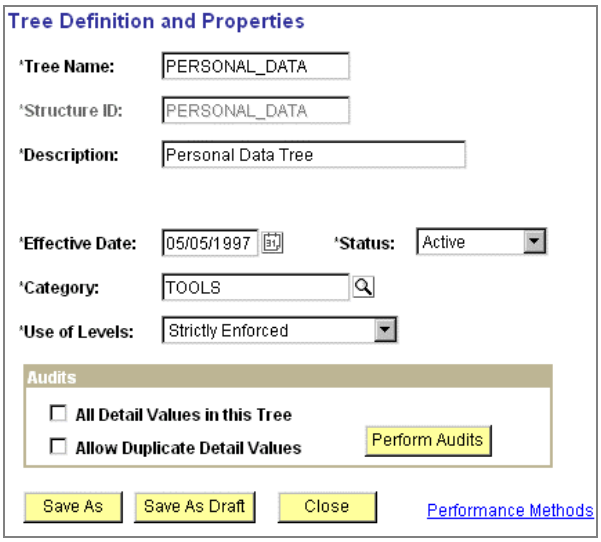
For more information about copying a closed tree from the Tree Maintenance page, see Using the Tree Maintenance Page

Note. In PeopleSoft it is possible to copy a tree into another SetID. However, it is simply copying the tree data and not the supporting user data.

To copy a tree using Save As:

1. Open the tree you want to copy.
2. Select **Save As** from the Tree Manager page.

   The Tree Definition and Properties page appears.



Tree Definition and Properties page

3. Update the information for the new tree.

   You must enter at least a new Tree Name and Effective Date. You can also change any of the other settings, although there are restrictions on your changes to the Use of Levels setting.

Note. You can change the Use of Levels setting, but only to a less restrictive value. For example, you can change Strictly Enforced levels to Loosely Enforced levels, but you can't change from not using levels to using them or from Loosely Enforced levels to Strictly Enforced levels.

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4. Click **Save As** or **Save As Draft** button, depending on your preference.

   Tree Manager creates the new tree, and it's available for you to open.

Deleting a Tree

You may delete a tree using the Tree Maintenance page. This deletes the entire tree, including its branches. When you delete a tree, you do not delete the structure or the user data—just the tree itself.

To delete a tree:

1. Select PeopleTools, Tree Manager, Setup, Tree Maintenance.

First 1-13 of 13 Last

Key Type	Set Control Value	Tree Name	Effective Date	Valid Tree
None		AA	11/08/2000	Valid Tree
None		BOB	11/10/2000	Valid Tree
SetId	CCB	DEPTID_DETAIL	11/18/1997	Valid Tree
SetId	CCB	DEPTID_DYNAMIC	01/01/1990	Valid Tree
SetId	CCB	DEPTID_SUM	11/18/1997	Valid Tree
None		DEPT_SECURITY	01/01/1996	Valid Tree
None		DEPT_SECURITY	01/01/1994	Valid Tree
None		DEPT_SECURITY	01/01/1990	Valid Tree
None		DEPT_SECURITY	01/01/1980	Valid Tree
SetId	CCB	HEFTY_TREE	06/21/2000	Valid Tree
None		PERSONAL_DATA	05/05/1997	Valid Tree
Bus Unit	M04	PROJECT_01	04/25/2000	Valid Tree
User	M04	PROJECT_02	04/25/2000	Valid Tree

Perform Audits Copy Delete

Tree Maintenance page

2. Select the checkbox for the tree you want to delete.

3. Click Delete.

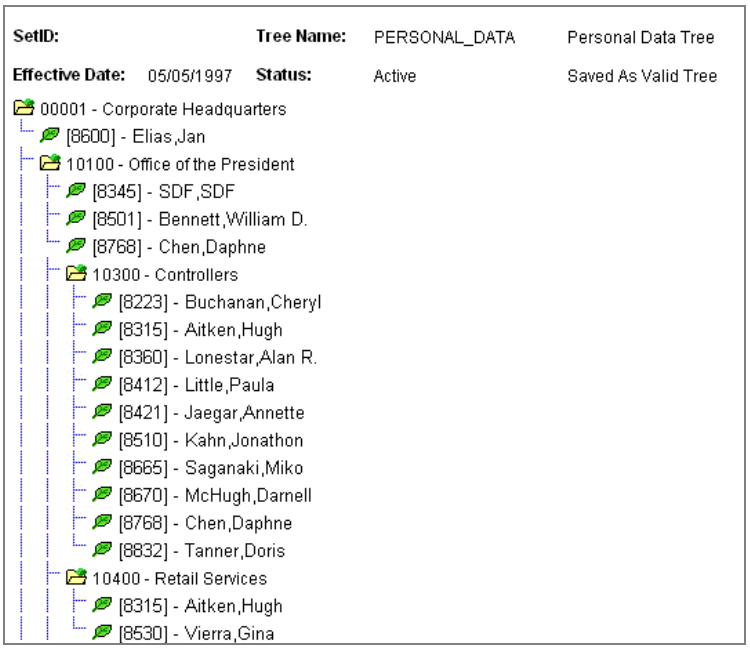
Printing a Tree

There may be times when you would like to print a tree to make it easier to see the tree's hierarchy and to locate its nodes and detail values. Printing can be very helpful when working with very large trees. When you print a branched tree, just the branch prints.

To print a tree:

1. Select Print Format from the navigation bar to format the entire tree so that it can be printed from your browser's print function.

   The expanded tree appears in your browser. If your tree is large, it will probably be too long to fit in one page and you will need to scroll the view all the parts of the tree.



Tree Manager Print page with tree displayed

2. Use your browser's Print button or choose **File, Print** from your browser to print the tree.

Note. Tree print jobs are sent to your default printer.

Creating a Tree Structure

The tree structure determines which PeopleSoft pages, records, and fields that Tree Manager uses to build your trees. The tree structure defines how a tree or set of trees behaves.

You use this group of pages to name the tree structure and to specify what pages and record definitions Tree Manager uses to gather and store data about the parts of a tree.

This page enables you to enter page, record definition, field, and menu information for levels, nodes, and to identify a detail tree and level from which to get detail values. The values you enter here determine what happens when you add or edit a node, level, or detail value.

When you choose to add a new node, level, or detail value from Tree Manager, it uses this information in order to know what component (pages) should be used to capture the relevant application data. When the specified component is displayed, all of the standard business logic that is part of that component is invoked.

If you include a menu and menu bar, Tree Manager gives you access to all the pages associated with that menu item.

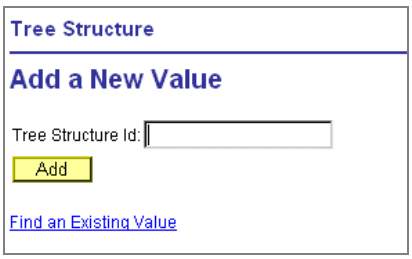
Defining Detail Tree Structures

In this example, we will create a detail tree structure. Detail tree structures are used for all types of trees except for summary trees. (Summary trees are typically used only for nVision reports that use Summary Ledgers. Detail trees can be either node-oriented or detail value trees.)

To define a detail tree structure:

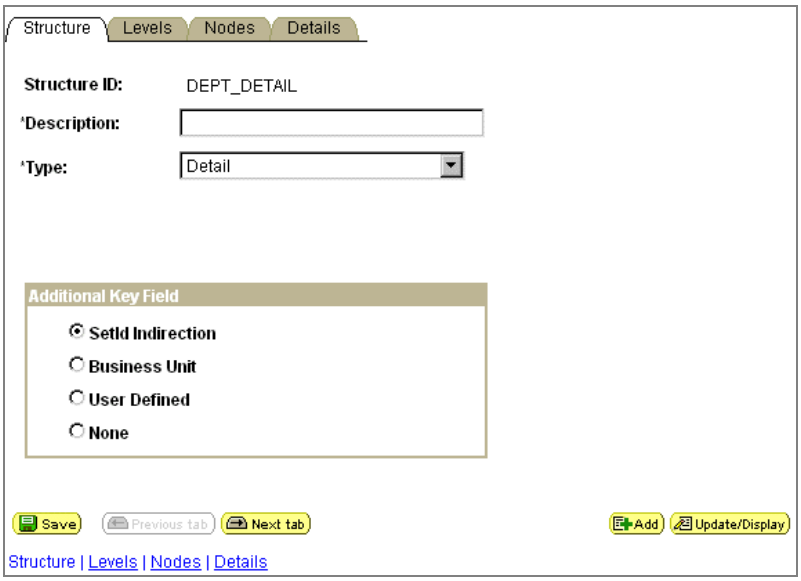
1. Select PeopleTools, Setup, Tree Structure from the menu.
2. Click Add a new value and enter the new tree structure ID in the field.

   The Structure ID is the unique identifier of the tree structure.



Add a New Value page

3. Click Add to display the Structure page.



Structure page

You use these pages to describe the tree structure and to specify what other pages and record definitions Tree Manager uses to gather and store data about the various parts of a tree.

For web-based Tree Manager, you must enter page, record definition, field, and menu information for levels, nodes, and detail values if you want users to be able to add, update, or view the related application data. The values you enter in these fields determine what happens when you add or edit a node, level, or detail value. Tree Manager displays the specified page and stores the data you enter in the specified record definition and field.

4. Enter a Description for the tree structure.

   The Description is the text that displays in list boxes or reports.

5. Select ***Detail*** as the tree structure type.

6. Select the type of key you want to use for this tree structure.

   The following options are available:

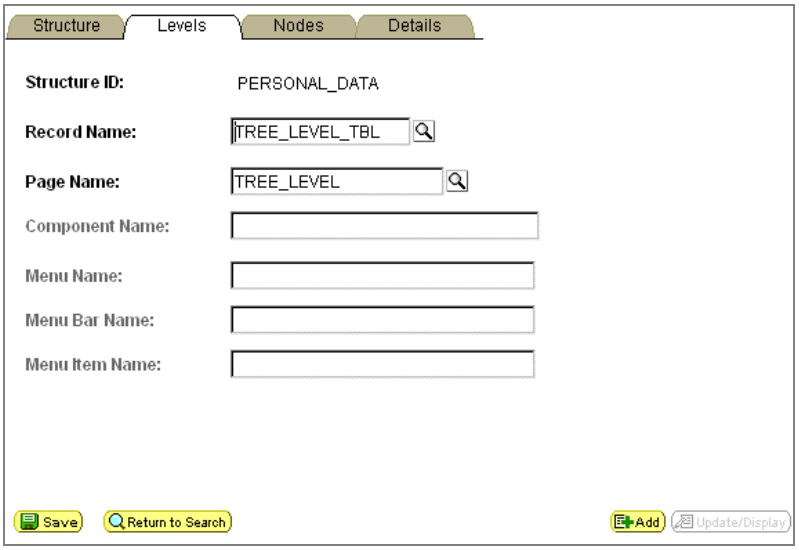
SetID Indirection	If you select **SetID Indirection**, when you create the tree, both Tree Name and SetID will identify it. Including the SetID as part of the tree key means that you can use SetID sharing to share the tree definition among multiple business units.
Business Unit	Select the specific **Business Unit** to act as the tree's key. The **Business Unit** field is defined on the Nodes tab.
User Defined Node Key	If you select **User Defined Node Key**, you can designate any key field from the node record as the tree's key. **The User Defined Node Key** is set on the Nodes tab.
None	If you select **None**, your tree will not contain an additional key of any kind. It will be keyed only by Tree Name and Effective Date.

Note. Business Unit and User Defined structures can only be used with node-oriented trees (trees with no detail values). Also, user key trees can't be used with other PeopleSoft tools such as Query and PS/nVision that only recognize None, SetID, and Business Unit keys.

To define tree levels:

1. Select the Levels tab.

   The Levels page appears. In this example, we are using the generic table and page for maintaining Tree_Level information. If you want to use a different table or page to maintain this information, you must fill in all of the fields on the page.



Tree Structure – Levels page

2. Enter the Record Name and Page names using the search prompts.

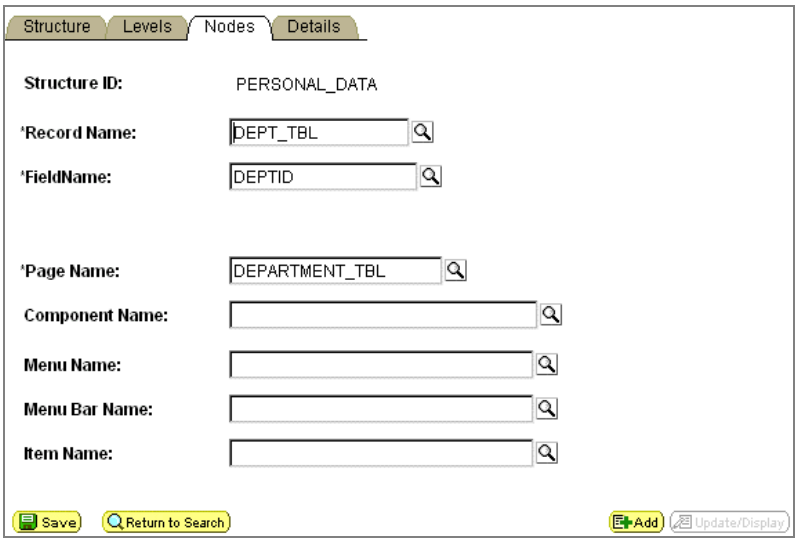
When you create a new level in a tree, Tree Manager displays the page you specify in the Page field in the Levels page and stores the application data you enter using the record definition in the Record field.

For most tree structures, you'll want to use the standard Tree Manager page for tree level information. To save you time, TREE_LEVEL is populated in the Page field and TREE_LEVEL_TBL in the Record field automatically. You don't need to enter anything in the Menu Name or Menu Bar Name fields. However, if you want to store the level information using something other than TREE_LEVEL_TBL, then you have to create a page and component that uses that new record definition. You must also ensure that the component has been defined on a menu somewhere in your system and specify all of this information on this page.

To define node properties:

1. Select the Nodes tab.

The Nodes Properties page appears.



Node Properties page

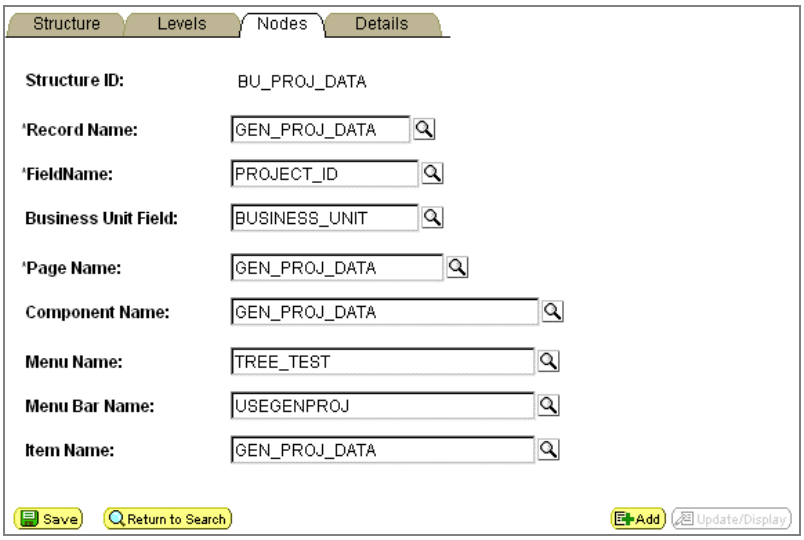
2. In the Nodes page, enter the Record Name, FieldName, and Page Name to use for entering and storing information about tree nodes.

   The values you enter in the Nodes page depend on the type of detail tree structure you're building.

- For most detail value trees, simply leave TREE_NODE in the Page Name field, TREE_NODE_TBL in the Record Name field, TREE_NODE in the FieldName field, and TREE_NODE in the Page Name field. If you use the generic TREE_NODE page and TREE_NODE_TBL, you don't need to enter anything in the other menu fields. However, if you want to use any other page or record, you'll have to create a page and component that uses that new record definition, and make sure that the component has been defined on a menu in your application.

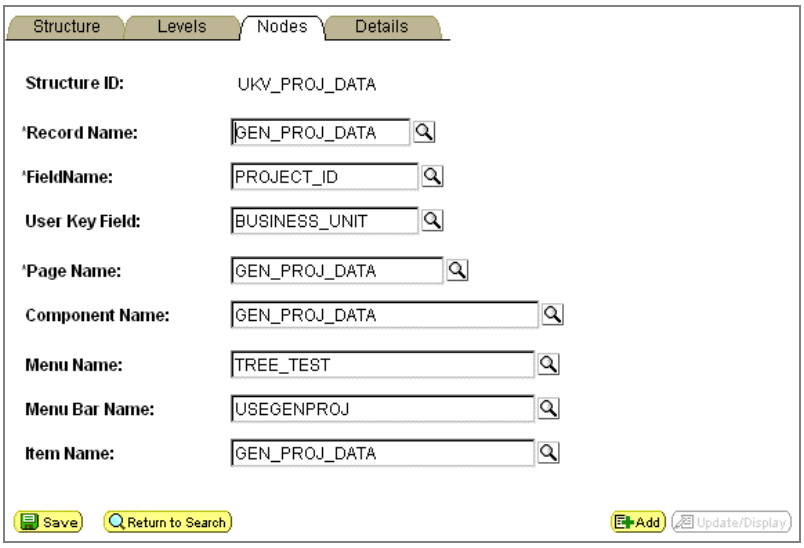
- For a node-only tree, where each node represents a detail value, use the page, record definition, and field that correspond to the kind of detail value you're entering. For example, if each node represents a department (as in the Department Security table), use the DEPARTMENT_TREE page, the DEPT_TBL record definition, and the DEPTID field. In this example, you'll need to also identify the component that the DEPARTMENT_TREE page is a part of, as well as all of the menu information.

- If you are creating a Business Unit or User Defined Key tree structure, the Nodes page changes to show a field for entering the Business Unit Field.



Tree Structure – Nodes : Business Unit Tree

If you have selected the node to be based on a user key, a field appears for you to enter that information.



Tree Structure – Nodes page: User Key Tree

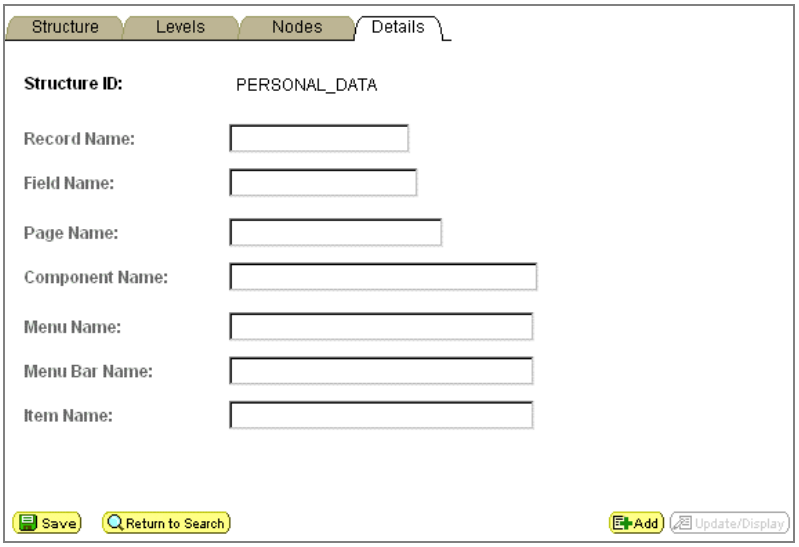
All of the fields should be filled out when using the standard TREE_NODE page.

For more information about the differences between detail trees and node-only trees, see Introduction to Tree Manager.

To define tree details:

1. Select the Details tab.

   The Details page appears.



Tree Structure Properties – Details page

2. For the **Details** tab, enter the information that Tree Manager needs for capturing and storing detail values.

Note. If you're defining a tree structure to be used to create node-only trees, leave the Details page blank.

In the fields in the Details page, enter the name of the page, record definition, and field that correspond to the kind of detail value you're entering. For example, if each detail value represents a department, use the DEPARTMENT_TREE page, the DEPT_TBL record definition, and the DEPTID field.

Note. Unlike the level and node information, there is no standard page and record for detail values. These are always built on application-specific tables.

Specify the component and menu information as with the other pages.

3. Click the **Save**.

Defining Summary Tree Structures

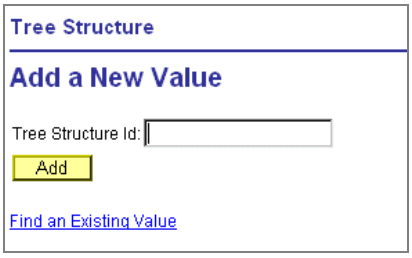
In this example, we will create a summary tree structure. Summary trees provide another way to group nodes from an existing summer tree without duplicating the entire tree structure. Summary trees are used with nVision reporting off of Summary Ledgers, where the data is rolled up using a

detail tree, and stored with nodes from that detail tree instead of detail values. Summary trees are used for PS/nVision report generation.

To create a summary tree structure:

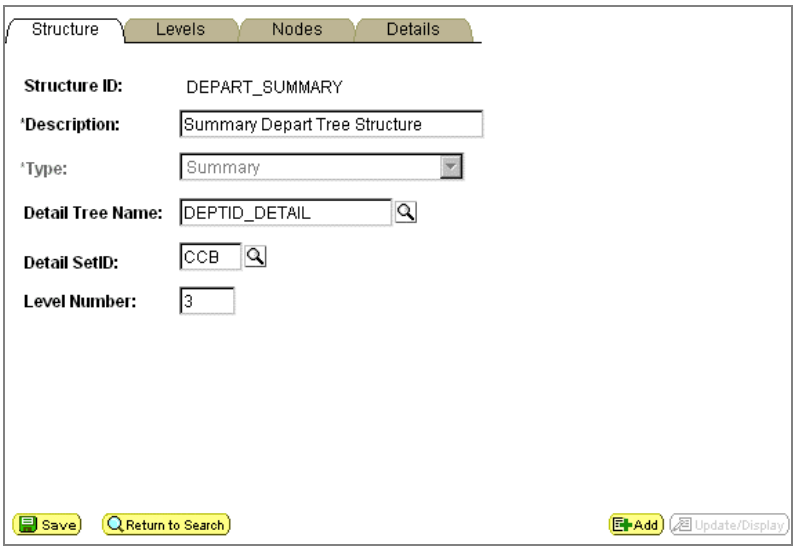
1. Select PeopleTools, Setup, Tree Structure from the menu.
2. Click Add a new value and enter the new tree structure ID in the field.

   The Structure ID is the unique identifier of the tree structure, equivalent to a Company Code or Department ID.



Add a New Value page

3. Click Add to display the Structures page.
4. Enter a description for the tree structure.
5. Select ***Summary*** as the Type.



Summary tree structure page

6. Enter a Detail Tree Name using the search prompt.

7. Enter a Detail SetID. This may also be None, or Business Unit or User Key Value based on the tree that was selected.

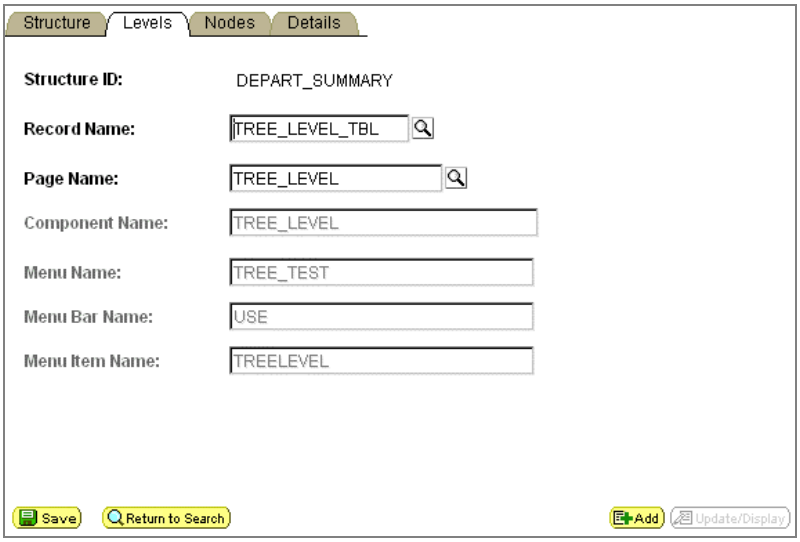
8. Enter a Level Number.

The level number defines the level in the detail three that is used as the detail values for the summary tree. (The lowest level of detail in the summary tree is made up of al of the nodes from the detail tree at a specified level.)

To define levels for the summary tree:

1. Select the **Levels** tab.

   The Levels page appears.



Tree Structure Properties – Levels page

   In this example, we are using the generic table and page for maintaining Tree_Level information. If you want to use a different table or page to maintain this information, you must fill in all of the fields on the page.

2. Enter the Record Name and Page names using the search prompts.

   When you create a new level in a tree, Tree Manager displays the page you specify in the Page field in the Levels page and stores the data you enter using the record definition in the Record field.

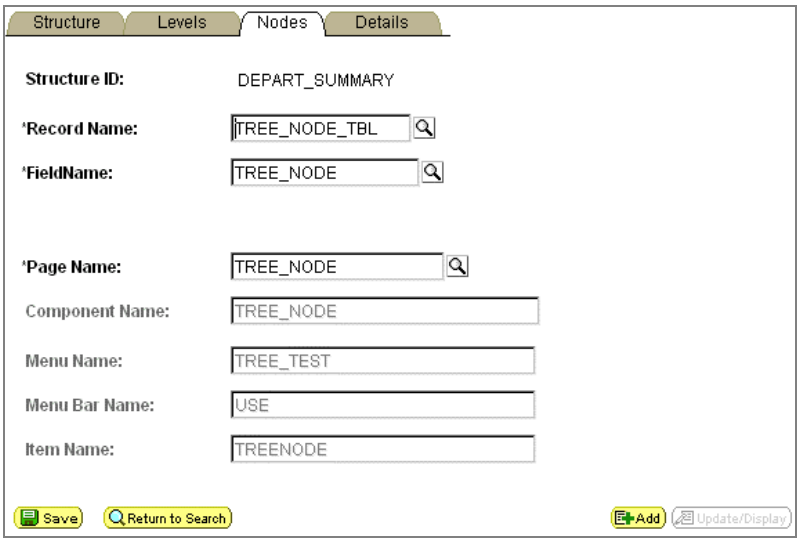
   For most tree structures, you'll want to use the standard Tree Manager page for tree level information. To save you time, TREE_LEVEL is populated in the Page field and TREE_LEVEL_TBL in the Record field automatically. You don't need to enter anything in the Menu Name or Menu Bar Name fields. However, if you want to store the level information using something other than TREE_LEVEL_TBL, then you have to create a page and component that uses that new record definition. You must also ensure that the component

has been defined on a menu somewhere in your system.

To define nodes in the summary tree:

1. Select the **Nodes** tab.

   The Nodes page appears.

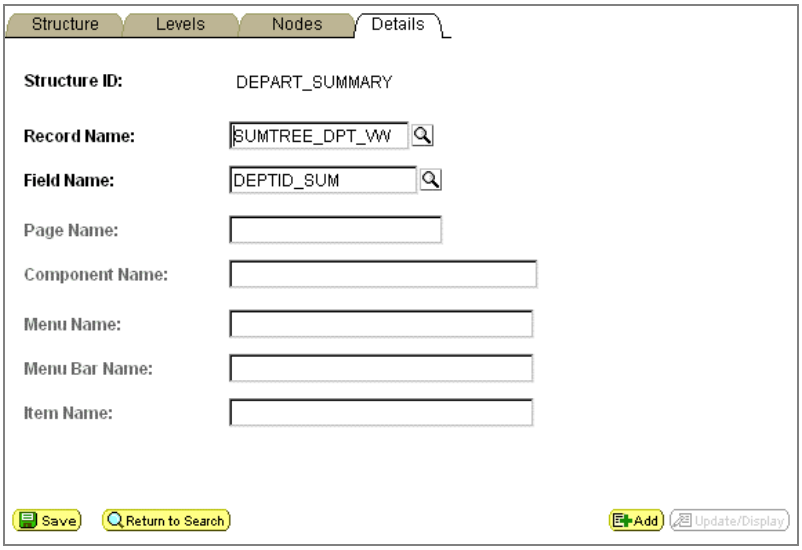


Tree Structure – Nodes page

2. Enter the **Page, Record** definition, and **Field** to use for entering and storing information about tree nodes.

3. In the Nodes page, enter the Record Name, FieldName, and Page Name to use for entering and storing information about tree nodes.

4. Skip the **Details** tab.



Details page

Since you are creating a Summary tree, there are no details.

Creating Trees

Trees are built from the highest level of the hierarchy (root node) to the lowest level of the hierarchy. There are some basic steps that you'll need to follow to create the trees you'll use to look at your data hierarchies.

First, create a tree structure, then create the tree definition. The tree definition specifies what tree structure it uses, what the tree's name and key values are, how it handles detail values, and whether it uses levels. Then, specify the levels in the tree, if it will be using them. Next, insert the tree nodes that define the hierarchy of the tree.

Finally, attach detail values as "leaves" on your nodes. Most types of trees—detail trees, summary trees, and dynamic detail trees—have detail values. However, you skip this step for node-only (winter) trees.

To create a tree, you select a tree structure, enter a name and description of the tree, and specify how to handle levels and detail values. Every tree you build is based upon a structure. It defines the link between your tree and the underlying tables to which it refers. There are two main kinds of tree structures: detail tree structures and summary tree structures. You use detail tree structures for all trees except summary trees (which are used for nVision reporting using Summary Ledgers). There are two types of detail trees—detail value (summer) and node-oriented (winter) trees.

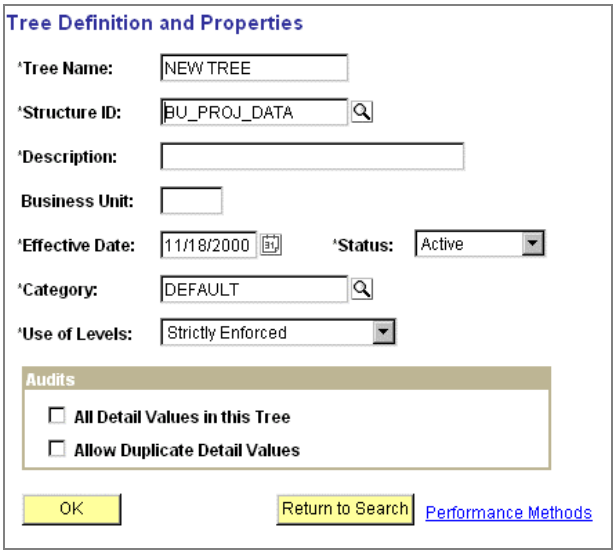
Defining the Tree

Creating the tree definition is the foundation of your tree. When you are defining the tree you are deciding how detail values are handled, what levels you will use, what the effective date for the tree will be among other things.

To create a new tree definition:

1. Select PeopleTools, Tree Manager, Use, Tree Manager.
2. Click the link to **Add a New Value**.
3. Enter the name of the new tree.
4. Click **Add**.

   The Tree Definition and Properties page appears.



Tree Definition and Properties page

5. Select a Structure ID using the Search button.

   The tree structure determines what database field the tree is based on, what pages you use to create tree nodes and detail values, and what tables Tree Manager saves tree-related data in. By selecting a tree structure, you don't have to specify all this information for the individual tree.

   The structure you select depends on the type of tree you're creating:

- If you're creating a detail value tree or a node-only tree, select a detail tree structure.
- If you're creating a summary tree, select a summary tree structure.

Note. Query access tree can only be created and maintained from the Windows-based Tree Manage.

For more information on creating tree structures, see Defining Detail Tree Structures or Defining Summary Tree Structures.

6. Enter a **Description** of the tree.

   Because you can create many trees with similar names, the description is a good way to distinguish between them.

7. Select the **SetID** or key information for the new tree, depending on the kind of tree you are creating.

   If you've implemented TableSet processing for your organization, select the SetID value you want to assign this tree in the SetID field. You can also choose a User Defined Key or a Business Unit as the tree's key.

8. Enter an Effective Date.

   By default, Tree Manager uses today's date as the effective date. If you want the tree to go into effect on some other date, enter it into the Effective Date field. The date must be the same or later than the date of the node and detail values to be used in the tree, if those records are effective dated also. You can think of the Tree's effective date as a "good through" date for records that are brought up into the tree.

9. Select a status of **Active** or **Inactive.**

   Typically, you'll leave the status of a tree active**.** An active tree can be used by other applications. An inactive tree, even though it is a valid tree, cannot be used within PeopleSoft, although you can still edit it in Tree Manager.

10. Enter a **Category** name.

    The category is a high-level grouping under which you can organize your tree structures and tree definitions.

Note. When you use Tree Manager in Windows, the Category determines how the trees are arranged at the highest level and is an important visual clue in organizing trees. Category is really only used as a search value in web-based Tree Manager. If you are using Tree Manager in both environments, you might want to use categories that are already being used in Windows Tree Manager to ensure that your trees are arranged as expected.

11. Decide whether you want this tree to use levels.

    You can choose whether the tree uses levels to organize its nodes. The **Use of Levels** options are as follows:

    Strictly Enforced. All the nodes at a particular level represent the same kind of information, the same level in the hierarchy. In an organization tree, for example, all nodes at one level

represent companies, all nodes at the next level represent divisions, and so on. With **Strictly Enforced** levels, each node has a level assigned to it based on its position in the tree. Nodes are allowed to skip levels.

Loosely Enforced. The nodes at the same visual level of indentation do not all represent the same kind of information, or nodes representing the same kind of information appear at multiple levels. With **Loosely Enforced** levels, you assign a level to each node individually; the level is not tied to a particular visual position, although the nodes still have hierarchical parent/child relationships.

Not Used. The nodes in the tree have no real hierarchy or reporting structure, but do form a logical summarization structure. With this option, nodes do not have levels associated with them.

Note. You should use Strictly Enforced levels unless you have a compelling reason not to. Some features, such as creating summary trees, require trees that use levels. If Strictly Enforced levels are too restrictive for your application, use Loosely Enforced levels. You can't add levels later to a tree that doesn't use them.

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12. Specify how to handle detail values. Select All Detail Values in This Tree or Allow Duplicate Detail Values.

All Detail Values in This Tree. You need to make sure that some trees, like trees that organize your Chart of Accounts, include a detail value for each and every defined Account ID. For such a tree, select the **All Detail Values in This Tree** check box. Whenever you save the tree, Tree Manager will verify that the tree includes all possible values and warn you if it doesn't. If you don't want Tree Manager to check the tree for all possible values, leave the check box unselected. Terminal nodes must have details.

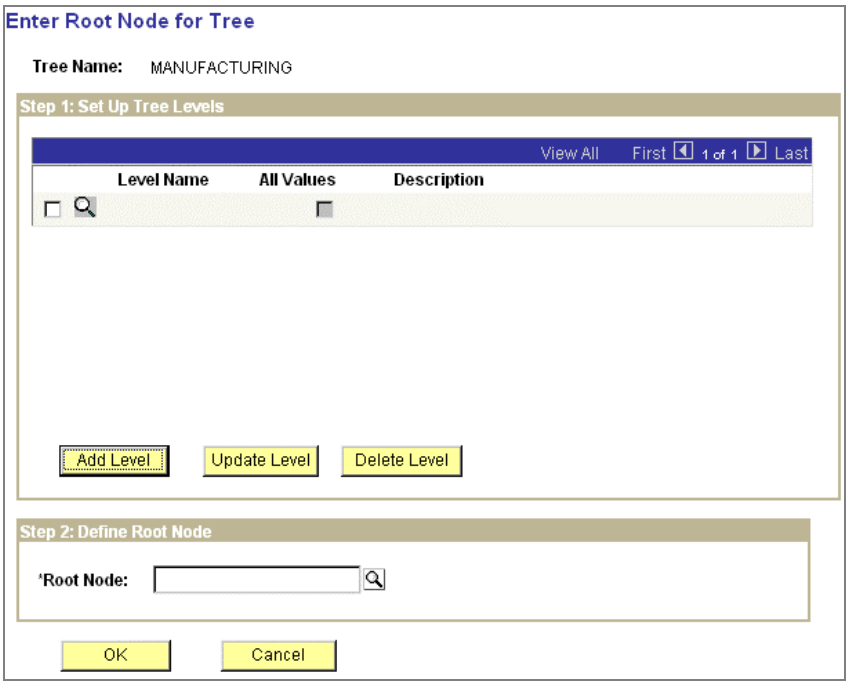
Allow Duplicate Detail Values. In most trees, you want to make sure that each detail value only appears once in the tree. By default, Tree Manager warns you about detail values that appear under more than one tree node. If you want to permit duplicate values, select the **Allow Duplicate Detail Values** check box.

Adding Nodes and Detail Values

You create a tree from the top down. You start by creating the root node, then add the children of the root node, and continue down to the detail values (if the tree has them). If the tree uses levels, then you must first define the level for the root node. You may want to set up additional levels at this time.

To add a root node:

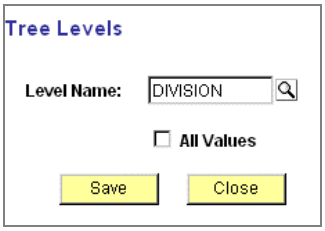
1. After defining your tree, click **OK** to enter the root node for the tree. Your first step is to enter levels for the tree.



Root Node page

2. Add the tree levels by selecting **Add Level**.

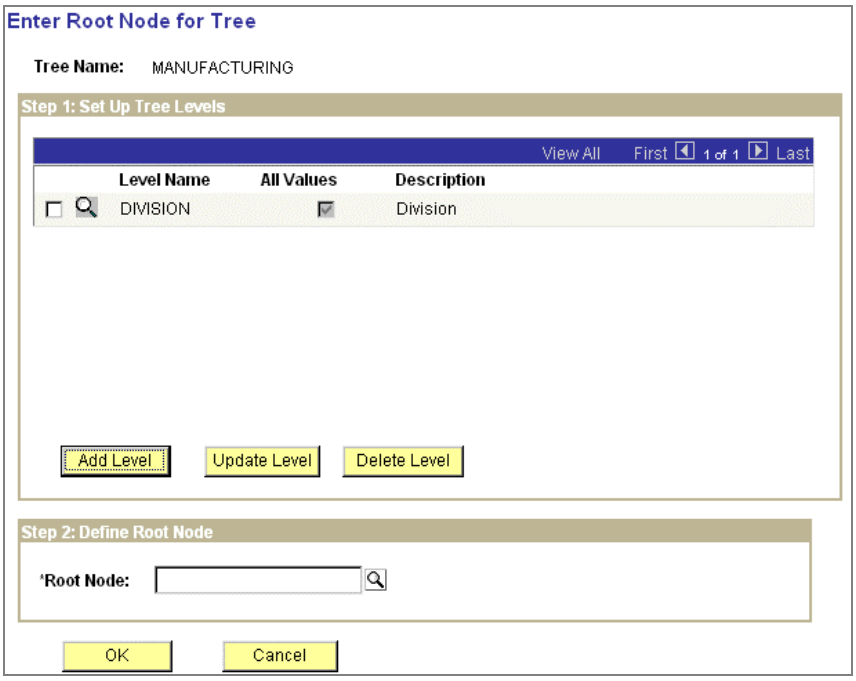
   The Tree Levels dialog box appears.



Tree Levels dialog box

3. Select a level and click **Save.**

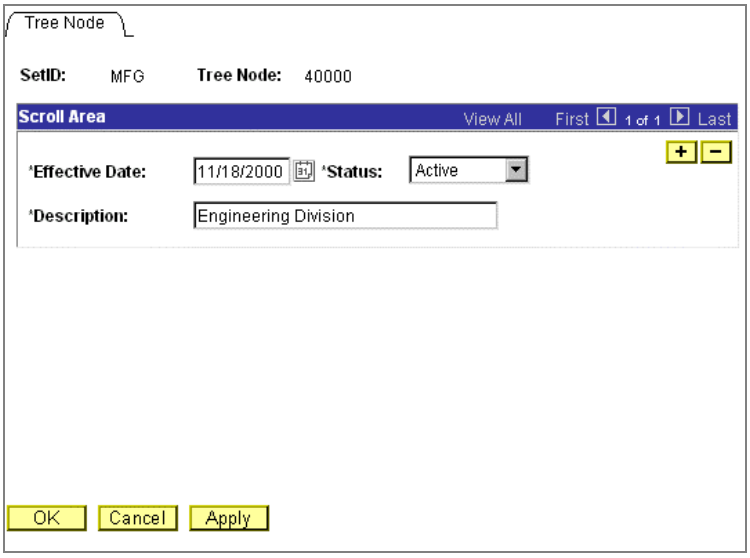
   The level appears on the page



Root Node Definition page

4. Next, either enter a new Root Node name or select a root node from the search dialog box in the Define Root Node group box.

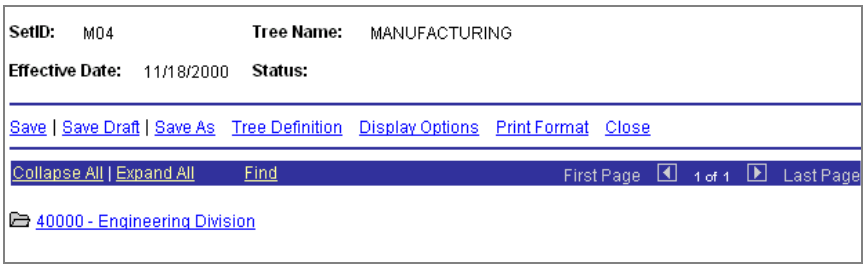
   If you are entering new node information, you must enter the information in the Tree Node page.



Tree Node page

5. Click **OK**.

   The tree appears with the root node on the page.



Manufacturing Tree

Inserting Nodes Correctly

All trees have a corresponding set of node numbers that are used internally by Tree Manager to keep track of all the levels and nodes. Because Tree Manager sets aside blocks of node numbers as you add nodes, it is possible to run out of numbers eventually (when your trees get very large). Therefore, when creating new trees in Tree Manager, you must be careful to insert nodes level by level rather than first create parents and then children. In other words, be sure first to insert the root node on the first level, all its children on the second level, then all the level 3 nodes, and so forth.

This means the tree's hierarchy will need to be planned in advance before you start to create it in Tree Manager. Generally speaking, after you've carefully planned out your tree's hierarchy, you should be using Tree Manager's Insert Sibling command more often than the Insert Child command.

A tree created with evenly spaced gaps will have evenly spaced node numbers, and thus can easily be modified in the future as it grows larger.

For more information about gapping trees, see Creating Evenly Gapped Trees.

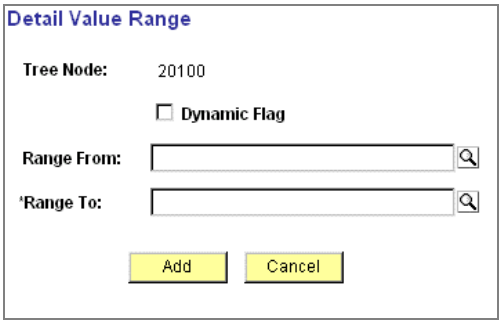
To add detail values:

1. Highlight the node you want the detail value to report to, or one of its other detail values.

   To complete the tree, you'll need to define detail values for each *terminal* node in the tree, which means each node that has no child nodes. This is true for detail value trees only.

2. Select Insert Detail .

   The Detail Value Range dialog box appears.



Detail Value Range dialog box

This dialog box is where you enter value ranges for new detail nodes.

3. Enter a range of detail values from the database field on which this tree is based using the search icons.

   If you're creating a dynamic detail tree, select the **Dynamic Flag** check box. Tree Manager displays brackets [ ] in place of the detail value for the selected node. When you use the tree, the system will automatically select the appropriate detail values for the node. Skip the rest of the steps in this procedure.

   To enter a single value, enter the same value in the **From** and **To** fields.

Note. If you specify a range of values, keep in mind that you won't be able to specify another detail value that appears within the range. For example, if you specify a range from 0271 to 0278, you can't subsequently assign 0275 to another node (unless you selected Allow Duplicate Detail Values).

   If you enter values that have already been defined for the database field, Tree Manager adds the values to the tree. You're done; skip the rest of the steps.

   If you enter new values, Tree Manager displays a message informing you that you've entered an undefined value. Depending on your security access, Tree Manager may enable you to add the new value. If so, it displays a second message asking you if you want to add the value.

Note. Do not add dynamic details in a tree that already has details using ranges. Trees should be either entirely dynamic details or entirely all ranges. Mixing the types of details can cause unpredictable results in other applications such as Query and PS/nVision.

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4. To add the value to the database, click **Add;** to cancel the operation, click **Cancel.**

   If you click **OK,** Tree Manager displays the page for adding new values for the field.

Creating Tree Branches

Tree Manager enables you to branch a tree. *Branching* means taking a limb of the tree—a section of the tree that reports into a single summary node—and creating an actual tree object to hold that limb. Branching a tree can improve Tree Manager performance (by reducing the amount of data it needs to load when you open a large tree), but its primary use is for security. Also, when a tree is branched, multiple users can maintain separate sections of the tree. Once you branch a tree, you can specify different object security settings for the branches.

When you branch a tree, you're really splitting the original tree into two parts. Tree Manager creates one new object for your branch and another object to hold the remaining part of the tree. After branching, you have three objects:

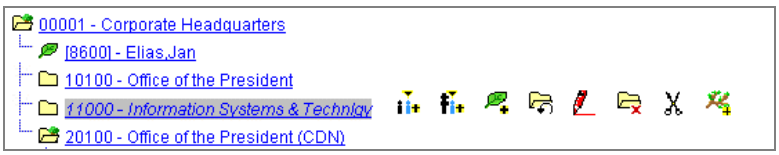
- The original tree.
- The new branch or sub-tree that you created.
- A "branch" that corresponds to the rest of the original tree (minus the new branch).

You can use Object Security to give users different security access to these objects. For example, by restricting access to the new branch, you can give users access to the entire tree *except* for that branch.

Once you've created a branch, you can use it as you use any other tree. You can open it independently of the larger tree, modify it, or even create branches from it. Also remember that you can't edit the branch's nodes or details until you open that branch.

To create a tree branch:

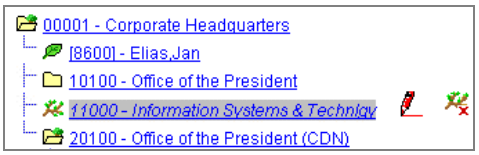
1. Highlight the node that will be the top node of the branch.



Top Node – Information Systems & Technlgy selected

2. Select the Create Branch icon .

Tree Manager replaces the node icon with a branch node icon . None of the nodes or detail values reporting to the branched node appears in the tree display.

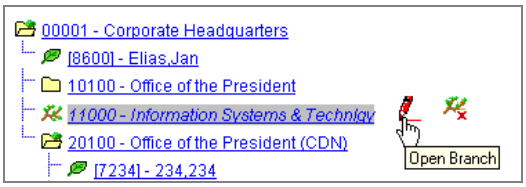


Top Node – Information Systems & Technlgy becomes a branch node

To open a tree branch:

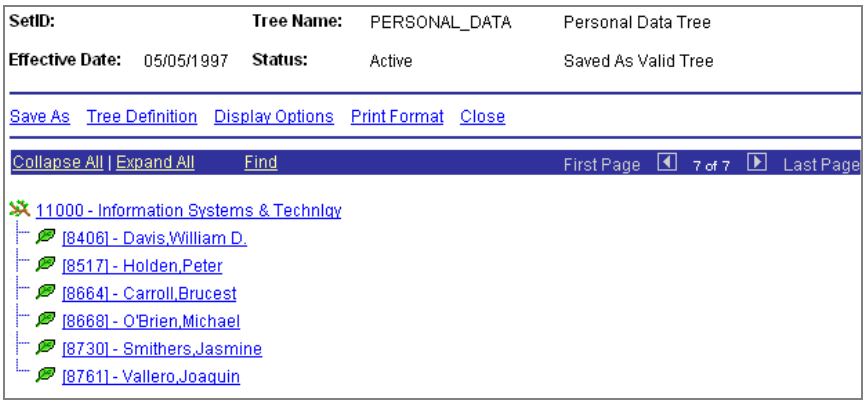
You can open a tree branch directly from the Tree Manager search dialog or open it from the main tree by clicking the Edit Data icon.

1. Click the Open Branch icon



Edit Data icon for a branched node

The branch of the tree opens in Tree Manager.



Tree Manager with Open Tree Branch

To remove a tree branch:

1. Highlight the tree branch node.
2. Select Edit, Unbranch or right-click on the branch and select Unbranch from the pop-up menu.

   Tree Manager replaces the branch icon with the node icon . Any nodes that report to the selected node are now available in the tree.

When you remove a tree branch, don't forget to update Object Security. For more information on Object Security, see Understanding Object Security.

To grant security access to a branch:

1. Open Object Security.
2. Open the Access Group you want.
3. Display the Tree view.

Note. You can either press the Tree icon or select View, Trees to view a list of trees and branches associated with an Access Group.

4. In the Excluded Trees list, click once on the appropriate branch.
5. Click the Up arrow to add this branch to the list of branches available to this Access Group.
6. Select File, Save to save your changes.

Exporting and Importing Trees on the Web

TreeMover is a utility that allows you to move PeopleSoft trees between different PeopleSoft application databases. It provides functionality to export a tree to a flat file and to import a tree from a flat file. TreeMover handles the moving of all types of tree data, including the tree definition, tree structure, tree nodes, tree leaves, tree node data, and tree level data.

For more information about importing and exporting trees, see TreeMover.

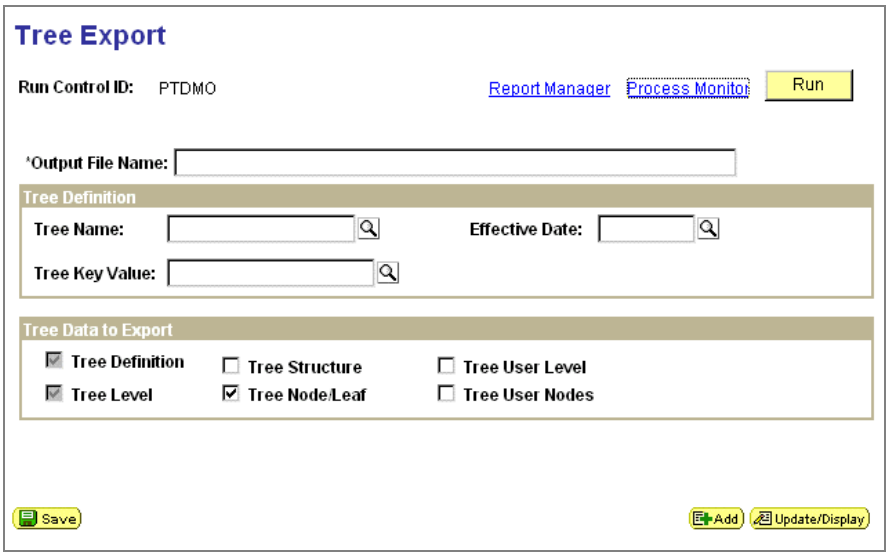
Note. The flat files for both the import and export processes are located in the Working Directory for Application Engine as specified on the Process Type Definition page in Process Scheduler. You can override this and create another location using the Process Definition Override page.

For more information about Process Types, see Understanding Process Types.

To export a tree to an external file:

1. Select PeopleTools, Tree Manager, Process, Export Tree.
2. Select a Run Control ID from the search dialog box.
3. Click Add.

   The Export Tree page appears.



Tree Export page

4. Enter the correct **Output File Name.**

   Type a valid pathname for a directory on the Application Server that runs the process. If you enter just the file name, the flat file is sent to the Temp directory on the Application Server that runs the process.

5. Enter the correct values for Tree Name, Effective Date, and Tree Key Value.

Note. The **Tree Key Value** applies to only SetID, Business Unit, or user-defined key trees (tree key type is set in the tree structure). For trees that have no additional key value, the field will be disabled.

---

6. Select the Tree Data to Export.

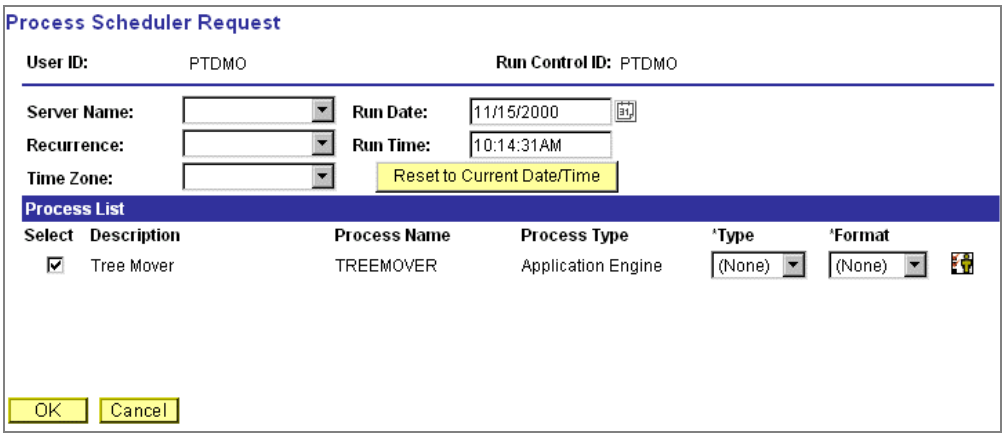
   You can export the tree structure data, the tree definition, the tree levels, the tree level data, the tree nodes and leaves, and the tree node data. By default, you'll probably want to export the tree definition, tree level, and tree node/leaf data.

Note. You will need to select **Tree Structure** if the tree structure does not already exist in the target database. You can also select **Tree User Level** to move related data from the PS_TREE_LEVEL_TBL table and select **Tree User Nodes** to move related data from the PS_TREE_NODE_TBL.

---

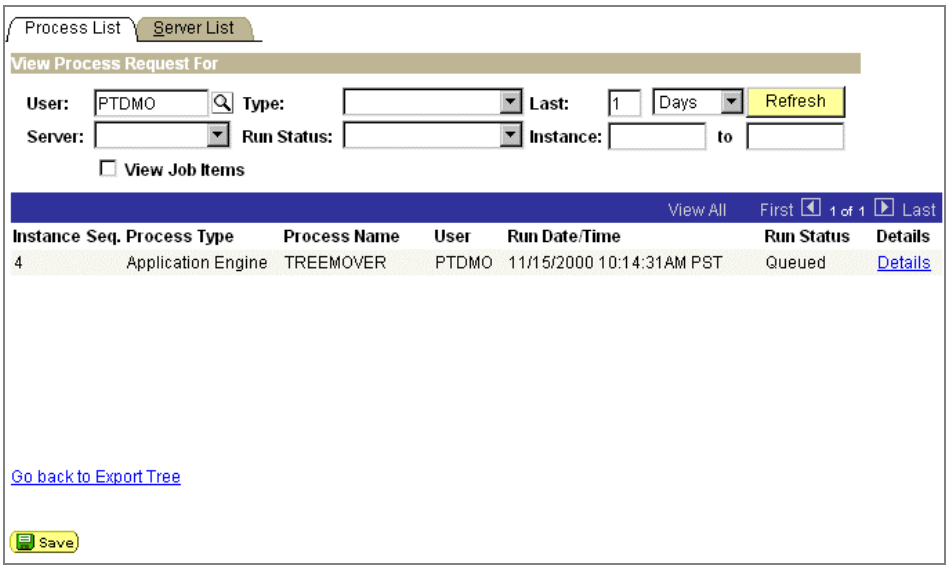
7. Click **Run** to move the tree.

8. Verify that the settings on the Process Scheduler Request page are correct and click **OK** to run the process.



Process Scheduler Request page

9. Verify the successful completion of the process by selecting Go, PeopleTools, Process Monitor.



Process List page

10. Check the log file that is created in the TEMP directory or other directory you specify(TreeMover-<datetime>.log). The second-to to-last line in the log file should be "PeopleSoft TreeMover Completed Successfully."

```
1999-12-02-13.09.31: Begin: PeopleSoft TreeMover
1999-12-02-13.09.31: Unloading tree ,,DEPT_SECURITY,1980-01-01.
1999-12-02-13.09.35: Completed processing tree definition.
1999-12-02-13.09.35: Completed processing tree levels.
1999-12-02-13.09.35: Total number of tree levels processed: 5.
1999-12-02-13.09.36: Completed processing tree nodes and tree details.
1999-12-02-13.09.36: Total number of nodes processed: 38.
1999-12-02-13.09.36: Total number of tree details processed: 0.
1999-12-02-13.09.36: PeopleSoft TreeMover Completed Successfully.
1999-12-02-13.09.36: End: PeopleSoft TreeMover
```

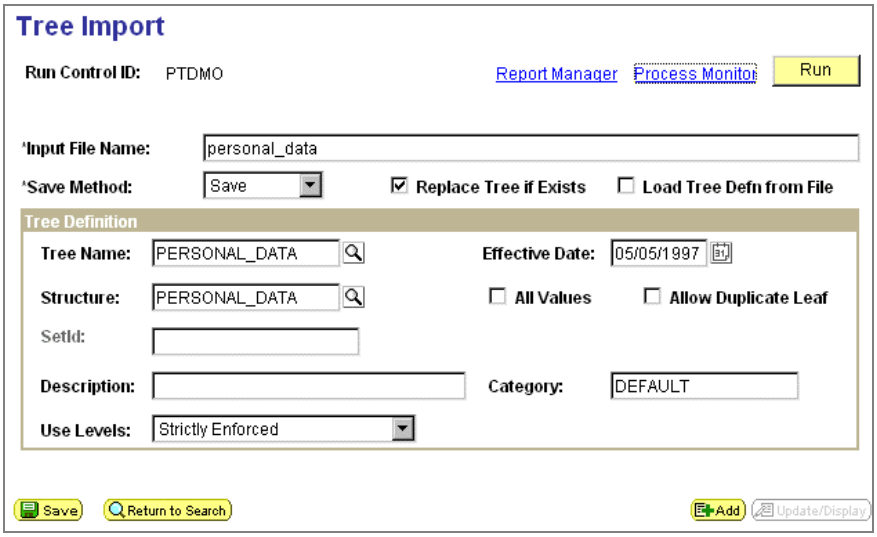
Sample log file created by TreeMover

If you receive a warning in the log file, there could be several possible causes:

- You tried to export tree level data and the tree has no levels.
- You tried to export tree user level data and the tree does not use the PS_TREE_LEVEL_TBL for level data.
- You tried to export tree user node data and the tree does not use the PS_TREE_NODE_TBL.

To import an existing PeopleSoft tree:

1. Select PeopleTools, Tree Manager, Process, Export Tree.
2. Select a Run Control ID from the search dialog box.
3. Click Add to display the Import Tree page.



Tree Import page

4. Enter the correct **Input File Name.**

   Type a valid pathname for a directory on the Application Server that runs the process. If you enter just the file name, the flat file is sent to the Temp directory on the Application Server that runs the process.

5. Select the Save Method.

   By default, you should use ***Save.*** However, if you think the tree might not pass all the PeopleSoft tree audits, then select ***Save Draft. Save Draft*** saves the tree in draft mode and functions just as Save Draft does in Tree Manager.

6. If the tree already exists in your database, select **Replace Tree if Exists.**

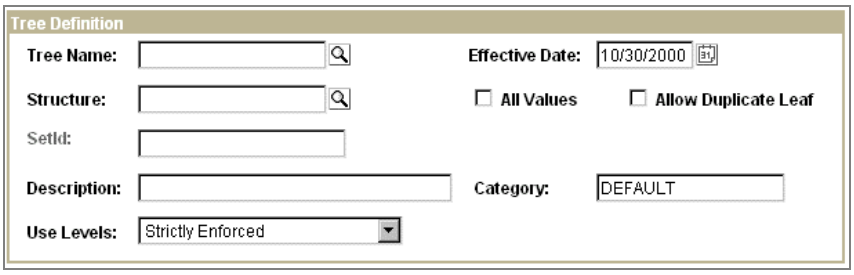
Note. If the tree already exists in your database and you do not select the check box, the tree will not be imported.

7. Select **Load Tree Defn from File** (load tree definition from file) if the tree definition is contained in the input file and you want to load the tree with the same tree definition values.

Note. In most cases, you will want to load the tree definition from the file. If you select this option and the tree definition *does not* exist in the input file, then the load process will fail.

8. Enter the base tree information if you are not loading the tree definition from the input file.

   If you are not loading the tree definition from the input file, then you'll be required to specify all the base tree information on the run control page. These fields correspond to the same values that you'd have to enter if you were creating the tree manually using Tree Manager.



Entering base tree information

   If you are not loading the tree definition from the file, then you must enter all the fields on the page. TreeMover will skip the input record that contains the tree definition information and instead use the values that you enter on the page.

   You must load the tree definition from the file if you're also loading the tree structure from the file. If you try to load the structure from the file, but have overridden the definition values on the page, then the process will not run completely.

Note. If your TreeMover data file contains user level data or user node data and you are changing the SetID of your tree on import, the user data will retain the original SetID. TreeMover import does not support the changing of user data SetIDs.

9. Click **Run** to move the tree.

10. Verify the successful completion of the process by checking the process status in Process Monitor.

11. Check the log file that is created in the TEMP directory or other directory you

specify(TreeMover-<datetime>.log). The second-to to-last line in the log file should be "PeopleSoft TreeMover Completed Successfully."

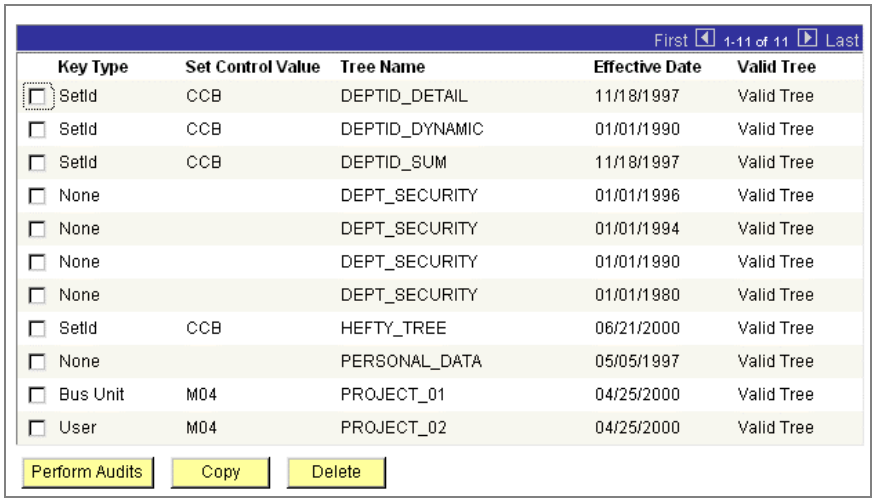
```
1999-12-02-13.09.31: Begin: PeopleSoft TreeMover
1999-12-02-13.09.31: Unloading tree ,,DEPT_SECURITY,1980-01-01.
1999-12-02-13.09.35: Completed processing tree definition.
1999-12-02-13.09.35: Completed processing tree levels.
1999-12-02-13.09.35: Total number of tree levels processed: 5.
1999-12-02-13.09.36: Completed processing tree nodes and tree details.
1999-12-02-13.09.36: Total number of nodes processed: 38.
1999-12-02-13.09.36: Total number of tree details processed: 0.
1999-12-02-13.09.36: PeopleSoft TreeMover Completed Successfully.
1999-12-02-13.09.36: End: PeopleSoft TreeMover
```

Sample log file created by TreeMover

Note. If you're loading a tree that contains detail values, then those detail values must exist in the target database before you load the tree. If they don't exist, then the tree import process will fail.

Using the Tree Maintenance Page

The Tree Maintenance page enables you to perform maintenance on trees without having to go into the Tree Manager design pages. From this page you can audit a closed tree, delete a tree, or copy a tree.



First 1-11 of 11 Last

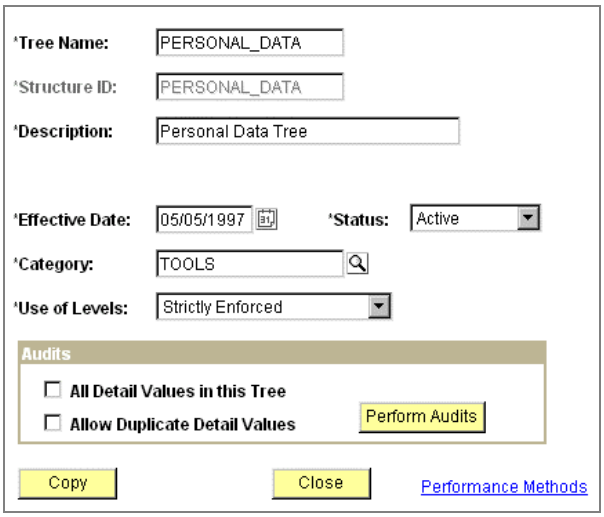
Key Type	Set Control Value	Tree Name	Effective Date	Valid Tree
SetId	CCB	DEPTID_DETAIL	11/18/1997	Valid Tree
SetId	CCB	DEPTID_DYNAMIC	01/01/1990	Valid Tree
SetId	CCB	DEPTID_SUM	11/18/1997	Valid Tree
None		DEPT_SECURITY	01/01/1996	Valid Tree
None		DEPT_SECURITY	01/01/1994	Valid Tree
None		DEPT_SECURITY	01/01/1990	Valid Tree
None		DEPT_SECURITY	01/01/1980	Valid Tree
SetId	CCB	HEFTY_TREE	06/21/2000	Valid Tree
None		PERSONAL_DATA	05/05/1997	Valid Tree
Bus Unit	M04	PROJECT_01	04/25/2000	Valid Tree
User	M04	PROJECT_02	04/25/2000	Valid Tree

Perform Audits Copy Delete

Tree Maintenance page

To copy a closed tree:

1. Select the checkbox for the tree you want to copy.
2. Click **Copy**.



Tree Definition and Properties page

3. Make the necessary changes and click **Copy**.

To delete a tree:

1. Click Delete.

For more information about deleting trees, see Deleting a Tree.

To audit a closed tree:

1. Select the checkbox for the draft tree you want to audit.
2. Click Perform Audits.

   The status of the tree changes to Valid Tree if the tree passes the audit.

For more information about tree audits, see Performing Audits.

Completing the Menu Path for User Data Pages

The Windows-based Tree Manager invoked user data pages by making use of C++ routines for instantiating the panels and panel groups. The Windows-based Tree Manager did not require the complete menu path, nor did it use standard security edits for determining if the user had access to the component. In fact, its quite common in prior releases that the Tree Structure would only specify the page and component, and quite often the menu information was left blank.

The web-based Tree Manager uses standard PeopleCode DoModalComponent() functions for displaying the user data panels. The DoModalComponent() functions require that the complete menu path be provided and that the user have security access in order to work with the panels. As part of the upgrade process, we have provided an Application Engine upgrade program UPG81RPTG that searches the existing menu and component information for a valid and complete menu path for node, level, and leaf user data pages.

You can use the Update Structure Menus program to update the menu path for tree structures. The upgrade program will not update the structure for components that are not on a menu. For these cases, the component will need to be added to a menu and the upgrade program can be rerun to automatically complete the menu path.

To find the structures that do not have a complete menu path, check the Process Scheduler logs for the pages that are referenced in tree structures but don't have a complete menu path. These are the structures that you will have to resolve manually:

- If a given component is on more than one menu, you must verify that the correct menu path was selected. The upgrade program selects the first complete menu path that it finds.
- The upgrade program won't update any structures that already have the menu path filled out. If the menu path is incorrect or is no longer valid, the upgrade program will not correct that condition.

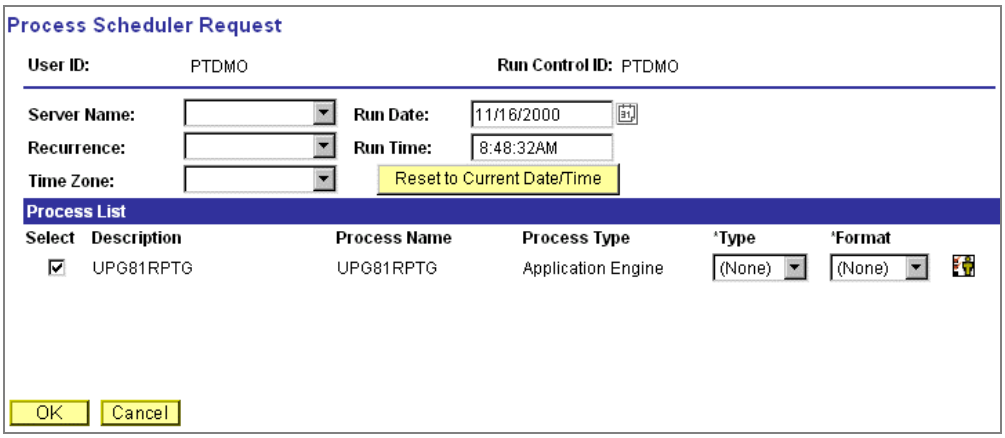
To run the Update Structures Menu program:

1. Select PeopleTools, Tree Manager, Process, Update Structure Menus.
2. Enter the Run Control ID.

   The Update Structures page appears.

Update Structures page

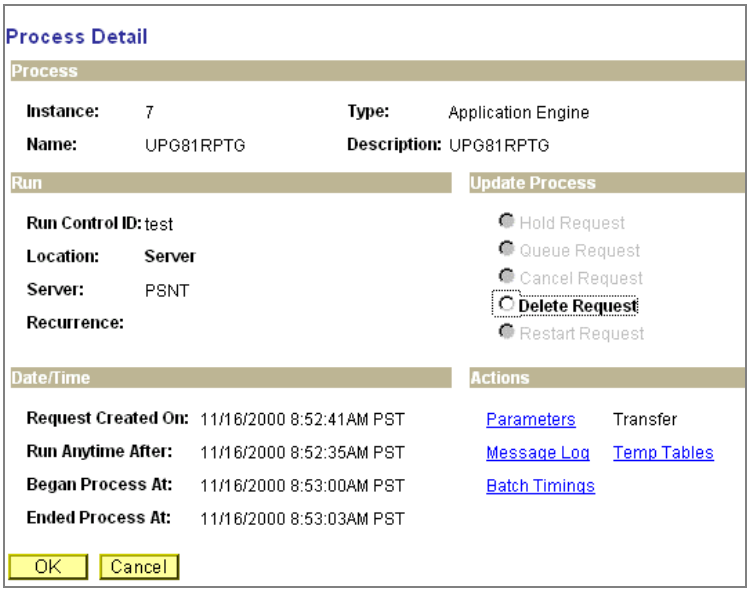
3. Click **Run** to send the request to Process Scheduler.



Process Scheduler Request page

4. Click OK on the Process Scheduler Request page to start the Application Engine program.

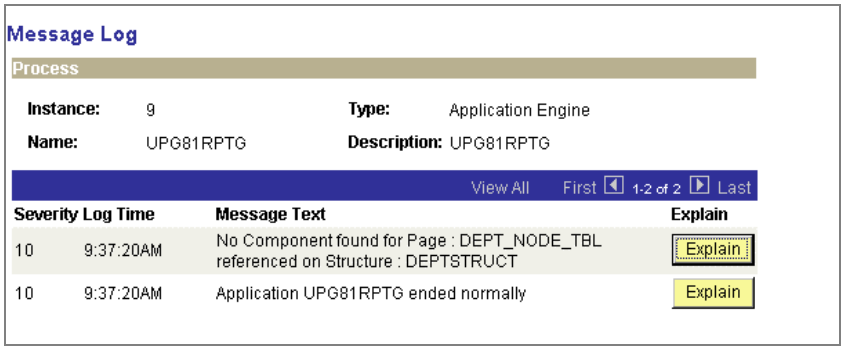
5. From Process Monitor, select the **Details** link from the Process List.



Process Detail page

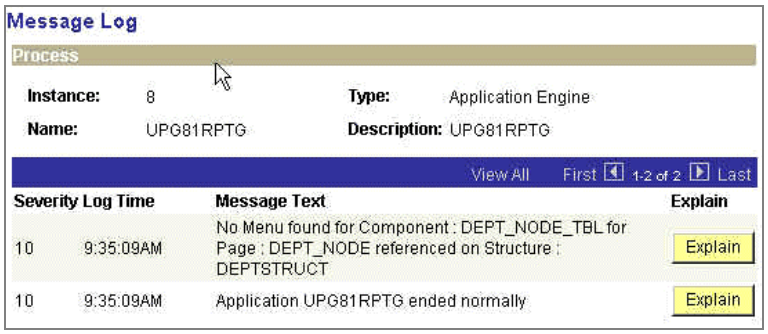
6. Select Message Log to view any messages associated with the program.

Here are two samples of two messages that can come from UPG81RPTG. The first tells you of a page on a structure that is not found on a component anywhere in the system.



Message Log page

The second tells you the page was part of a component, but the component was not found on a menu anywhere.



Message Log page

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