PeopleSoft®

Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft Application Designer

February 2005

Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft Application Designer
SKU PT846APD-B 0205
Copyright © 1988-2005 PeopleSoft, Inc. All rights reserved.

All material contained in this documentation is proprietary and confidential to PeopleSoft, Inc. (“PeopleSoft”), protected by copyright laws and subject to the nondisclosure provisions of the applicable PeopleSoft agreement. No part of this documentation may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, including, but not limited to, electronic, graphic, mechanical, photocopying, recording, or otherwise without the prior written permission of PeopleSoft.

This documentation is subject to change without notice, and PeopleSoft does not warrant that the material contained in this documentation is free of errors. Any errors found in this document should be reported to PeopleSoft in writing.

The copyrighted software that accompanies this document is licensed for use only in strict accordance with the applicable license agreement which should be read carefully as it governs the terms of use of the software and this document, including the disclosure thereof.

PeopleSoft, PeopleTools, PS/nVision, PeopleCode, PeopleBooks, PeopleTalk, and Vantive are registered trademarks, and Pure Internet Architecture, Intelligent Context Manager, and The Real-Time Enterprise are trademarks of PeopleSoft, Inc. All other company and product names may be trademarks of their respective owners. The information contained herein is subject to change without notice.

Open Source Disclosure

PeopleSoft takes no responsibility for its use or distribution of any open source or shareware software or documentation and disclaims any and all liability or damages resulting from use of said software or documentation. The following open source software may be used in PeopleSoft products and the following disclaimers are provided.

Apache Software Foundation

This product includes software developed by the Apache Software Foundation (http://www.apache.org/). Copyright © 1999-2000 The Apache Software Foundation. All rights reserved.

THIS SOFTWARE IS PROVIDED “AS IS” AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE APACHE SOFTWARE FOUNDATION OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

OpenSSL

Copyright © 1998-2003 The OpenSSL Project. All rights reserved.

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/).

THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT “AS IS” AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

SSLeay

Copyright © 1995-1998 Eric Young. All rights reserved.

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com). Copyright © 1995-1998 Eric Young. All rights reserved. THIS SOFTWARE IS PROVIDED BY ERIC YOUNG “AS IS” AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Loki Library

Copyright © 2001 by Andrei Alexandrescu. This code accompanies the book:

Alexandrescu, Andrei. “Modern C++ Design: Generic Programming and Design Patterns Applied.” Copyright © 2001 Addison-Wesley. Permission to use, copy, modify, distribute and sell this software for any purpose is hereby granted without fee, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation.

Helma Project

Copyright © 1999-2004 Helma Project. All rights reserved.

THIS SOFTWARE IS PROVIDED “AS IS” AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE HELMA PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Helma includes third party software released under different specific license terms. See the licenses directory in the Helma distribution for a list of these license.

Sarissa

Copyright © 2004 Manos Batsis.

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA.

Contents

General Preface

About This PeopleBook xxv

PeopleSoft Application Prerequisites xxv

PeopleSoft Application Fundamentals xxv

Documentation Updates and Printed Documentation xxvi

Obtaining Documentation Updates xxvi

Ordering Printed Documentation xxvi

Additional Resources xxvii

Typographical Conventions and Visual Cues xxviii

Typographical Conventions xxviii

Visual Cues xxix

Country, Region, and Industry Identifiers xxx

Currency Codes xxx

Comments and Suggestions xxx

Common Elements Used in PeopleBooks xxxi

Preface

PeopleSoft Application Designer Preface xxxiii

PeopleSoft Application Designer xxxiii

Part 1
Getting Started with PeopleSoft Application Designer

Chapter 1

Getting Started with PeopleSoft Application Designer 3

PeopleSoft Application Designer Overview 3

PeopleSoft Application Designer Implementation 3

Installation-Level Steps 3

Main Application Development Steps 4

Other Sources of Information 5

Part 2
Developing and Customizing PeopleSoft Applications

Chapter 2
Using PeopleSoft Application Designer.....9
Understanding PeopleSoft Application Designer.....9
PeopleSoft Pure Internet Architecture.....9
Change Tracking and Change Control.....10
Using PeopleSoft Application Designer.....10
Understanding the Eight Steps of Application Development.....10
Starting PeopleSoft Application Designer.....12
Using the PeopleSoft Application Designer Window Components.....14
Setting PeopleTools Options.....21
Working with PeopleCode.....22
Using the Development Editors.....23
Working with Definitions.....25
Understanding Definitions.....25
Opening Definitions.....27
Viewing Definitions.....28
Viewing and Editing Definition Properties.....28
Creating Definitions.....29
Saving Definitions.....30
Closing Definitions.....30
Renaming Definitions.....30
Deleting Definitions.....32
Finding Definitions.....33
Using Miscellaneous Definitions.....35
Using Spell Check.....37
Understanding Spell Check.....37
Enabling Spell Check.....40
Configuring Browser Options.....41
Building and Maintaining Data.....42
Understanding Data Building and Maintenance.....42
Creating SQL Tables.....42
Using the Multiple Document Interface.....43
Using Drag-and-Drop.....43
Using Pop-up Menus.....44
Using Dynamic Toolbars and Menus.....44
Configuring the Environment.....45

Chapter 3
Working With Projects.....47
Understanding Projects.....47
Viewing Projects.....48
Accessing Definitions for a Project.....48
Using the Upgrade View.....49
Creating and Saving Projects.....49
Creating a New Project.....50
Saving a Project.....50
Setting Project Properties.....50
Inserting Definitions Into a Project.....51
Removing Definitions From a Project.....53
Merging Projects.....53
Using Change Projects.....54
Setting Project Options.....55
Validating Projects.....56
Setting System IDs.....56

Chapter 4
Creating Field Definitions.....59
Understanding Field Definitions.....59
Creating New Field Definitions.....59
Creating a New Field Definition.....60
Specifying Attributes for a New Field Definition.....61
Specifying Character Field Attributes.....62
Specifying Long Character Field Attributes.....64
Specifying Number Field Attributes.....64
Specifying Date Field Attributes.....66
Specifying Time Field Attributes.....66
Specifying DateTime Field Attributes.....66
Specifying Image Field Attributes.....67
Specifying ImageReference Field Attributes.....67
Using Multiple Labels.....67
Understanding Multiple Labels.....68
Adding a New Label.....68
Deleting a Label.....68
Selecting Record Field Labels.....68
Opening an Existing Field Definition.....69
Viewing Field Properties.....70

Changing Field Definitions....70
Understanding the Effects of Changing Field Definitions....71
Changing Field Types....71
Renaming Field Definitions....71
Deleting Field Definitions....72
Printing Field Definitions....73
Setting Custom Field Formats....73
Understanding Custom Field Formats....74
Understanding Format Notation....74
Changing Format Families....77
Editing Formats....79
Using Family Options....80
Testing Formats....81
Using the Translate Table....82
Understanding the Translate Table....82
Adding Values to the Translate Table....85
Changing Translate Values....86
Deleting Translate Values....86
Saving the Translate Table....86

Chapter 5
Planning Records, Control Tables, and TableSets....87
Understanding the Planning Process....87
Table-Based Systems....87
Normalized Relational Databases....88
Record Definition Planning....90
Effective Dates....90
Control Tables....92
TableSets....93
Sharing Tables....95
Understanding Table Sharing....96
Adding the SetID Field to Record Definitions....98
Defining Set Control Fields....98
Modifying the Set Control Field....99
Creating SetIDs....99
Defining Record Groups....100
Defining TableSet Controls....100
Sharing Trees....101

Chapter 6
Creating Record Definitions.....103
Viewing Record Definitions.....103
Common Elements Used in This Section.....103
Viewing Basic Field Definitions.....104
Viewing Key-Related Characteristics and Default Values.....104
Viewing Editing Options.....104
Viewing PeopleCode Program Types.....105
Reordering Fields.....106
Sizing and Sorting Columns.....106
Saving Record Definitions.....106
Naming Record Definitions.....107
Creating a New Record.....108
Opening an Existing Record.....109
Manipulating Fields in Record Definitions.....109
Understanding Fields in Record Definitions.....109
Inserting Fields Into Records.....110
Inserting Subrecords Into Records.....110
Setting Record Properties.....111
Setting General Properties.....111
Setting Use Properties.....111
Creating User-Defined Audit Record Definitions.....113
Setting Record Field Properties.....114
Understanding Record Field Properties.....115
Understanding Record Key Considerations.....115
Setting Record Field Use Properties.....117
Adding From and Through Logic to the Search Page.....121
Setting Record Field Edit Properties.....123
Moving Fields in the Same Record.....124
Moving Fields to Another Record Definition.....125
Deleting a Field From a Record Definition.....125
Renaming Record Definitions.....126
Deleting Record Definitions.....126
Printing Record Definitions.....127
Creating SQL View and Dynamic View Select Statements.....129

Chapter 7
Administering Data.....131
Understanding Data Administration and the Build Process.....131

Running the Build Process....132
Understanding the Build Menu....132
Selecting the Build Scope....135
Selecting Build Options and Running the Build Process....135
Using Command Line Syntax to Build a Project....136
Creating Tables....138
Understanding the Create Table Process....139
Creating a Table....140
Specifying Create Options....141
Specifying Logging Options....142
Specifying Script Options....146
Confirming a Table Build....150
Creating Indexes....150
Understanding Indexes....151
Configuring Indexes....152
Adding a Custom Index....154
Editing the DDL....155
Altering Tables....155
Understanding the Alter Process....155
Determining Tables to be Altered After a Field Change....161
Altering a Table....162
Specifying Alter Options....162
Confirming Your Table Alter....165
Creating Triggers....166
Creating Views....166
Understanding Views....166
Creating Views....167
Using Joins in Views....167
Using Cross-Platform Meta-SQL for Dynamic Views....167
Administering DDL....168
Using the Record DDL....168
Setting the Tablespace....169
Using Physical Data Storage....170

Chapter 8
Designing Pages for Optimal Performance and Accessibility....173
Improving Online Performance....173
Understanding Processing Modes....173
Refreshing a Page....174

Triggering Server Processing....174
Using PeopleCode in Deferred Mode....175
Using Page Controls in Deferred Mode....176
Using Error and Warning Messages....178
Designing Accessible Pages....178
Understanding Accessibility Issues....179
Using Labels....179
Using Color to Convey Meaning....181
Verifying Titles for Grids and Scroll Areas....181
Adding Unique Labels for Push Buttons and Links....182
Deactivating Adornment Images....182
Maintaining Logical Tab Order....182
Using Deferred Processing....182
Using Foreground and Background Colors....182
Using Instructional Text....182

Chapter 9
Using Page Controls....187
Understanding Page Controls....187
Aesthetic Controls....188
Data Entry Controls....189
Function and Data Processing Controls....190
Using Charts....191
Using Frames....192
Using Group Boxes....192
Inserting and Moving a Group Box....192
Setting Group Box Properties....193
Using Horizontal Rules....194
Drawing a Horizontal Rule....195
Setting Horizontal Rule Properties....195
Using Images....195
Understanding Static Images....196
Adjusting Static Image Size and Shape....196
Setting Static Image Properties....196
Setting Image Properties....197
Using Static Text....198
Using Check Boxes....198
Setting Check Box Properties....198
Using Drop-Down List Boxes....199

Setting Drop-Down List Box Record Properties.....199
Setting Drop-Down List Box Label and Use Properties.....199
Using Edit Boxes and Long Edit Boxes.....200
Using Radio Buttons.....200
Understanding Radio Buttons.....200
Setting Radio Button Record Properties.....201
Setting Radio Button Label Properties.....201
Setting Radio Button Use Properties.....201
Using Subpages.....201
Understanding Subpages.....202
Defining a Subpage.....202
Inserting a Subpage Into a Page.....203
Specifying Informational Subpage Labels.....203
Using Grids.....204
Understanding Grid Control Scope.....204
Understanding Grid Properties.....205
Understanding Grid Customization.....205
Inserting and Resizing Grid Controls.....206
Inserting and Manipulating Grid Columns.....206
Setting Column Properties.....208
Creating a Tabbed Grid.....209
Freezing Grid Columns.....210
Using Multiple Grids on a Page.....210
Enabling Grid Personalization.....210
Setting Grid General Properties.....211
Setting Grid Label Properties.....212
Setting Grid Use Properties.....218
Using HTML Areas.....221
Understanding HTML Area Controls.....221
Inserting an HTML Area.....223
Populating an HTML Area.....223
Changing an HTML Area Label.....225
Using Push Buttons and Links.....225
Understanding Push Buttons and Links.....225
Inserting a Push Button or Link.....225
Specifying Destination Types.....226
Specifying a Label for the Push Button or Link.....231
Using Scroll Areas and Scroll Bars.....233
Understanding Scroll Areas and Scroll Bars.....233
Setting Scroll Area General Attributes.....234

Setting Scroll Area Label Properties.....236
Setting Scroll Area Use Properties.....237
Setting Scroll Bar Label Properties.....237
Setting Scroll Bar Use Properties.....237
Controlling Scrollable Data.....239
Converting Scroll Bars to Grids.....240
Using Secondary Pages.....240
Understanding Secondary Pages.....240
Defining Secondary Pages.....242
Inserting a Secondary Page Control.....243

Chapter 10
Creating Page Definitions.....245
Understanding Page Design.....245
Level-Based Controls.....246
Keys for Accessing Pages.....249
Multiple Occurrences of Data.....250
Prompt Fields.....251
Derived and Work Fields.....253
Sensitive Data.....253
Hidden Pages.....253
Upgrade Considerations.....253
End User Page Customization.....253
Using Page Development Tools.....254
Using Page Definition Menus.....254
Using Toolbars.....255
Using the Page Layout Grid.....257
Creating New Page Definitions.....258
Cloning Page Definitions.....258
Creating a Blank Page.....259
Adding Page Controls.....259
Dragging Field Definitions From a Record Onto a Page.....259
Dragging Record Fields From the Project Workspace Onto a Page.....259
Dragging Record Definitions Onto a Page.....260
Using the Page Control Toolbar.....260
Using the Insert Menu.....261
Manipulating Page Controls.....261
Selecting Controls.....261
Resizing Controls.....262

Using the Page Control Inspector....262
Deleting Controls....263
Moving Controls on the Same Page....263
Copying and Moving Controls to Another Page....264
Moving Labels....264
Setting Page Field Properties for Controls....264
Setting Record Properties....264
Setting Label Properties....269
Setting Use Properties....272
Setting General Properties....277
Creating Display Control and Related Fields....279
Using Display Control and Related Fields....279
Creating Related Edit Fields....280
Creating Invisible Control Fields....281
Ordering and Spacing Page Controls....281
Understanding Page Control Order and Spacing....281
Ordering Controls Visually....282
Ordering Controls Logically....282
Testing Page Control Order....283
Applying Control Order Rules....283
Changing Control Order Using the Order List....284
Finding a Field on a Page Definition....285
Using Default Order....285
Spacing Controls on Pages....285
Designing Inquiry Pages....285
Aligning Page Controls....286
Maximizing Performance....286
Accessing PeopleCode in Page Definitions....287
Viewing Pages in the Browser....288
Working With the View in Browser Feature....289
Changing the Default Browser....290
Generating HTML....291
Viewing the HTML for a Page....291
Identifying Page Definitions Online....292
Producing Pages....293
Understanding Page Production....293
Changing General Page Information....293
Changing Page Use Information....294
Saving Pages....297
Renaming and Deleting Pages....297

Printing Page Definitions.....297
Altering Page Setup.....298
Reading Your Page Definition Report.....298

Chapter 11
Creating Component Definitions.....301
Understanding Component Definitions.....301
What Component Definitions Manage.....301
Component Buffer.....302
Defining Components.....303
Understanding the Component Definition Window.....303
Creating a New Component Definition.....304
Opening an Existing Component Definition.....305
Adding Pages to Components.....305
Reordering Pages in a Component.....306
Copying or Moving Pages to Another Component.....306
Setting Page Attributes.....307
Validating Components.....308
Specifying Market-Specific Components.....309
Determining Where a Component Is Used.....309
Setting Component Properties.....309
Opening the Component Properties Dialog Box.....310
Setting General Properties.....310
Setting Use Properties.....310
Setting Internet Properties.....313
Overriding the Search Record.....317
Understanding Search Records.....317
Overriding the Search Record.....317
Accessing the Message Catalog.....317
Enabling the Expert Entry Feature.....318
Understanding Expert Entry.....318
Enabling Expert Entry Through Security.....319

Chapter 12
Creating Menu Definitions.....321
Understanding Menus.....321
Defining Custom Component Menus.....321
Creating Custom Component Menus.....321

Setting Menu Item Properties.....322
Setting General Properties.....323
Setting Use Properties.....324
Working With Existing Menu Definitions.....324
Adding Components to a Menu.....324
Renaming Menu Definitions.....324
Copying a Menu Definition.....325
Deleting Menu Items.....325
Printing Menu Definitions.....325
Setting Up Menu Security.....326
Importing Custom Menu Groups Into Portals.....326
Defining Pop-up Menus.....326
Understanding Pop-up Menus.....326
Creating Pop-up Menus.....327
Defining Transfer Menu Items.....328

Chapter 13
Using the Registration Wizard.....331
Understanding the Registration Wizard.....331
Common Elements Used in This Chapter.....331
Working With the Registration Wizard.....331
Registering a Component or iScript.....332
Registering a Component in Multiple Portals.....336
Registering a Mobile Page.....336

Chapter 14
Creating Style Sheet Definitions.....339
Understanding Style Sheets and Classes.....339
Types of Classes.....339
PSSTYLEDEF.....341
Creating Style Sheets.....342
Creating a New Style Sheet.....342
Inserting a Sub Style Sheet.....342
Adding a New Class.....342
Setting Class Attributes.....343
Understanding Class Attributes.....343
Understanding Generic and Installed Fonts.....344
Accessing Class Attributes.....344

Specifying Fonts....344
Setting Font Attributes for a Specific Language....346
Specifying Spacing and Alignment....346
Specifying Background Attributes....348
Referencing a Background Image URL....351
Specifying Border Attributes....351
Specifying Margins....353
Specifying Miscellaneous Attributes....354
Changing the Default Style Sheets for an Application....356
Specifying a Style Sheet for a Page....356
Changing Colors on Tabs....356
Understanding Tab Definitions....357
Creating Tab Images....360

Chapter 15
Creating Image Definitions....363
Understanding Images....363
Creating New Image Definitions....364
Understanding Image Definitions....364
Creating an Image Definition....364
Setting Image Properties....365
Importing and Creating Alternate Image Types....366
Opening an Image Definition....366
Updating an Image Definition....366
Updating an Image Definition....367
Changing the Image Display Size....367
Specifying the Image Storage Format....367
Converting Images....368
Consolidating Images....368
Using the Catalog of Image Definitions....370

Chapter 16
Creating HTML Definitions....375
Understanding HTML Definitions....375
Creating an HTML Definition....375
Opening an HTML Definition....376
Referencing HTML Definitions Dynamically....376

Part 3
Maintaining Data

Chapter 17
Constructing File Layouts and Performing Data Interchanges.....379
Understanding File Layouts.....379
Understanding File Layouts.....379
Field Formats in a Flat File.....380
FIXED Format Files.....381
CSV Format Files.....382
XML Format Files.....383
Constructing File Layouts.....384
Creating a New File Layout Definition.....385
Adding File Records and File Fields.....385
Reordering File Layout Nodes.....387
Naming File Layouts, Records, and Fields.....387
Applying Field Formats.....388
Specifying File Layout, Record, and Field Properties.....388
Specifying File Layout Properties.....389
Specifying File Record Properties.....392
Specifying File Layout Field Properties.....393
Performing Data Interchanges.....396
Understanding the Import Process.....396
Previewing Input Data.....397
Generating and Running the Import Program.....400
Exporting Data.....400
Producing a Sample File Layout.....400
Creating the File Layout Definition.....400
Adjusting File Layout Properties.....402
Inserting a Segment and a Field.....403

Chapter 18
Using Command Line Parameters.....405
Understanding PeopleSoft Application Designer Command Line Parameters.....405
Starting PeopleSoft Application Designer Command Line Interface.....406
Building Projects.....407
Copying Definitions.....409
Comparing Definitions for Upgrade Using the Command Line.....416

Chapter 19
Using Change Control.....423
Understanding Change Control Features.....423
Change Control Locking.....423
Change Control History.....425
Change Control Stamping.....426
Understanding Implementation Considerations.....426
Setting Up Change Control.....427
Understanding Change Control Security.....427
Appointing a Change Control Administrator.....428
Enabling or Disabling Change Control.....428
Using Projects.....429
Understanding Projects.....429
Using Multiple Databases for Development.....429
Using Distributed Development Environments.....430
Using Change Control.....430
Locking and Unlocking Definitions.....430
Viewing Locked Definitions.....432
Inserting Comments.....432
Viewing Change Control History.....433
Reporting Change Control Information.....434

Part 4
Performing Updates and Upgrades with PeopleSoft Application Designer

Chapter 20
Upgrading with PeopleSoft Application Designer.....443
Understanding a PeopleSoft Upgrade.....443
PeopleSoft Application Designer Upgrade Features.....443
Definition Types That You Can Upgrade.....444
Using the Upgrade Workspace.....449
Switching to the Upgrade View.....449
Viewing Upgrade Attributes by Definition Type.....450
Working with Upgrade Definition Columns.....450
Using Upgrade Menu Actions.....451
Setting Upgrade Options.....452
Preparing Projects for an Upgrade.....460

Understanding Upgrade Projects....460
Populating Projects....460
Searching for Definitions....461
Printing All Definitions in a Project....461
Obtaining Access for Upgrading....461
Viewing Upgrade Messages....461
Understanding Upgrade Messages....461
Determining Whether Errors Were Encountered....462
Viewing Messages....462
Printing Upgrade Messages....462
Clearing Messages....462

Chapter 21
Comparing Source and Target Definitions....463
Understanding the Compare Process....463
Comparing All Definitions by Type....464
Comparing Definitions by Project....464
Synchronizing Databases When Comparing Record Definitions....464
Working With Compare Reports....466
Running a Compare Report....466
Working with the Compare and Report Dialog Box....467
Working With Workspace Reports....469
Accessing Reports....469
Searching for Definitions in Reports....469
Printing the Report....469
Saving Reports as Text Files....471
Working with Browser Reports....471
Understanding Browser Reports....471
Accessing and Sharing Browser Reports....471
Selecting a Project....473
Searching for Definitions....473
Viewing Report Details....473
Viewing Status Summary....473
Viewing Compare Results by Definition Type....474
Working with Definition Status....475
Determining Definition Status....475
Comparing Source Status to Target Status....476
Comparing Page Definitions Visually....478
Running a Visual Compare for Pages....478

Working with the Page Compare Results....478
Comparing Definitions for Upgrade Using the Command Line....480

Chapter 22
Working with Text Definitions During Upgrades....487
Understanding Comparing Text Definitions....487
Comparing and Merging Text Definitions....487
Running the Merge Process....487
Using the Merge Interface....488
Working with Merge Properties....490
Accessing the Merge Properties Dialog Box....490
Viewing and Setting Merge Properties....490
Running a Project PeopleCode Diff/Merge....492
Understanding the Project PeopleCode Diff/Merge....492
Running a Project PeopleCode Diff/Merge....493
Using the Project PeopleCode Diff/Merge....493
Filtering the Project PeopleCode Diff List....493

Chapter 23
Copying Projects and Definitions....495
Reviewing Upgrade Settings....495
Selecting View Options....495
Selecting Custom View Settings....496
Overriding Upgrade Defaults....496
Recording Upgrade Settings....498
Copying Projects....498
Understanding Project Copy Options....499
Copying Projects to a Target Database....499
Copying a Project to a File....500
Copying a Project From a File....500
Copying Definitions for Upgrade Using the Command Line....503
Stamping the Target Database....510
Reusing Projects....511

Appendix A
Understanding Functional Indexes....513
Functional Indexes for Microsoft SQL Server 2000....513

DB2/UDB for Linux, UNIX, and Windows.....514
Functional Indexes for Informix.....515

Appendix B
Referencing Selections for Command Line Parameters.....519
Database Type Selections.....519
Definition Type Selections.....519
Language Selections.....524
Available Release Numbers.....525

Appendix C
Using Default Style Classes.....527
Default Style Classes.....527

Appendix D
Performing Bulk Operations.....541
Understanding Bulk Operations.....541
Performing Bulk Insertions.....541
Common Elements Used in This Section.....542
Inserting Fields into Records.....542
Inserting Record Fields onto Pages.....542
Inserting Fields into Both Records and onto Pages.....543
Performing Bulk Modifications.....543
Modifying Record Fields.....543
Modifying Page Fields.....543
Reordering or Resizing Grid Fields.....544
Changing Page Field Attributes.....544
Performing Bulk Deletions.....544

Appendix E
Running PeopleTools Cross-Reference Reports.....547
Understanding Cross-Reference Reports.....547
Running a Crystal Report.....549

Appendix F
Working With Records Used in the Mobile Synchronization Framework.....551
Understanding Mobile Synchronization Framework Records.....551
Configuring Records for the Mobile Synchronization Framework.....551
Setting Record Properties.....552
Working with Required Fields and Default Values.....552
Example: Building Records for the Mobile Synchronization Framework.....553

Glossary of PeopleSoft Terms.....555

Index 577

About This PeopleBook

PeopleBooks provide you with the information that you need to implement and use PeopleSoft applications.

This preface discusses:

- PeopleSoft application prerequisites.
- PeopleSoft application fundamentals.
- Documentation updates and printed documentation.
- Additional resources.
- Typographical conventions and visual cues.
- Comments and suggestions.
- Common elements in PeopleBooks.

Note. PeopleBooks document only page elements, such as fields and check boxes, that require additional explanation. If a page element is not documented with the process or task in which it is used, then either it requires no additional explanation or it is documented with common elements for the section, chapter, PeopleBook, or product line. Elements that are common to all PeopleSoft applications are defined in this preface.

PeopleSoft Application Prerequisites

To benefit fully from the information that is covered in these books, you should have a basic understanding of how to use PeopleSoft applications.

You might also want to complete at least one PeopleSoft introductory training course, if applicable.

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

These books do not review navigation and other basics. They present the information that you need to use the system and implement your PeopleSoft applications most effectively.

PeopleSoft Application Fundamentals

Each application PeopleBook provides implementation and processing information for your PeopleSoft applications.

Note. Application fundamentals PeopleBooks are not applicable to the PeopleTools product.

For some applications, additional, essential information describing the setup and design of your system appears in a companion volume of documentation called the application fundamentals PeopleBook. Most PeopleSoft product lines have a version of the application fundamentals PeopleBook. The preface of each PeopleBook identifies the application fundamentals PeopleBooks that are associated with that PeopleBook.

The application fundamentals PeopleBook consists of important topics that apply to many or all PeopleSoft applications across one or more product lines. Whether you are implementing a single application, some combination of applications within the product line, or the entire product line, you should be familiar with the contents of the appropriate application fundamentals PeopleBooks. They provide the starting points for fundamental implementation tasks.

Documentation Updates and Printed Documentation

This section discusses how to:

- Obtain documentation updates.
- Order printed documentation.

Obtaining Documentation Updates

You can find updates and additional documentation for this release, as well as previous releases, on the PeopleSoft Customer Connection website. Through the Documentation section of PeopleSoft Customer Connection, you can download files to add to your PeopleBook Library. You'll find a variety of useful and timely materials, including updates to the full PeopleSoft documentation that is delivered on your PeopleBooks CD-ROM.

Important! Before you upgrade, you must check PeopleSoft Customer Connection for updates to the upgrade instructions. PeopleSoft continually posts updates as the upgrade process is refined.

See Also

PeopleSoft Customer Connection, https://www.peoplesoft.com/corp/en/login.jsp

Ordering Printed Documentation

You can order printed, bound volumes of the complete PeopleSoft documentation that is delivered on your PeopleBooks CD-ROM. PeopleSoft makes printed documentation available for each major release shortly after the software is shipped. Customers and partners can order printed PeopleSoft documentation by using any of these methods:

- Web
- Telephone
- Email

Web

From the Documentation section of the PeopleSoft Customer Connection website, access the PeopleBooks Press website under the Ordering PeopleBooks topic. The PeopleBooks Press website is a joint venture between PeopleSoft and MMA Partners, the book print vendor. Use a credit card, money order, cashier's check, or purchase order to place your order.

Telephone

Contact MMA Partners at 877 588 2525.

Email

Send email to MMA Partners at peoplebookspress@mmapartner.com.

See Also

PeopleSoft Customer Connection, https://www.peoplesoft.com/corp/en/login.jsp

Additional Resources

The following resources are located on the PeopleSoft Customer Connection website:

Resource	Navigation
Application maintenance information	Updates + Fixes
Business process diagrams	Support, Documentation, Business Process Maps
Interactive Services Repository	Interactive Services Repository
Hardware and software requirements	Implement, Optimize + Upgrade, Implementation Guide, Implementation Documentation & Software, Hardware and Software Requirements
Installation guides	Implement, Optimize + Upgrade, Implementation Guide, Implementation Documentation & Software, Installation Guides and Notes
Integration information	Implement, Optimize + Upgrade, Implementation Guide, Implementation Documentation and Software, Pre-built Integrations for PeopleSoft Enterprise and PeopleSoft EnterpriseOne Applications
Minimum technical requirements (MTRs) (EnterpriseOne only)	Implement, Optimize + Upgrade, Implementation Guide, Supported Platforms
PeopleBook documentation updates	Support, Documentation, Documentation Updates
PeopleSoft support policy	Support, Support Policy
Prerelease notes	Support, Documentation, Documentation Updates, Category, Prerelease Notes
Product release roadmap	Support, Roadmaps + Schedules
Release notes	Support, Documentation, Documentation Updates, Category, Release Notes

Resource	Navigation
Release value proposition	Support, Documentation, Documentation Updates, Category, Release Value Proposition
Statement of direction	Support, Documentation, Documentation Updates, Category, Statement of Direction
Troubleshooting information	Support, Troubleshooting
Upgrade documentation	Support, Documentation, Upgrade Documentation and Scripts

Typographical Conventions and Visual Cues

This section discusses:

- Typographical conventions.
- Visual cues.
- Country, region, and industry identifiers.
- Currency codes.

Typographical Conventions

This table contains the typographical conventions that are used in PeopleBooks:

Typographical Convention or Visual Cue	Description
Bold	Indicates PeopleCode function names, business function names, event names, system function names, method names, language constructs, and PeopleCode reserved words that must be included literally in the function call.
Italics	Indicates field values, emphasis, and PeopleSoft or other book-length publication titles. In PeopleCode syntax, italic items are placeholders for arguments that your program must supply. We also use italics when we refer to words as words or letters as letters, as in the following: Enter 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 the W key.
`Monospace font`	Indicates a PeopleCode program or other code example.

Typographical Convention or Visual Cue	Description
“ ” (quotation marks)	Indicate chapter titles in cross-references and words that are used differently from their intended meanings.
. . . (ellipses)	Indicate that the preceding item or series can be repeated any number of times in PeopleCode syntax.
{ } (curly braces)	Indicate a choice between two options in PeopleCode syntax. Options are separated by a pipe (|).
[ ] (square brackets)	Indicate optional items in PeopleCode syntax.
& (ampersand)	When placed before a parameter in PeopleCode syntax, an ampersand indicates that the parameter is an already instantiated object. Ampersands also precede all PeopleCode variables.

Visual Cues

PeopleBooks contain the following visual cues.

Notes

Notes indicate information that you should pay particular attention to as you work with the PeopleSoft system.

Note. Example of a note.

If the note is preceded by *Important!,* the note is crucial and includes information that concerns what you must do for the system to function properly.

Important! Example of an important note.

Warnings

Warnings indicate crucial configuration considerations. Pay close attention to warning messages.

Warning! Example of a warning.

Cross-References

PeopleBooks provide cross-references either under the heading “See Also” or on a separate line preceded by the word *See.* Cross-references lead to other documentation that is pertinent to the immediately preceding documentation.

Country, Region, and Industry Identifiers

Information that applies only to a specific country, region, or industry is preceded by a standard identifier in parentheses. This identifier typically appears at the beginning of a section heading, but it may also appear at the beginning of a note or other text.

Example of a country-specific heading: "(FRA) Hiring an Employee"

Example of a region-specific heading: "(Latin America) Setting Up Depreciation"

Country Identifiers

Countries are identified with the International Organization for Standardization (ISO) country code.

Region Identifiers

Regions are identified by the region name. The following region identifiers may appear in PeopleBooks:

- Asia Pacific
- Europe
- Latin America
- North America

Industry Identifiers

Industries are identified by the industry name or by an abbreviation for that industry. The following industry identifiers may appear in PeopleBooks:

- USF (U.S. Federal)
- E&G (Education and Government)

Currency Codes

Monetary amounts are identified by the ISO currency code.

Comments and Suggestions

Your comments are important to us. We encourage you to tell us what you like, or what you would like to see changed about PeopleBooks and other PeopleSoft reference and training materials. Please send your suggestions to:

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

Or send email comments to doc@peoplesoft.com.

While we cannot guarantee to answer every email message, we will pay careful attention to your comments and suggestions.

Common Elements Used in PeopleBooks

As of Date	The last date for which a report or process includes data.
Business Unit	An ID that represents a high-level organization of business information. You can use a business unit to define regional or departmental units within a larger organization.
Description	Enter up to 30 characters of text.
Effective Date	The date on which a table row becomes effective; the date that an action begins. For example, to close out a ledger on June 30, the effective date for the ledger closing would be July 1. This date also determines when you can view and change the information. Pages or panels and batch processes that use the information use the current row.
Once, Always, and **Don't Run**	Select Once to run the request the next time the batch process runs. After the batch process runs, the process frequency is automatically set to Don't Run. Select Always to run the request every time the batch process runs. Select Don't Run to ignore the request when the batch process runs.
Process Monitor	Click to access the Process List page, where you can view the status of submitted process requests.
Report Manager	Click to access the Report List page, where you can view report content, check the status of a report, and see content detail messages (which show you a description of the report and the distribution list).
Request ID	An ID that represents a set of selection criteria for a report or process.
Run	Click to access the Process Scheduler request page, where you can specify the location where a process or job runs and the process output format.
SetID	An ID that represents a set of control table information, or TableSets. TableSets enable you to share control table information and processing options among business units. The goal is to minimize redundant data and system maintenance tasks. When you assign a setID to a record group in a business unit, you indicate that all of the tables in the record group are shared between that business unit and any other business unit that also assigns that setID to that record group. For example, you can define a group of common job codes that are shared between several business units. Each business unit that shares the job codes is assigned the same setID for that record group.
Short Description	Enter up to 15 characters of text.
User ID	An ID that represents the person who generates a transaction.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft Process Scheduler

Enterprise PeopleTools 8.46 PeopleBook: Using PeopleSoft Applications

PeopleSoft Application Designer Preface

This preface provides an overview of the contents in PeopleSoft Application Designer.

PeopleSoft Application Designer

This PeopleBook provides an overview of PeopleSoft Application Designer and discusses how to:

- Develop and customize PeopleSoft Applications for the PeopleSoft Pure Internet Architecture.
- Maintain data using PeopleSoft Application Designer.
- Perform updates and upgrades using PeopleSoft Application Designer.

For information that is specific to your application, please refer to the application PeopleBook for your specific PeopleSoft product.

Note. As a licensee of PeopleTools, you are licensed to use the base portal technology, which is limited to navigation to licensed PeopleSoft applications. If you want to register additional non-PeopleSoft content, customize your homepage, or create any pagelets, you must license PeopleSoft Enterprise Portal.

PART 1

Getting Started with PeopleSoft Application Designer

Chapter 1
Getting Started with PeopleSoft Application Designer

CHAPTER 1

Getting Started with PeopleSoft Application Designer

This chapter provides an overview of the PeopleSoft Application Designer product and discusses the implementation tasks necessary to work with this tool.

PeopleSoft Application Designer Overview

PeopleSoft Application Designer is the core development tool used to build and modify PeopleSoft applications. PeopleSoft Application Designer enables you to build a variety of definitions, including:

- Fields.
- Records (Tables).
- Pages.
- Components.
- Menus.
- PeopleCode.
- SQL.

PeopleSoft Application Designer Implementation

This section discusses:

- Installation-level steps.
- Main application development steps.

Installation-Level Steps

Before you can begin using PeopleSoft Application Designer, the following items must be in place.

Step	Reference
Set up security. For developing and customizing PeopleSoft applications you will need access to the definitions involved, such as fields, records, pages, and so on. Your administrator can provide access by adjusting your definition security settings. There are also general PeopleTools permissions for maintaining and upgrading data that your administrator may need to provide access to as well. These include Build and Data Administration, Change Control, and Upgrade.	See *Enterprise PeopleTools 8.46 PeopleBook: Security Administration*, "Implementing Definition Security". See *Enterprise PeopleTools 8.46 PeopleBook: Security Administration*, "Setting Up Permission Lists," Setting PeopleTools Permissions.
Set up workstations. PeopleSoft Application Designer is a windows-based program. To run PeopleSoft Application Designer, you need to have a supported version of Windows with ample CPU and memory resources, and you need to have the workstation configured using PeopleSoft Configuration Manager so that there is connectivity to the appropriate database and all required environment variables are set.	See *Enterprise PeopleTools 8.46 PeopleBook: System and Server Administration*, "Using PeopleSoft Configuration Manager," Configuring Developer Workstations.

Main Application Development Steps

This table presents the main steps for creating a PeopleSoft application.

Step	Reference
Design application.	Review your in-house development cycle and documentation.
Create fields.	See Chapter 4, "Creating Field Definitions," page 59.
Create record definitions.	See Chapter 5, "Planning Records, Control Tables, and TableSets," page 87. See Chapter 6, "Creating Record Definitions," page 103.
Build SQL tables.	See Chapter 7, "Administering Data," page 131.
Create pages.	See Chapter 8, "Designing Pages for Optimal Performance and Accessibility," page 173. See Chapter 9, "Using Page Controls," page 187. See Chapter 10, "Creating Page Definitions," page 245.
Create components.	See Chapter 11, "Creating Component Definitions," page 301.
Register components.	See Chapter 13, "Using the Registration Wizard," page 331.
Test the application.	Review your in-house testing procedures and documentation.

Other Sources of Information

This section provides information to consider before you begin to use PeopleSoft Application Designer. In addition to implementation considerations presented in this section, take advantage of all PeopleSoft sources of information, including the installation guides, release notes, PeopleBooks, and training courses.

See Also

Enterprise PeopleTools 8.46 PeopleBook: Getting Started with PeopleTools, "Getting Started with Enterprise PeopleTools Preface"

PART 2

Developing and Customizing PeopleSoft Applications

Chapter 2
Using PeopleSoft Application Designer

Chapter 3
Working With Projects

Chapter 4
Creating Field Definitions

Chapter 5
Planning Records, Control Tables, and TableSets

Chapter 6
Creating Record Definitions

Chapter 7
Administering Data

Chapter 8
Designing Pages for Optimal Performance and Accessibility

Chapter 9
Using Page Controls

Chapter 10
Creating Page Definitions

Chapter 11
Creating Component Definitions

Chapter 12
Creating Menu Definitions

Chapter 13
Using the Registration Wizard

Chapter 14
Creating Style Sheet Definitions

Chapter 15
Creating Image Definitions

Chapter 16
Creating HTML Definitions

CHAPTER 2

Using PeopleSoft Application Designer

This chapter provides an overview of PeopleSoft Application Designer and discusses how to:

- Use PeopleSoft Application Designer.
- View PeopleCode.
- Work with definitions.
- Use miscellaneous definitions.
- Use spell check.
- Build and maintain data.

Understanding PeopleSoft Application Designer

Every PeopleSoft Pure Internet Architecture application contains a collection of related definitions that work together for a specific purpose. Developing and adapting PeopleSoft applications is a step-by-step process in which you define and build the definitions, establish relationships among definitions, implement security, run your PeopleSoft application in an internet browser, and test every aspect thoroughly. You use one interactive tool, PeopleSoft Application Designer, for the majority of these activities. PeopleSoft Application Designer is an integrated development environment that enables you to work with the numerous definitions of a business application in a single work area.

This section discusses:

- PeopleSoft Internet Architecture.
- Change tracking and change control.

PeopleSoft Pure Internet Architecture

PeopleSoft Pure Internet Architecture uses an internet browser for interacting with online PeopleSoft applications. You design applications for an internet browser using PeopleSoft Application Designer; the PeopleTools dynamically generate HTML pages based on the page and component definitions that you create.

PeopleSoft Pure Internet Architecture features include:

- The ability to easily create robust and high-performance internet applications.
- Variety of visual controls for entering and displaying text such as radio buttons, grids, scroll areas, push buttons, single and multi line text boxes, and so on.
- Multilingual support.
- Builtin upgrade and compare features.

Change Tracking and Change Control

PeopleSoft Application Designer includes change tracking and change control features so that you can manage your adaptations and upgrades as an integrated part of your development process. You can enable change tracking, change control, or both.

Change Tracking Change tracking automatically audits changes to PeopleTools definitions that you make using PeopleSoft Application Designer. This enables you to identify the definitions that you have changed. This automatic audit helps to document and simplify the upgrade process.

Change Control Change control adds an additional level of control over who can make changes and how much information is captured about each change. Definition locking controls access to definitions. Locking a definition (such as a page) gives you exclusive control of that definition to make changes; however, other users can view it.

You control these features by using options in the Tools menu, Change Control Administrator dialog box.

See Also

Chapter 19, "Using Change Control," Understanding Change Control Features, page 423

Using PeopleSoft Application Designer

This section provides an overview of the eight steps of application development and describes how to:

- Start PeopleSoft Application Designer.
- Use the Application Designer window components.
- Set PeopleTools Options

Understanding the Eight Steps of Application Development

Application development is a systematic process. Between the design and implementation of the application, you define and build application definitions, establish relationships, implement security, and test every aspect thoroughly. When developing in the PeopleSoft environment, it is helpful to look at the development phase as an eight step process:

1. Design the application.
2. Create field definitions.
3. Create record definitions.
4. Build the application data tables.
5. Create page definitions.
6. Define components.
7. Register the components.
8. Test the application.

Step One — Designing the Application

Create a development plan. The first phase of development in any environment is always planning. It is not uncommon that 80% of the effort is spent on designing a solid plan before taking the first step. In PeopleSoft, you will need to fully understand the other seven steps of development to do a good job of planning. When you are finished planning, you should have a business requirements document of the tables required and the relationships between them, a list of definitions required (fields, records, and so on) complete with detailed specifications and naming conventions, mock-ups of the page layouts, and the navigational hierarchy to give users access to the pages you create.

Step Two — Creating Field Definitions

Field definitions in PeopleSoft are slightly different from other environments. Fields are defined apart from any tables they may belong to and can be re-used in any number of separate database tables. The field definition is the basis for all the steps that follow.

Step Three — Creating Record Definitions

PeopleTools-based applications are table-based systems. When creating a record definition, you are actually defining two layers of information: the record level and the field level. At the record level you determine the structure of the database table and the ultimate purpose of the record definition as well as how it will be used in the system. At the field level, you determine the characteristics of the fields and any online processing that you want to occur behind the scenes when a user enters data.

Step Four — Building the Tables

Once you define the record definition you must create or *build* the underlying SQL tables that house the application data that your users will enter online in the production environment. This Build process is the centerpiece of the data administration features in PeopleSoft Application Designer. The build process takes all of the properties of a record definition and creates a database table from it. Unless this step is taken, there is no table in the database to accept application data.

Step Five — Creating Page Definitions

Pages are the user interface for the application where you present the data to the users and enable them to enter data into the application data table created in the previous step. In this step you add page controls to a page and that you associate with record fields and configure the display of the page. The page is presented to the user in a browser window as HTML.

Step Six — Creating Component Definitions

Component definitions represent complete business transactions in PeopleSoft applications and are central to navigation and security access. A component holds one or more pages that the user navigates between using tabs or links. Here you define the search record and search attributes, processing mode, and toolbar buttons that display at the bottom of each page in the component.

Step Seven — Registering the Component

The Registration Wizard makes registering a component easy. In this step you accomplish several things: attach the component to a menu, assign security access for users, and place navigational links in the registry. Once you register a component, the user interface is complete and you can view the application in the browser.

Step Eight — Testing the Application

The final step of application development is to thoroughly test the application before delivering the finished product to users. It is important to test all aspects of the application by opening the transaction in your browser and entering test data into the application. As issues arise you can cycle back through each of these steps to resolve them.

Starting PeopleSoft Application Designer

Open PeopleTools from the Start menu. Or, if you have set up a shortcut on your desktop you can open the application from there. At the PeopleSoft Signon dialog box enter the Application Server Name, User ID, and Password. PeopleTools opens automatically to PeopleSoft Application Designer.

Note. Certain PeopleSoft utilities require setting an environment variable, PS_SERVER_CFG, to run properly. However, PeopleSoft Application Designer isn't compatible with PS_SERVER_CFG being set. Before you start PeopleSoft Application Designer, you must ensure that PS_SERVER_CFG is not set. You can make this convenient by using a DOS batch file to unset PS_SERVER_CFG, launch PeopleSoft Application Designer, then after PeopleSoft Application Designer exits, reset PS_SERVER_CFG to its previous value.

In addition to launching PeopleSoft Application Designer from the Start menu, you can also do so using the command line syntax and the available parameters listed here.

PeopleSoft Application Designer offers a variety of command-line parameters that you can use to control the database to which it connects. By using these parameters, you can automatically navigate to the part of the system that you need.

Use the values from the following tables when specifying certain parameters.

Syntax

The following command line syntax applies to all actions identified in this chapter:

PSIDE [-parameter value [-parameter value . . .]]

Use this command line syntax to start PeopleSoft Data Mover:

PSDMT [-parameter value [-parameter value . . .]]

You can include as many or as few parameters as you need.

Each parameter starts with a hyphen (-) or a forward slash (/). The value for each parameter follows the hyphen or slash, separated by zero or more spaces. In general, the value doesn't need to have quotation marks around it, even if it has internal spaces—the system treats all text following the parameter as part of the value, up to the next parameter or the end of the command line.

Note. You must enclose a value in quotation marks only when it includes a hyphen or forward slash, or to include leading or trailing spaces. If the value itself includes a quotation mark character, precede the double quote with a backslash (\).

Available Parameters

The available parameters for PSIDE.EXE fall into two general categories:

- Parameters providing login information.
- Parameters setting general options.

If the command line includes login parameters, it uses them only if no PeopleSoft applications are currently running. If a PeopleSoft application is already running, the system starts a new instance by using the same login information as the active instance.

This table lists all of the available parameters:

Parameter	Value	Description
-CT	Database type	Enter the type of database to which you are connecting. Valid values are ORACLE, INFORMIX, SYBASE, MICROSFT, DB2ODBC, and DB2 UDB for Linux, UNIX, and Microsoft (note the spelling of MICROSFT).
-CS	Server name	Enter the name of the database server for the database that you're connecting to. This setting is required for some database types.
-CD	Database name	Enter the name of the database to which you are connecting, as you would enter it into the PeopleSoft Login dialog box.
-CO	User ID	Enter the PeopleSoft user ID to log in with.
-CP	Password	Enter the password for the specified user ID.
-CI	Connect ID	Enter the ID that is used to connect to the database server.
-CW	Password	Enter the password for the specified connect ID.
-SS	NO	Use to suppress the display of the PeopleSoft splash screen. Any other value causes the splash screen to display.
-SN	NO	Use to suppress the sound that plays when you sign in to the PeopleSoft system. Any other value causes the sound to play.

Parameter	Value	Description
-QUIET	(none)	Use to run in quiet mode, so that no message boxes appear.
-HIDE	(none)	Use to hide the PeopleSoft Application Designer interface.

Example

This command line statement starts PeopleSoft Application Designer and signs in to the DEP7TST database:

PSIDE -CT MICROSFT -CS SEPNTDB05 -CD EP7TST -CO VP1 -CP VP1

Using the PeopleSoft Application Designer Window Components

The PeopleSoft Application Designer window includes these six main elements:

Element	Description
Title bar	Displays the name of the open project and active definition.
Menu	Provides access to PeopleSoft Application Designer commands and features.
Toolbar	Displays buttons that are useful in editing the active definition.
Project workspace	Provides a graphical representation of the components that are contained in a project. The project workspace has two folder tabs: • Development View. • Upgrade View.
Definition workspace	Displays individual definitions that you open.
Output window	Contains the output text from PeopleSoft Application Designer operations, such as Build (SQL Create and Alter), Find Definition References, Upgrade, Results, Validate, and PeopleCode Log.

Note. PeopleSoft recommends that you maximize the Application Designer window to make optimal use of the different workspaces.

Application Designer Window Menus

This section reviews the general PeopleSoft Application Designer menus. Specific menus appear for each individual definition when it is open and active. Those menus are covered in the sections about each definition.

Note. The menu commands that display from each menu often depend on the type of definition that is open in the definition workspace. Those menu items are described in the corresponding chapters.

In addition to the standard MicroSoft Windows File menu commands, there are several PeopleTools specific commands. This table lists the PeopleTools related File menu commands:

File Menu Commands	Usage
Save Project	Save the project.
Save Project As	Save the active project definition. This enables you to change the name of the project as you save it.
Print Project	Print an Upgrade Project report for all the elements in the open project.
Merge Projects	Create a new project from selected definitions of two existing projects.
Project Properties	Edit properties for the open project.
Definition Properties	Provide general comments and change attributes for the active definition. You can change attributes for Use, Type, and Internet properties depending on the definition type.
View Report	View a report of the definition in an open window in the workspace.
Report from File, Print Preview	View a print preview of a selected report file that is saved to a disk.
Report from File, Print	Print a selected report file from a disk.
Report from File, View Report	View a report from a selected report file that is saved to a disk.
List of last opened definitions	View and open one of the last five opened definitions.

In addition to the standard MicroSoft Windows based commands, such as Cut and Paste, there are two PeopleTools specific commands, as listed in the table below.

Edit Menu Commands	Usage
Find Definition References	Search for all related definitions and references (fields, records, pages, PeopleCode, and so on) to the current open definition. The results appear on the Display window: Find Definition References tab.
Find in	Search through all PeopleCode or SQL programs for a text string that you describe in a dialog box. You can also specify which type of PeopleCode and SQL programs to search.

This table lists View menu commands:

View Menu Commands	Usage
View Definition	View a definition that is referenced in the active definition. For example, if you highlight a record field in a record definition, selecting this option opens the selected field definition.
View PeopleCode	View PeopleCode characteristics of the active definition.
Filtering	Select a filter option for your view of upgrade: • No Filtering. • Selected for Upgrade Action. • Not Selected for Upgrade Action. • Custom Filtering.
Toolbar	Activate and deactivate the toolbar.
Status Bar	Activate and deactivate the status bar.
Project Workspace	Activate and deactivate the project workspace display.
Output Window	Activate and deactivate the output window display.

This table lists Insert menu commands:

Insert Menu Commands	Usage
Current Definition into Project	Insert the active definition into the project.
Definitions into Project	Display a dialog box to insert definitions into the project.

Build Menu Commands	Usage
Current Definition	Display a dialog box to build or alter the record definition that is currently active in the definition workspace.
Project	Display a dialog box to build (SQL Create and SQL Alter) all records in the project.
Settings	Display a dialog box in which you set parameters that apply to build operations.

This table lists the Debug menu commands:

Debug Menu Commands	Usage
PeopleCode Debugger Mode	Start the PeopleCode Debugger, invoking a debugging session and causing a full Debug menu to appear. When in Debugger mode, a Local Variables pop-up window displays in the definition workspace. See *PeopleTools 8.4 PeopleBook: PeopleSoft PeopleCode Developer's Guide*, "Debugging Your Application."

This table lists the Tools menu commands:

Tools Menu Commands	Usage
Validate Project	Validate attributes of the active project.
Compile All PeopleCode	Validate all of the PeopleCode in the current database.
Compile Project PeopleCode	Validate the PeopleCode in the current project.
Compare and Report	Compares two projects and reports on the differences.

Tools Menu Commands	Usage
Copy Project	Copy the current project to a database or a file, or export a project from a file to your database.
Data Administration	Open dialog boxes that describe space allocation in the database.
Change Control	Open dialog boxes to view history or set systemwide change control options as the administrator.
Upgrade	Upgrade an application project.
Translate	Translate base and operator language databases.
Miscellaneous Definitions	Set custom field formats, toolbars, colors, styles, access profiles, and file type codes.
Bulk Operations	Insert, modify, or delete certain definition types across your entire database in one operation.
Options	Select commands specifying insertion commands, definition language preference, validating options, PeopleCode fonts, definition owner ID, and more.

This table lists Window menu commands:

Window Menu Commands	Usage
Cascade	Cascade all of the definitions that are not minimized in the definition workspace into overlapping layers of definitions with the definition names visible.
Tile	Reorganize and resize all of the definitions that are not minimized in the definition workspace so that they are all visible and do not overlap.
Arrange Icons	Neatly group together all of the minimized definitions in the definition workspace.
Close All	Close all of the definitions in the definition workspace.

This table lists Help menu commands:

Help Menu Commands	Usage
Current Window	Provides context-sensitive help that is related to the active window by opening the appropriate PeopleBook in the appropriate location.
PeopleBooks Library	Takes you to the PeopleSoft Online Library (the online documentation for PeopleTools and the PeopleSoft applications that you have licensed).
About PeopleTools	Displays the PeopleTools release level, application release, user ID, database name, database type, and application server name.

Application Designer Window Toolbar

In addition to the standard MicroSoft Windows toolbar button commands, such as cut, paste, and save, there are several PeopleTools specific commands. The command name appears in parentheses following the description.

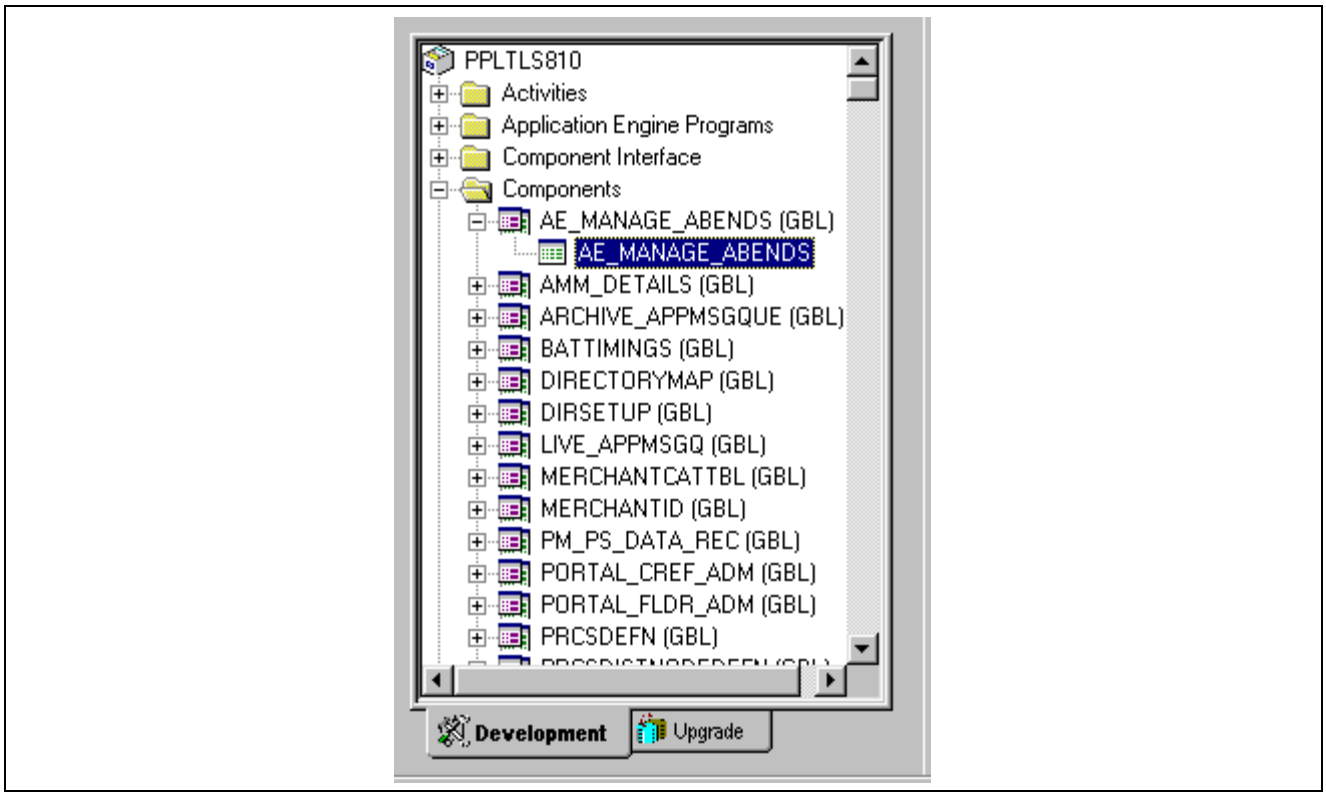
Open the Definition Properties dialog box (File, Definition Properties).

Open the Build dialog box (Build, Current Definition).

Toggle the display of the project workspace (View, Project Workspace).

Project Workspace

View projects and their associated definitions in the project workspace. A project organizes a collection of definitions in logical groups for easier development, adaptation, maintenance, and upgrade.



Project workspace shown with a project open

Work with a development project or an upgrade project by selecting either the Development tab or the Upgrade tab at the bottom of the project workspace.

The text on the Development and Upgrade tabs might not appear if there is not enough room to display it onscreen.

Definition Workspace

Use the definition workspace to create and modify definitions, which can be maximized, minimized, cascaded, or tiled in the workspace.

Output Window

The output window displays status messages of various PeopleSoft Application Designer operations. The output is organized into different categories by using tabs at the bottom of the window.

The text displayed in the output window is context-sensitive, enabling you to select it to perform related operations. For example, if you have a field definition open, select Edit, Find Definition References to list the definitions that reference the active field definition. The list appears in the output window. Then, double-click any of the related definitions listed to open them.

The output window contains several tabs that relate to numerous functions that you can perform with PeopleSoft Application Designer:

Tab	Usage
Build	Create tables, indexes, and views, and alter tables. If you select the *Log to Output Window* option in the Build settings, then errors, warnings, and informational messages appear here. You can control the level of detail that appears.
Find Definition References	View definitions that are used or referenced by other definitions. Double-click a definition to open it.
Upgrade	View upgrade actions that are initiated from PeopleSoft Application Designer.
Results	View messages related to project operations, like opening a project or inserting definitions into the project.
Validate	Validate projects and components, and view the results.
Find in	View the Find Indialog box output. Double-click a definition to open it. The Find In search can be limited to a specific project, rather than the entire database.
PeopleCode Log	View errors that you receive when you're in the debugger stepping through code.

Setting PeopleTools Options

You can set preferences for various features in the Options dialog box. Access the Options dialog box from the Tools menu. There are seven tabs in the dialog box, each impacting a different area of PeopleSoft Application Designer. Most of these options are described in further detail in other, more relavant areas of the PeopleBooks documentation. The table below provides a very general description of each tab and a link to further details about the options therein:

Project Set various project options.

See Chapter 3, "Working With Projects," Setting Project Options, page 55.

Validate Use this tab to set project validation options and to activate the spell check feature for PeopleSoft Application Designer.

See Chapter 3, "Working With Projects," Validating Projects, page 56.

See Chapter 2, "Using PeopleSoft Application Designer," Enabling Spell Check, page 40.

Editors Set Word Wrap options for the various editors in PeopleSoft Application Designer.

See *Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Developer's Guide*, "Using the PeopleCode Editor".

See *Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Developer's Guide*, "Using the SQL Editor".

General

Set the Undo/Redo Buffer Depth. This option determines how many layers of editability you have in the PeopleSoft Application Designer. The default value is 10. This means that you can "undo" up to 10 immediately previous actions taken, such as adding or deleting page fields from a page.

Set the Maximum Most Recently Used Definition. The most recently used definitions appear at the bottom of the File menu. The default value is 5.

Choose the destination you would like for your report output in the Report Output Directory field.

Owner Id

Set the default owner Id for new definitions you create. Alternatively, leave the option blank, the default, to allow users to select the owner Id they wish. The Owner Id helps identify which applications team last made a change to a definition.

Image

Set the preferred storage format for newly created image definitions.

See Chapter 15, "Creating Image Definitions," Specifying the Image Storage Format, page 367.

Browser

Enter here the base URI to be used by the browser to locate the application and the node name.

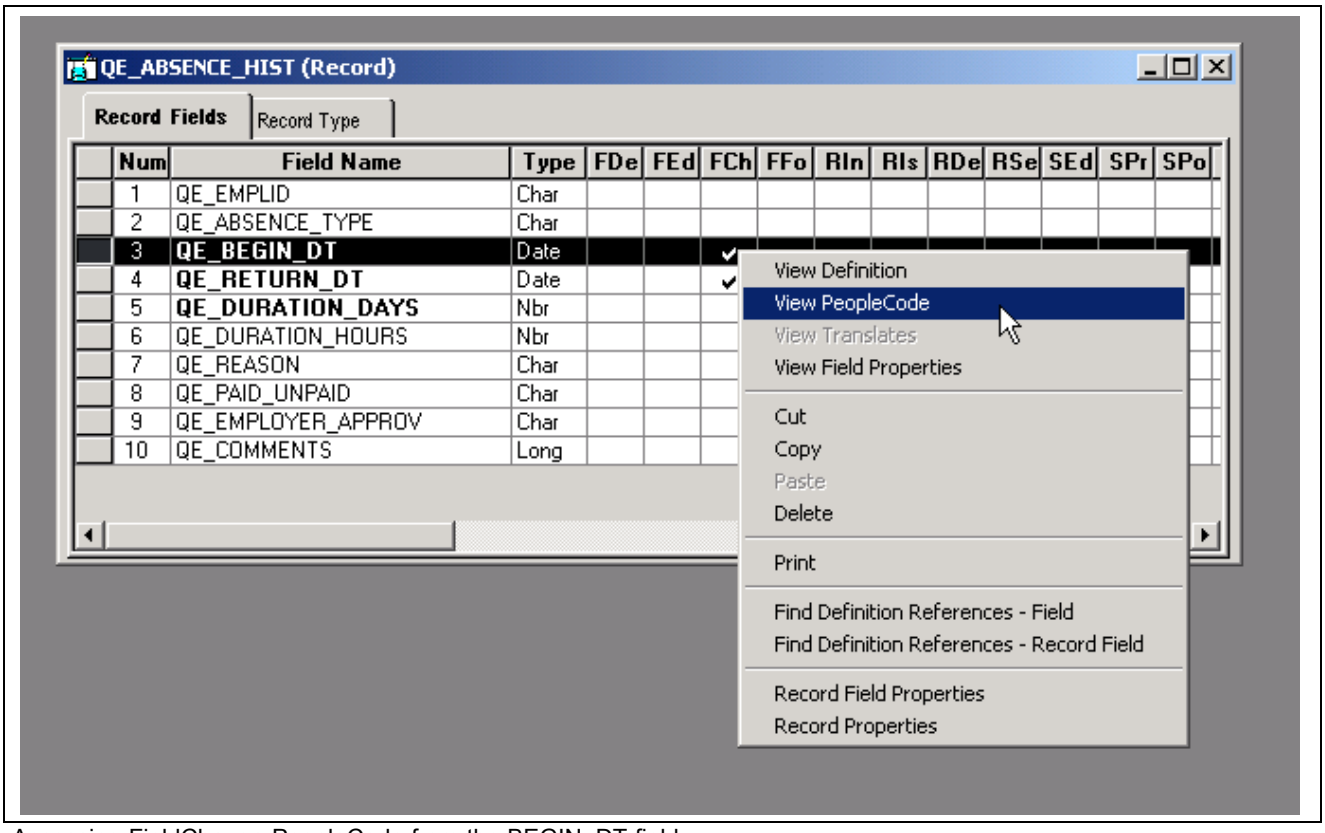
See Chapter 2, "Using PeopleSoft Application Designer," Configuring Browser Options, page 41.

Working with PeopleCode

This section provides a brief explanation of working with PeopleCode and discusses the main development editors.

PeopleCode is the structured programming language built into PeopleTools that extends the functionality of the PeopleTools environment. All PeopleCode programs are associated with a parent definition. These PeopleCode programs are considered part of the definitions of their parent components and you edit them as part of the definitions.

PeopleCode programs can be associated with many items, such as record fields, pages, components, and application messages. You can access any PeopleCode program from its related definition. As an example, one of the ways to access PeopleCode from one of the many places that PeopleCode is stored is to access Record Field PeopleCode from an open record definition.



Accessing FieldChange PeopleCode from the BEGIN_DT field

To view Record Field PeopleCode from PeopleSoft Application Designer:

1. Open a record definition in PeopleSoft Application Designer.
2. Click the View PeopleCode toolbar button to view the PeopleCode display for the record.
3. Select a field containing PeopleCode in the record definition.
4. Double-click the cell under the column heading for the type of PeopleCode that you want to view.

   You can also right-click on a definition and use the pop-up menu to access or view the PeopleCode.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Developer's Guide, "Accessing PeopleCode and Events"

Using the Development Editors

This section describes the three main development editors:

- SQL editor
- PeopleCode editor
- Application Packages editor

SQL Editor

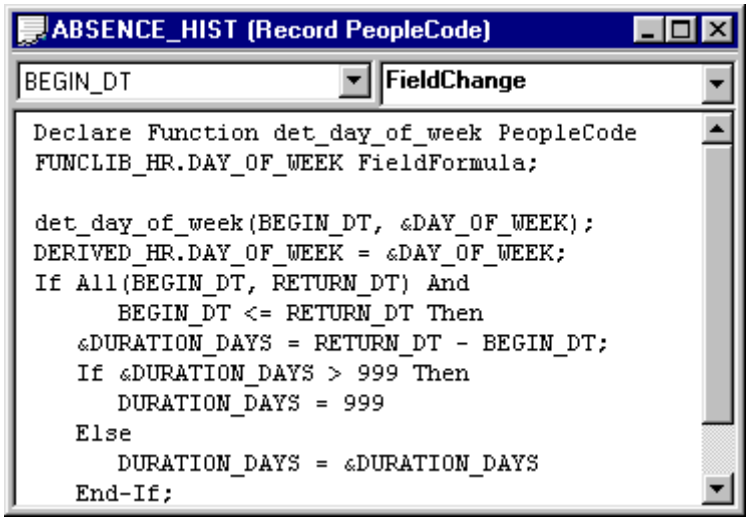
The SQL Editor is a tool that enables you to construct SQL definitions. SQL Editor has a similar look and feel to the PeopleCode editor. You can access SQL Editor from these definitions:

- Records that are based on SQL and dynamic view.
- PeopleSoft Application Engine actions.
- PeopleCode editor.

PeopleCode Editor

Any method of accessing PeopleCode programs displays a window where PeopleCode programs can be input or modified. This window is the PeopleCode editor. The PeopleCode editor enables you to edit and navigate all PeopleCode programs that belong to the same parent definition.

On the left side of the window is a drop-down list box showing the current field and other available fields, records, and components. Any field with PeopleCode attached is listed in bold. The right side of the window has a drop-down list box listing the current PeopleCode event and other acceptable events for that definition. Events already containing PeopleCode for that definition are listed in bold.



Working in the PeopleCode editor

Application Packages Editor

From an Application Package you can access the PeopleCode programs that are associated with the classes of the package. The Application Packages editor and the PeopleCode editor interfaces are similar. You can add, delete, and change text: you can use the find and replace function; you can validate the syntax. When you save your application package, the code is automatically formatted (indented and so on), just as it is in the PeopleCode editor.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Developer's Guide, "Using the SQL Editor"

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Developer's Guide, "Using the PeopleCode Editor"

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Developer's Guide, "Creating Application Packages and Classes"

Working with Definitions

This section provides as overview of definitions and discusses how to:

- Open definitions.
- View definitions.
- View and edit definition properties.
- Create definitions.
- Save definitions.
- Close definitions.
- Rename definitions.
- Delete definitions.
- Find definitions.

Understanding Definitions

You can create or modify many types of definitions in PeopleSoft Application Designer. This table lists development definitions:

Definition	Description
Activity	Workflow map showing the individual steps, events, and routings that comprise a complete activity in a business process.
Analytic Model	Analytic models are used exclusively with the PeopleSoft Analytic Calculation Engine. See *Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft Analytic Calculation Engine*, "Designing and Editing Analytic Models".
Application Engine	Program comprising SQL statements and PeopleCode programs to run in batch mode as an alternative to using COBOL or SQR programs.
Application Package	Used to create Application Classes, which could be used to either extend the functionality of existing PeopleTools classes (Rowset, Array, and so on) or to create your own classes.
Approval Rule Set	Workflow maps that provide a visual representation of approval rules. Virtual Approver reads approval rule sets to determine who must approve transactions.

Definition	Description
Business Interlink	Provides a gateway between PeopleSoft applications and the services of an external system.
Business Process	Workflow maps that provide a visual overview of the activities involved in a procedure.
Component	Represents a logical business transaction or a set of logically related pages that are processed together.
Component Interface	Externalizes access to a component so that it can be used by a third party or an application message.
Field	Individual pieces of data—such as an employee ID—that can be entered by the user and stored in the database, in a column on a table, or in a view.
File Layout	Definition (or mapping) of a file to be processed. It identifies where data fields are located in a file.
HTML	Definition that represents static HTML that can be inlcuded on a page definition.
Image	Stores and displays images, such as employee photos, product pictures, and so on.
Menu	Enables access to the components that you build and the pages contained in the components.
Message	Based on a multilevel structure, similar to components, that defines the data to insert into the application message at runtime.
Message Channel	These correspond to groups of message definitions and help order messages properly, enhance scalability, and provide a simple way to define processing characteristics of many similar messages as a single group.
Mobile Page	A PeopleSoft Pure Internet Architecture page based on a synchronizable component interface for display on disconnected mobile devices, such as laptops or PDAs.
Page	Pages provide a way to enter, view, and edit data online. The system validates user input, writes it to the database, and retrieves and displays it upon request.

Definition	Description
Project	User-defined collection of related definitions created for developing, adapting, or upgrading a PeopleSoft application.
Problem Type	Used in optimization to tie the optimization application records, the optimization transactions, and the optimization plug-in together as one entity.
Record	All of the data that resides in PeopleSoft applications is stored in tables, or records, as part of a relational database system. Each record definition describes the properties of an underlying SQL table.
SQL	Can be entire SQL programs or fragments of SQL statements that you want to reuse.
Style Sheet	Collection of styles that can be used by PeopleSoft Pure Internet Architecture application pages.

Opening Definitions

Use the definition workspace when accessing or creating definitions.

To open a definition:

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

   The Open Definition dialog box appears.
2. Select the type of definition that you want to open from the Definition drop-down list box.
3. Provide selection criteria.

   Enter a definition name or description (or the beginning characters of either). Other selection criteria options might be available, depending on the definition type.
4. Click Open, or press ENTER, to display definitions matching the selection criteria that you entered.

   To clear the current selection criteria and start over, click New Search. To change how the search list is displayed, perform one of these actions:

   - Click the List button to see only the names of the definitions.
   - Click the Details button to see the names and descriptions, which is the default.
5. Select the definition to open.
6. Double-click the definition that you want to open in the definition workspace, or highlight the definition and click Open.

   You can also use the shift-click selection technique to select more than one definition to open in a single action, or right-click to view a pop-up menu, where you can open, print, rename, or delete the selected definition.

Note. When the definition is open and able to be modified, "Ready" appears in the lower left-hand corner of the workspace.

Viewing Definitions

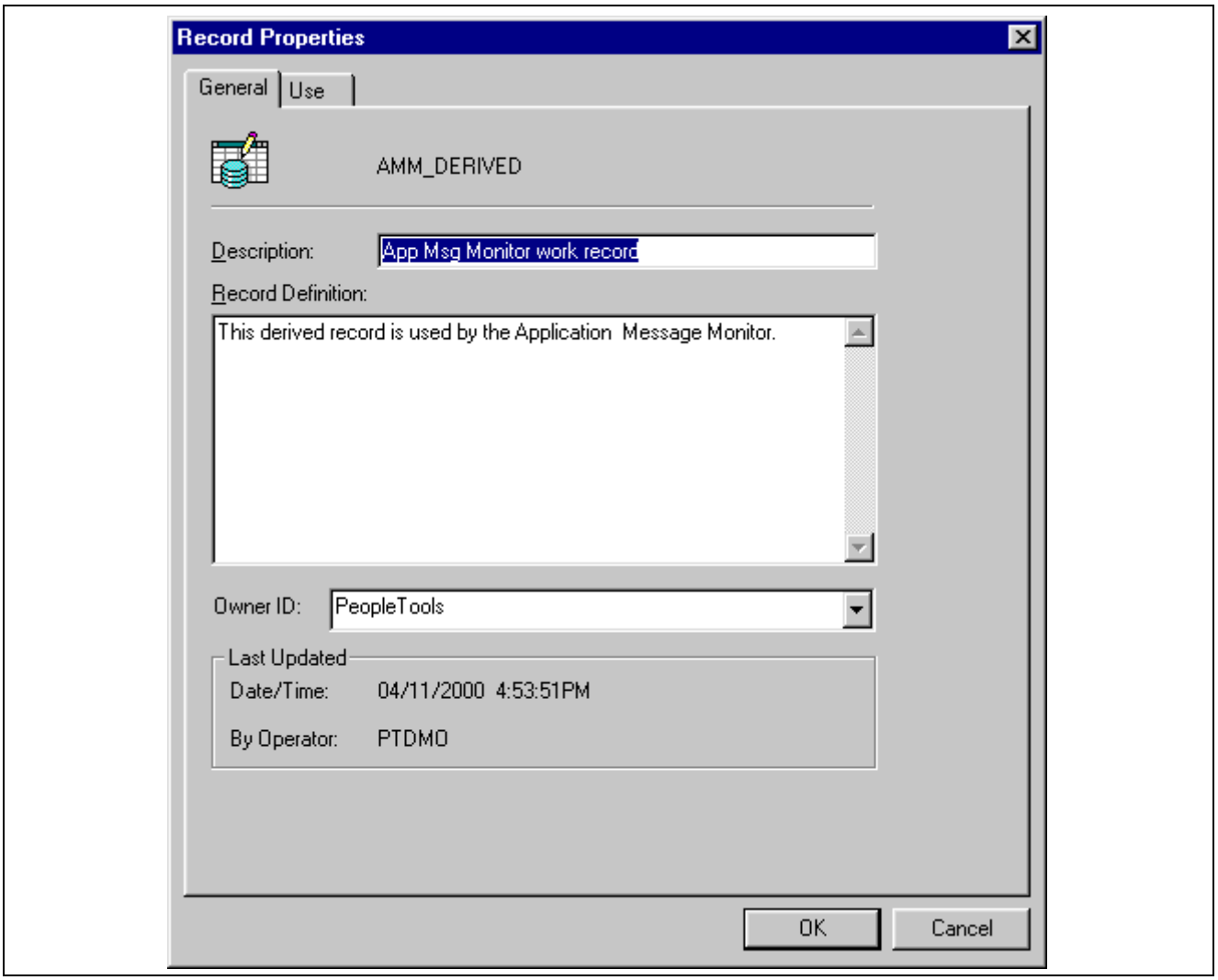
In the project workspace, you can view a definition that is referenced by the active definition.

To view a definition, select View, View Definition. You can also right-click the definition to be referenced and select View Definition from the pop-up menu.

Viewing and Editing Definition Properties

Each definition type has properties that are associated with it. To view or edit definition properties, select File, Definition Properties. You can also click the toolbar button or press ALT+ENTER.or right-click on the definition and select Properties from the pop-up menu.

The Definition Properties dialog box almost always includes a General tab that provides a place to display and enter descriptions and comments regarding the definition. An optional Owner ID drop-down list box is provided to designate the owner of an individual definition. This helps identify which application team last made a change to a definition. Set the default owner ID for new definitions in the Options dialog box, Owner Id tab.



Property sheet example

With PeopleSoft Application Designer, every definition that you can open (menus, pages, components, records, fields, and so on) has an associated property sheet. Definition properties that are specific to the definition type are grouped together in these definition property sheets. For example:

- Record Type and Record Use properties are both found in the Definition Properties sheet for records.
- Translates are found in the Definition Properties sheet for fields.
- Menu groups and menu labels are found in the Definition Properties sheet for menus.
- Search record, actions, and internet settings are found in the Definition Properties sheet for components.

Creating Definitions

When building or adapting an application, try to use existing definitions as much as possible; when that's not possible, create new definitions.

To create a new definition:

1. Select File, New or click the corresponding toolbar button.
2. Select the definition type.

The new definition appears in the definition workspace.

Saving Definitions

To retain the changes that you make, you must save the definition. However, you must name new definitions before you can save them.

To save a definition:

1. Click the Save button on the toolbar, or select either File, Save or File, Save As to save a definition.

   The Save and Save As commands save a single definition. Use the File, Save All command or the Save All toolbar button to save all open definitions at once.

2. If you're saving a page or component, specify the language or market.

   For a page definition, the Language drop-down list box appears; for a component, the Market drop-down list box appears.

Definition Naming Conventions

When naming definitions, use the following guidelines:

- Use only uppercase alphabetic characters (A–Z), numeric characters (0–9), or underscore (_). Other special characters, such as the dash (—), dollar sign, number sign, question mark, and so on, are not permitted.
- Names must begin with an alphabetic character.
- Embedded spaces are not permitted.

  Instead, use an underscore.

- Avoid using accented characters.

  Names containing these characters may not sort consistently, depending on workstation or locale settings, which results in problems during an upgrade

---

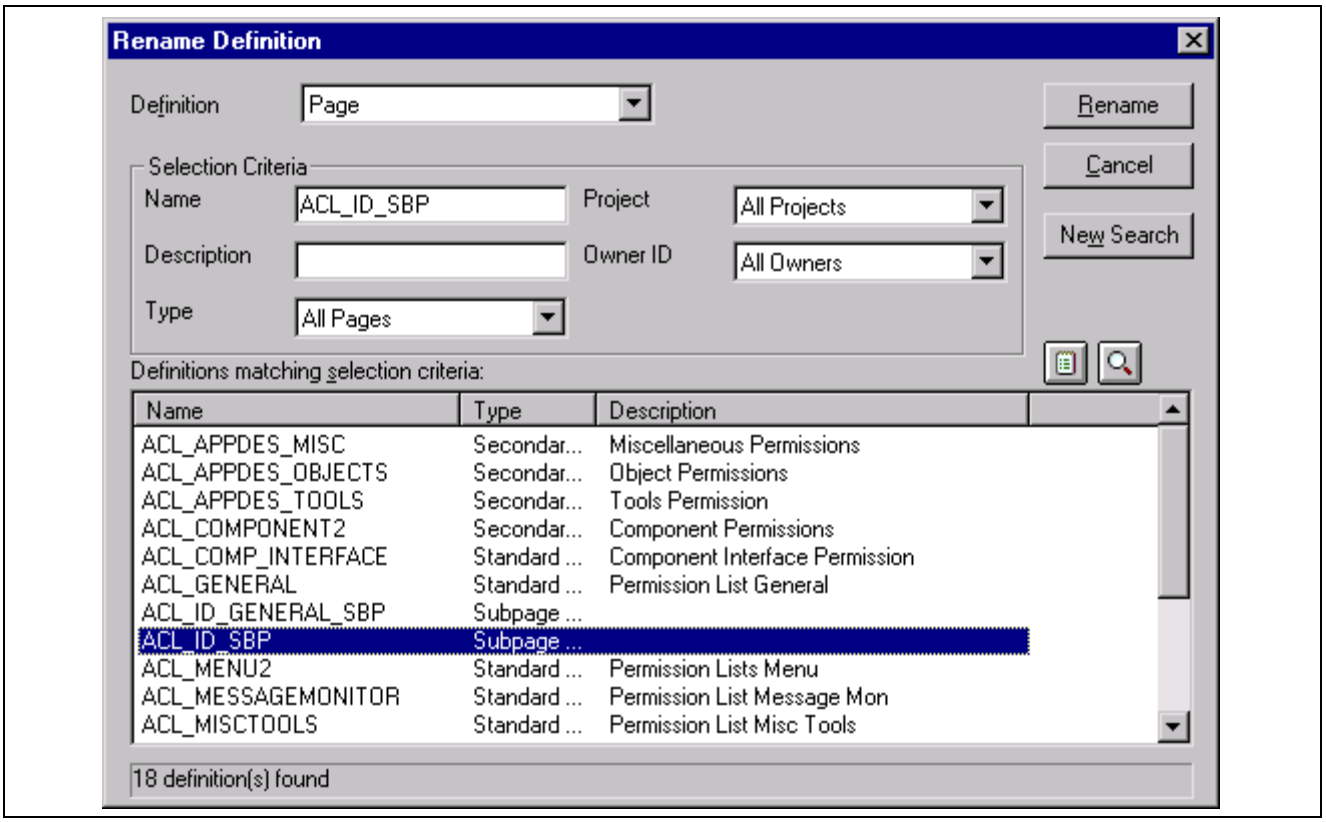
Note. Existing Business Process and Business Process Map definitions may already contain mixed case characters. Nonetheless, newly created definition names must be all uppercase.

Closing Definitions

To close a definition, either select File, Close or click the Close Window icon on the title bar of the active definition's window. You can also select Window, Close All to close all open definitions.

Renaming Definitions

You can rename existing definitions in a database at any time.



Rename Definition dialog box

To rename a definition in the database:

1. Select File, Rename.

   The Rename Definition dialog box looks like the Open Definition dialog box, and you select definitions in the same way.

2. Specify the definition type and any selection criteria that are useful in locating the definition that you want to rename.

   The Rename Definition dialog box does not have a Select button. So, after entering either a partial name or description of the definition, press ENTER to retrieve a list of definitions matching your selection criteria.

3. Select the definition that you want to rename.

4. Click the Rename button in the dialog box and double-click the selected definition, or right -click to select Rename from the pop-up menu.

   The selected definition name in the Rename Definition dialog box is in edit mode.

5. Change the selected definition name and press ENTER.

   You are prompted to close any open definitions, if any are open, before you can save the new name. You are also prompted with a Confirm Rename dialog box before you can save the change.

6. Click OK to complete the renaming of the selected definition.

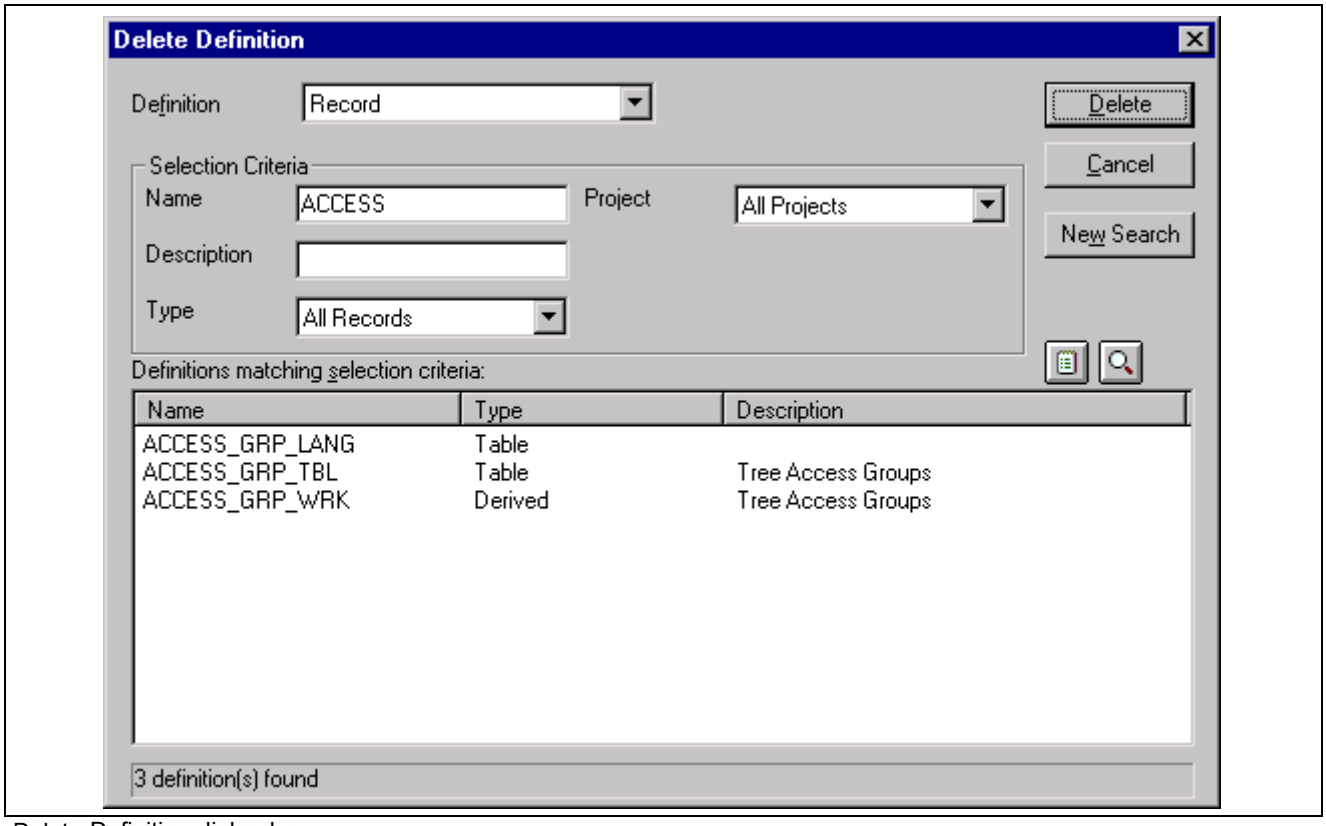
Deleting Definitions

Deleting a definition is different from removing a definition from a project. When you remove a definition from a project, the reference to the definition is removed from the project, but the definition still exists in the database and thus may be a part of any other project. Deleting a definition, however, permanently removes the definition from the database. Any projects or other definitions that contains the deleted definition are affected.

Before deleting a definition you should find all references to that definition by running the Find Definition References process. For example, a field definition that you want to delete may be referenced by both record and page definitions.

Note. If you delete a component definition, you must delete all component interfaces that are based on that definition.

Note. A component definition must contain at least one page. If you attempt to delete a page definition that is the only page definition within a component, the system does not allow the delete to occur and displays an error message. If the page definition is the only page within a component, the error message appears during a File, Delete or during an upgrade copy to database (with a Delete action).



Delete Definition dialog box

To delete a definition from the database:

1. Select File, Delete.

   The Delete Definition dialog box looks like the Open Definition dialog box, and you select definitions in exactly the same way.

2. Specify the definition type and any selection criteria that are useful in locating the definition that you want to delete.

   After entering either a partial name or description of the definition, press ENTER to retrieve a list of definitions matching your selection criteria.

3. Select the definition that you want to delete.

   To select multiple definitions, hold down either SHIFT or CTRL while clicking the appropriate definitions.

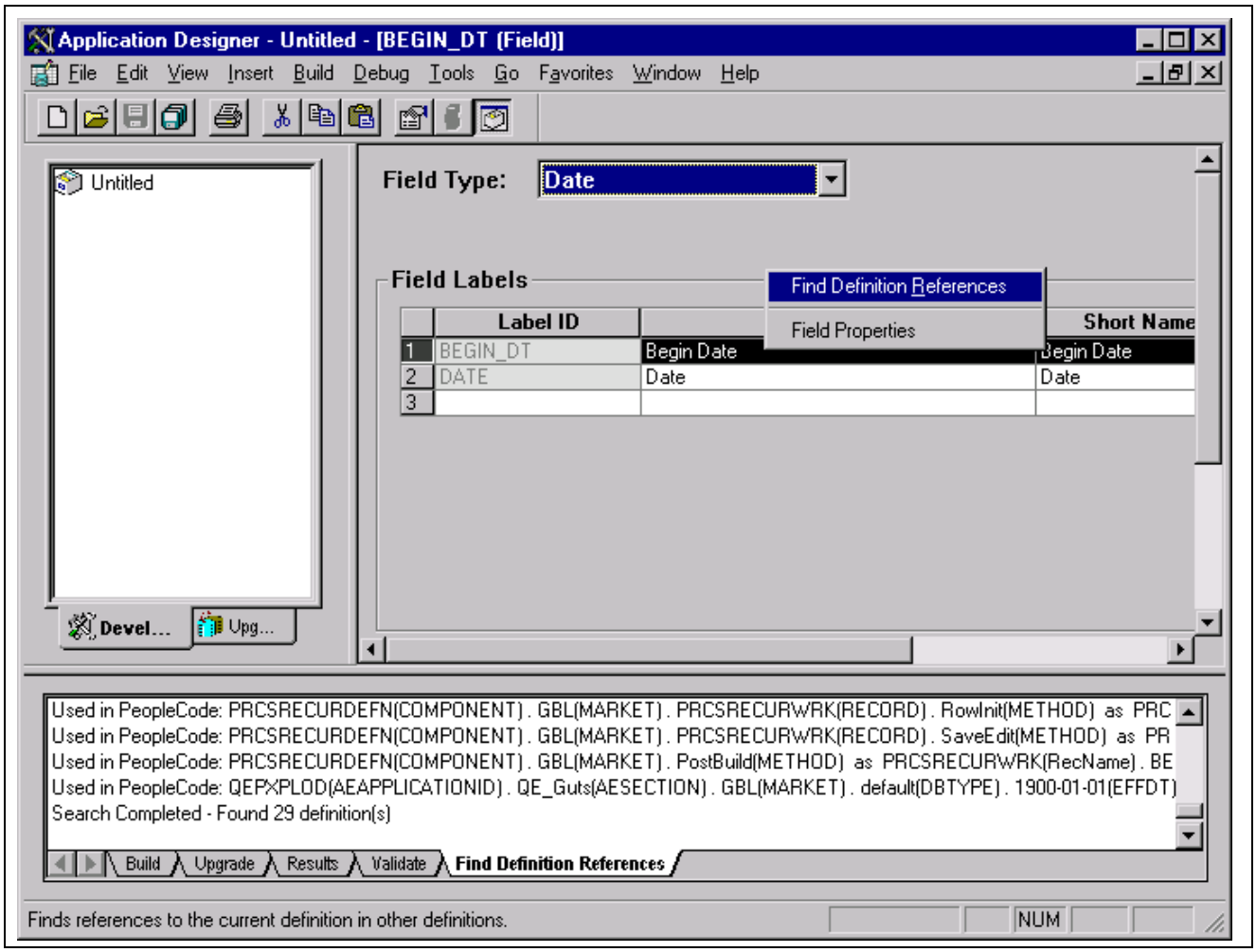
4. Click the Delete button and confirm that you want to delete the selected definition.

Finding Definitions

Before making significant changes, such as deleting a definition, it is critical to see what other parts of the application may be impacted by this change. The Find Definition References feature performs a comprehensive search of the database pinpointing all definitions in which the changed definition is located.

Although a project keeps track of your definitions, the definitions are not actually embedded in the project.

Note. There is a distinction between *related* definitions and *referenced* definitions. A related definition is one that *is used by* the current definition. A definition reference is one that *uses* the current definition. For example, in the case of a component, pages in the component are related definitions. The menus that use the component are its definition references.



Finding definition references

To find definition references:

1. Open the definition in the definition workspace.
2. Select Edit, Find Definition References, or right-click the definition and select Find Definition References from the pop-up menu.

   After you select this item, a search of the database takes place, and the results appear on the Find Definition References tab of the output window.
3. Select any definition that is displayed in the output window by double-clicking it.

   The selected definition opens in the definition workspace.
4. After you find a definition, select the definition reference and right-click to view the pop-up menu.

Note. Double-clicking any entry in the Find Definition References output window opens the appropriate mode of PeopleSoft Application Designer. If you double-click a related record that was found, the record opens, and the field for which you were looking is highlighted.

Using Miscellaneous Definitions

There are several definition types that are different from the standard definitions described above. These definitions control your work environment or have an impact on the other definitions you create. These miscellaneous definitions are found under the Tools menu and include:

- Field Formats.
- System Colors.
- Styles.
- Access Profiles.
- File Type Codes.

Field Formats

PeopleTools has formatting provisions at both the field and page levels. The field format specifications affect internal values that are stored in the database, and the page formats affect the visual presentation of values. There are several formatting options for U.S. Social Security Numbers, Canadian Social Insurance Numbers, postal codes, telephone numbers, and various currencies, dates, and times.

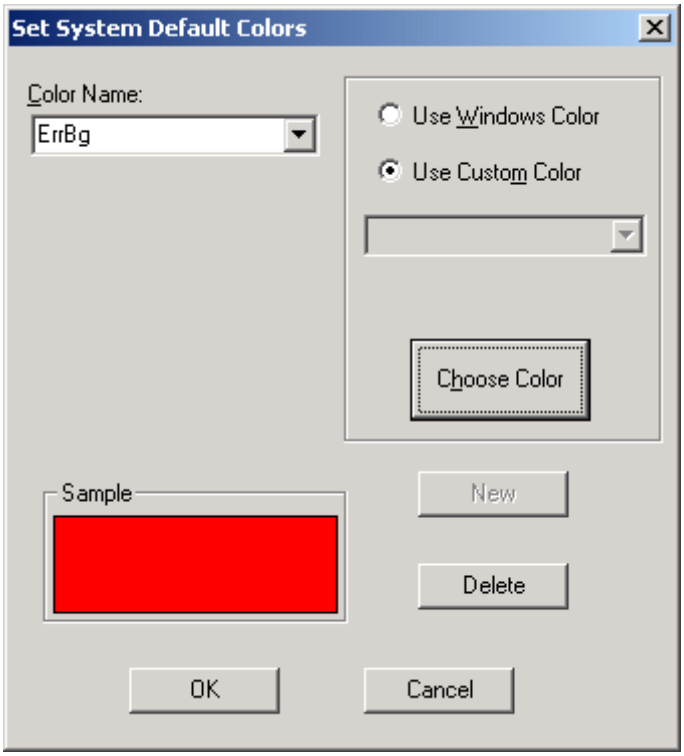
Custom field formats extend these formatting provisions to support the same types of data in other countries. They also support other types of formatted information, such as bank codes, credit card numbers, part numbers, or serial numbers.

Custom field formats enable you to create your own format definitions using format notation and apply them to fields. These formats are organized into format families, which can include one or more unique formats.

See Chapter 4, “Creating Field Definitions,” Changing Format Families, page 77.

System Colors

You can establish definitions for colors you use in your applications. You define colors by associating a color name either with an existing color in the PeopleSoft Internet Architecture or with a custom color that you define. Since taste in color is subjective, PeopleTools allows individual operators to customize their color settings. Users can use the default color definitions you establish in PeopleSoft Application Designer, or they can override them with their own color definitions.



Setting system default colors

To modify the default system colors:

1. Select Tools, Miscellaneous Definitions, System Colors.
2. Select the Color Name you want to modify.
3. To change the color, click the Choose Color button.
4. Choose from the available colors or click Define Custom Colors to create your own color.
5. Click OK.

   The new color displays in the Sample area of the Set System Default Colors dialog box.

To create a new system color:

1. Type a new name in the Color Name field and click the New button.
2. Select the Use Custom Color radio button to select a custom color.
3. Click the Choose Color button.
4. Choose from the available colors or click the Define Custom Colors button.
5. Click OK in both dialog boxes to accept the new color.

Styles and Style Inheritance

You can create and save your own styles in PeopleSoft Application Designer. A style is a set of font and color attributes that can be associated with pages, field labels, field data, and so on. PeopleSoft Application Designer comes with a standard set of attributes called the *System Default Style,* which applies to all pages, field labels, and field data that have not been assigned a specific style. You can define as many custom sets of attributes as you need.

A powerful feature of styles is *inheritance.* It's easier to understand style inheritance if you think of your system as a hierarchy composed of pages that are, in turn, composed of fields. You can apply styles at each level of the hierarchy—sytem-wide, at the page level, or at the indivdual field level. The way style inheritance works is that style attributes that are not specified at the field level are inherited from the page level. If a style is not specified at the page level, the System Default Style is inherited.

The advantage of style inheritance is that it simplifies font and color changes. For example, if you want to change the font of all your pages from "MS Sans Serif" 8 point, bold to "Times New Roman" 9 point, italic, you only need change the System Default Style for all pages and fields that inherit the System Default Style to be updated.

To edit the System Default Style:

1. Select Tools, Miscellaneous Objects, Styles.
2. Select *System Default Style* in the Edit Styles dialog box.
3. Click the Edit button.
4. Make the desired style changes and click OK.

Access Profiles

Access profiles are the security profiles users use to connect to the PeopleSoft database. Detailed information about access profiles is discussed in the Security Administration PeopleBook.

See *Enterprise PeopleTools 8.46 PeopleBook: Security Administration*, "Administering User Profiles," Setting Up Access Profiles.

File Type Codes

You may need to set up file type codes when creating change projects. You create change projects to work with PeopleSoft Application Designer's Change Packager tool to package system customizations in preparation for an upgrade. The file type code stores generic information that is applicable to a group of files within the same target directory.

Using Spell Check

This section provides an overview of the spell check feature in PeopleSoft Application Designer and discusses how to:

- Enable spell check.
- Configure browser options.
- Run spell check on a project.

Understanding Spell Check

The PeopleSoft Application Designer spell check feature checks the spelling for user-facing labels and text in projects and legacy data. Use this feature prior to building your application. Spell check verifies spelling on these items:

- Message Catalog entries.
- Page definitions (label text).

- XLAT tables.
- Component definitions (tab and menu labels).
- Portal registry (labels and attribute labels).
- Record field labels.

Spell Check Results

The system logs spell check results to the Spell Check tab in the PeopleSoft Application Designer output window. The text "Begin Spell Check" is always the first line on the tab. The first line for each spell check category indicates the total number of entries that were checked for that project. The last line in the output window indicates the total misspelled words encountered during the check.

For each spell check category the results may read differently. This table describes how to read the spell check results for each category:

Output by Error Type	
Message Catalog: Message Set www Nbr xxx (yyy) - zzz For example:Message Set 1 Nbr 1 (Message Text) - Distributed Object Mgr: Xelp Xme=Xangage=abc rtz	Where: www = Message set number. xxx = Message number within the message set. yyy = : • Message text, indicating that zzz is the complete message text. • Explain text, indicating that zzz is the complete Explain Text. • Misspelling, indicating that zzz is a misspelled word in either message text or explain text.
XLAT: [vvv.www.xxx] (yyy) - zzz	Where: vvv = Database field name. www = Field value. xxx = Effective date. yyy =: • Long name, indicating that zzz is the complete text for the long name. • Short name, indicating that zzz is the complete text for the short name • Misspelling, indicating that zzz is a misspelled word in either a long or short name.

Output by Error Type	
Component: [vvv.www] Item Name xxx (yyy) - zzz	Where: vvv = Component name. www = Market code. xxx = Item name for the component. yyy =: • Item label, indicating that zzz is the complete text for the component's item label. • Folder tab label, indicating that zzz is the complete text for the component's folder tab label. • Misspelling, indicating that zzz is a misspelled word in either item label or folder tab label.
Portal Registry: [ttt.uuu.vvv] www xxx (yyy) - zzz	Where: ttt = Portal name. uuu = C for content reference, F for folder. vvv = Portal object name. www =: • Empty. • Attribute. • System attribute. xxx =: • Empty if www is empty. • Attribute name if www is attribute. • System attribute name if www is system attribute. yyy =: • Label name, indicating that zzz is the complete text for the Label Name. • Display name, indicating that zzz is the complete text for the display name of an attribute. • Misspelling, indicating that zzz is a misspelled word in either label name or display name.

Output by Error Type	
Field Label: [www.xxx] (yyy) - zzz	Where: www = Field name. xxx = Field label name. yyy = • Long name, indicating that zzz is the complete text for the long name. • Short name, indicating that zzz is the complete text for the short name • Misspelling, indicating that zzz is a misspelled word in either a long or short name.
Page: [www] Field ID xxx (yyy) - zzz	Where: www = Page name. xxx = Field ID within the page. yyy = • Label text, indicating that zzz is the complete text for the field's label text. • Scroll area, indicating that zzz is the complete text for label text within a scroll area. • Misspelling, indicating that zzz is a misspelled word in the label text.

You can launch an identified definition from the output window directly by double clicking the error line. PeopleSoft Application Designer launches the appropriate content to correct the misspelling:

Error Type	Launches
Message Catalog	n/a
XLAT	Field definition.
Component	Component definition.
Portal registry	Browser to display the Content or Folder Administration page.
Field label	Field definition.
Page	Page definition.

Enabling Spell Check

The spell check feature is turned off by default. You enable spell check in the Options dialog box, Validate tab. Enabling the spell check option ensures that spell check is run on the designated project when you validate a project.

To enable spell check in PeopleSoft Application Designer:

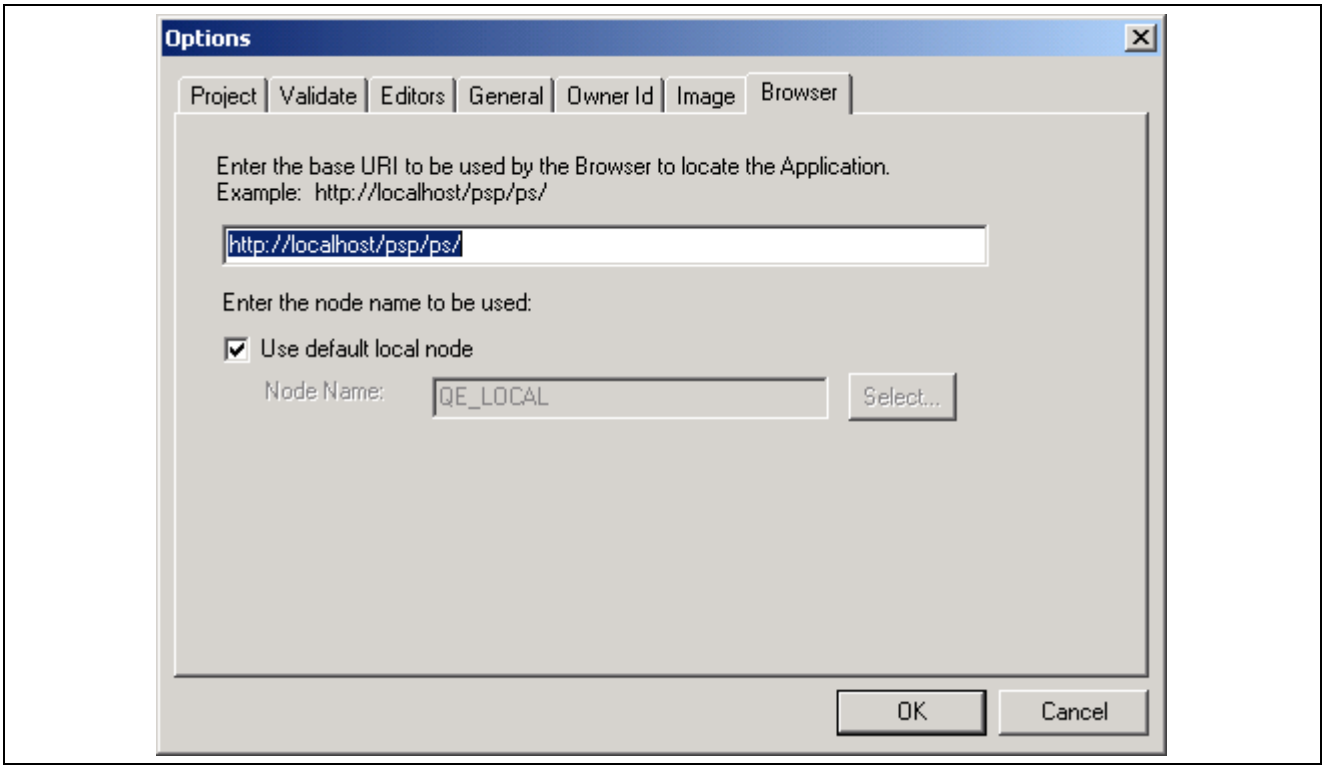
1. Select Tools, Options from the PeopleSoft Application Designer menu.
2. Select the Validate tab.
3. Select the Validate Spelling check box.
4. (Optional) Select the Log to file check box if you want the spell check results to be saved to a file on your system.

   The default file
5. Enter a file name in the File name field or click the browse button to search for a specific file.

   Otherwise, the system applies the default file name of *spellcheck.log* and saves the results to the temp directory. This field is required when the Log to file option is selected.

Configuring Browser Options

The Browser tab on the Options dialog box enables you to specify values that are required to compose a URL for the browser to locate a portal page. Spell check uses the information recorded in this dialog box to launch portal pages from the Spell Check tab in the output window when you double click a portal registry misspelling.



Options dialog box, Browser tab

To configure browser options:

1. Select Tools, Options and click the Browser tab.
2. Enter the base URI or use the default setting.

   This is the URI of the node that hosts the portal.
3. Set the node name that is to be used with the base URI.

The Use default local node check box is selected by default. Clearing this check box enables the Select button, which allows you to set the node name in the Select Node dialog box.

The Select Node dialog box displays the list of available nodes by project. You can perform a search for the appropriate node by clicking the Select button.

Building and Maintaining Data

This section provides an overview of data building and maintenance and discusses how to:

- Create SQL tables.
- Use the multiple document interface (MDI).
- Use drag-and-drop.
- Use pop-up menus.
- Use dynamic toolbars and menus.
- Configuring the environment.

Understanding Data Building and Maintenance

The underlying database definitions must be kept in sync with PeopleSoft definitions. Therefore, from PeopleSoft Application Designer, you must:

- Submit SQL Alter and Create commands for all types of database definitions.
- Manage the database index.
- Manage the table space.
- Manage the DDL model for tables, indexes, and table spaces.

Creating SQL Tables

To access data, you must create a SQL table and then store data in the fields and records. The process of running the SQL necessary to synchronize the database with records, indexes, and DDL is called *Build.*

The Build process processes definitions at these three levels:

- Current record.
- Selected records in the project workspace.
- All records in the project.

See Also

Chapter 7, “Administering Data,” page 131

Using the Multiple Document Interface

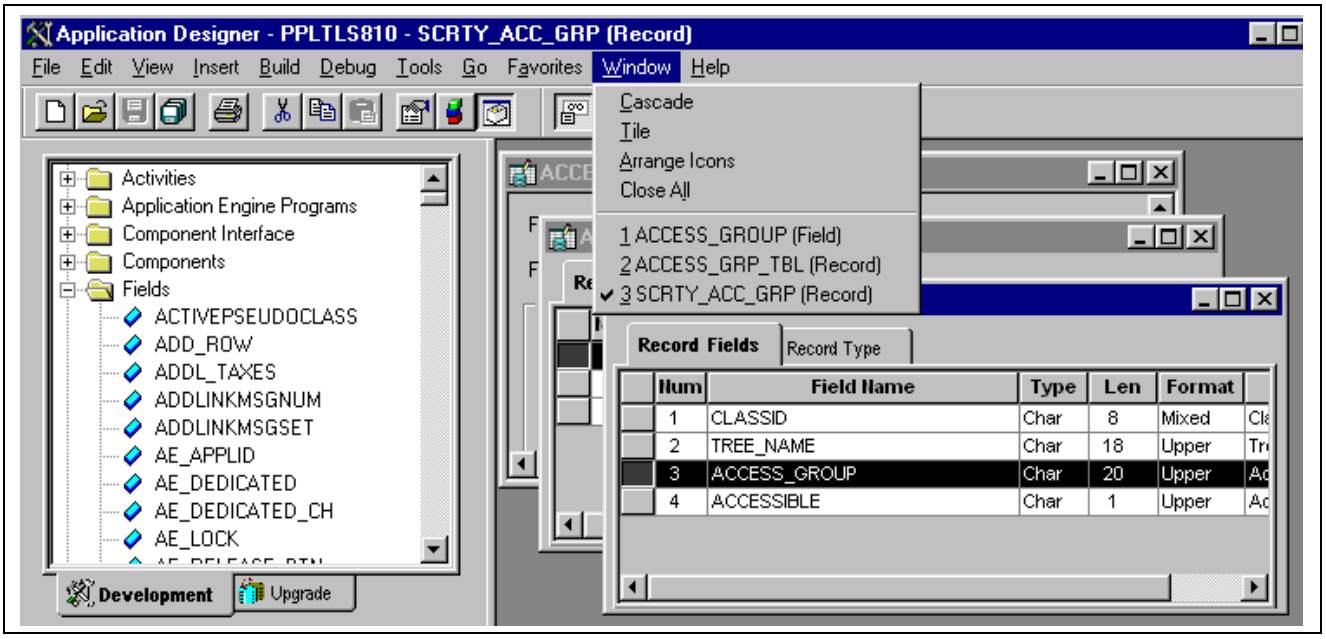
PeopleSoft Application Designer makes use of an MDI. This means that each window in the definition workspace of PeopleSoft Application Designer represents a view of a definition, and you can have multiple windows open at the same time. These definition windows must stay inside the borders of the definition workspace, but they can be maximized, minimized, cascaded, or tiled in that space.

You can have different types of definition windows open at the same time, such as menu, field, record, and page windows. This enables you to work with different definitions simultaneously, simplifying the process of designing a group of related definitions.

Active Windows

Although you can have multiple windows open at the same time, only one window can be active at any moment. Make a window active by selecting it in the definition workspace. The active window always appears on top with the title bar in *active window title* color.

In addition to clicking on a window to make it active, you can also use the Window menu. This menu displays the windows that are currently open with a check mark next to the active one. Change the window that is currently active by selecting it from the menu.



Window menu

Other commands from the Window menu include Cascade, Tile, Arrange Icons, or Close All windows.

Using Drag-and-Drop

PeopleSoft Application Designer makes ample use of drag-and-drop mouse techniques. For example, you can drag a field from a record definition and drop it onto a page definition. You can then drag the page onto a component and drag the component onto a menu. Using the drag-and-drop technique is faster and simpler than using menu commands to manipulate definitions.

To drag and drop a definition:

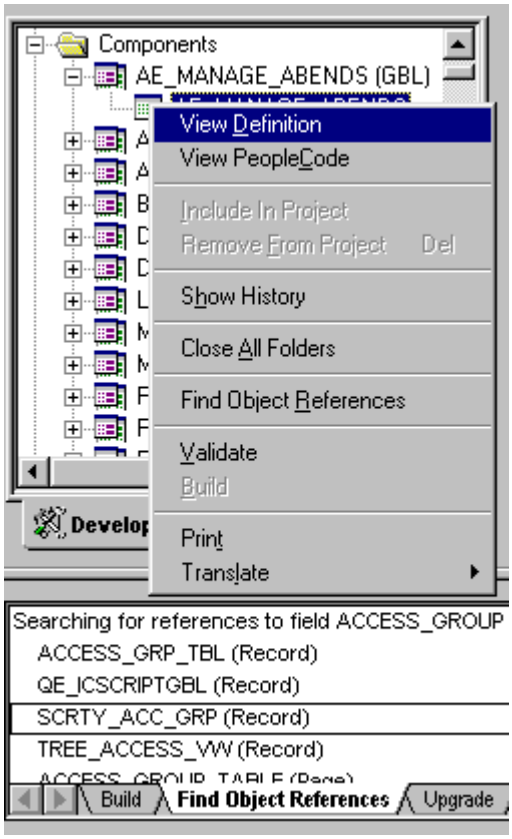
1. Open the definition in either the project workspace or the definition workspace from which you want to drag.

For example, to drag a field from an existing record definition to a new page definition, first open the record containing the field. You can open it in the definition workspace or expand the record in the project workspace so that the fields are displayed. With the appropriate field displayed, you can drag and drop it into another definition.

2. Open the definition to which you want to drag.
3. Drag the definition from one definition to the other.

Using Pop-up Menus

Pop-up menus are context-sensitive menus that appear at the current location of the mouse pointer whenever you click the alternate mouse button (typically, the right mouse button). They provide efficient access to numerous PeopleSoft Application Designer commands. Because pop-up menus appear at the current location of the pointer, they eliminate the need to move the pointer up to the menu bar or to a toolbar. A pop-up menu contains only the commands that apply to the selected definition or the current context.



Component definition pop-up menu

Using Dynamic Toolbars and Menus

The PeopleSoft Application Designer toolbar and menu changes based on the type of definition that is active. For example, when a page definition is active, the toolbar displays buttons that represent the definitions that you can add to a page. This technique is also known as *morphing*.

The change is so subtle that it can be missed easily. This is because the menu bar names are consistent between definition types. However, if you look at the menu items and toolbars closely, you see a distinct difference. For example, if a page window is active, the menus and toolbars change to include actions and options applicable to a page definition—as in the Show Grid option on the View menu and the introduction of the Layout menu. In addition, page-specific toolbars are also displayed.

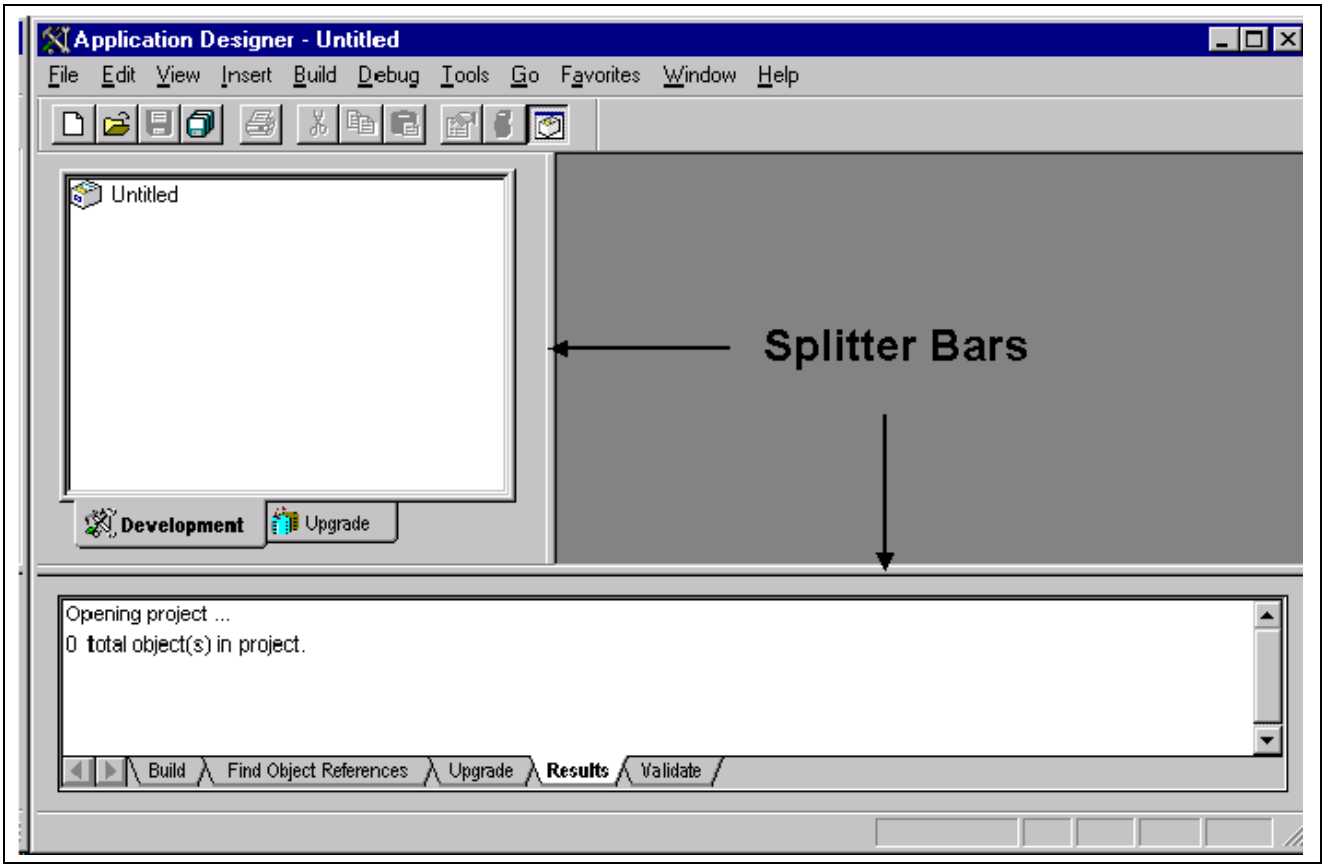
In the same respect, if a record window is active, the menus and toolbars morph to include actions and options applicable to a record definition. For example, different options are available on the View menu (such as View, Field Display, and so on). Different toolbar buttons for record definition actions also appear.

Configuring the Environment

PeopleSoft Application Designer is highly configurable, enabling you to tailor the tool to your needs or preferences.

Splitter Bars

A splitter bar is a thin vertical or horizontal bar that separates windows inside a parent window. Using the splitter bar enables you to resize two windows at the same time. Splitter bars are used between the project workspace, definition workspace, and output window.



Splitter bars used to resize workspace easily

Drag the splitter bar to change the size of the project workspace, definition workspace, or output window.

Dockable Windows and Toolbars

You can freely move PeopleSoft Application Designer windows and toolbars to either anchor (or dock) to parts of the main application window, or to make them float freely anywhere that you want them to appear. When you dock a toolbar or window, you anchor it to the top, sides, or bottom of the main window.

To move or dock a PeopleSoft Application Designer window or toolbar, drag the window title bar or the appropriate toolbar to a new location. If you move the window or toolbar near the top, bottom, or sides of the main window, the window or toolbar snaps into place, meaning that it is docked. However, if you press and hold CTRL and then drag the window or toolbar, you can prevent it from automatically docking when it is near the edge of the window.

Note. Use caution when running the PeopleCode Debugger with undocked windows.

View Menu

The View menu enables you to display or hide different PeopleSoft Application Designer components (such as the project workspace, output window, and toolbar).

CHAPTER 3

Working With Projects

This chapter provides an overview of projects and discusses how to:

- View projects.
- Create and save projects.
- Set project properties.
- Insert definitions into a project.
- Remove definitions from a project.
- Merge projects.
- Use change projects.
- Set project options.
- Validate projects.
- Set system IDs.

Understanding Projects

While not one of the eight steps of application development, using projects is an efficient way to organize your definitions as you develop and configure your application. A project simply keeps track of all definition types as a simple list of definition names; it is *not* where the definitions are stored. Development definitions exist outside of the project in your PeopleSoft database.

You are not required to use projects in PeopleSoft Application Designer; you can create and edit individual definitions without associating them with a project. However, using projects can help you:

- Organize related definitions.
- Understand relationships among definitions.
- Coordinate the work of several developers.
- Streamline upgrade tasks.
- Search for fields or records.
- Access related definitions easily.

Viewing Projects

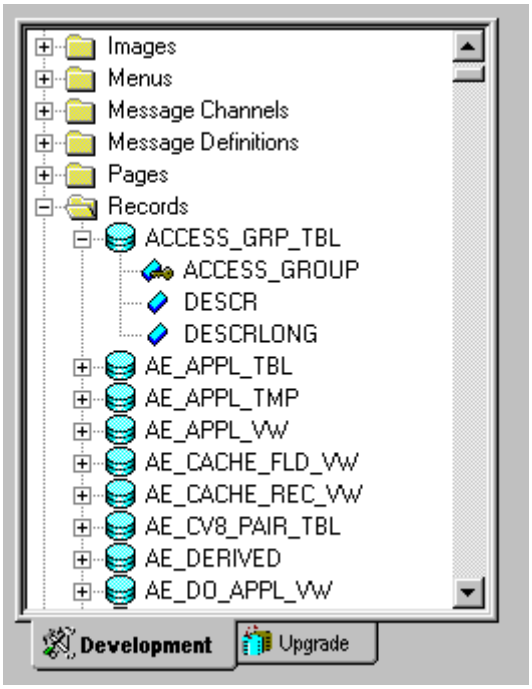
On the left-hand side of your screen, the project workspace displays one project at a time and all of its definitions, making them easily accessible for opening and editing. It includes two views representing the collection of definitions in the project: Development and Upgrade. Switch between the views by selecting the folder tabs at the bottom of the project workspace.

This section discusses how to:

- Access definitions for a project.
- Using the upgrade view.

Accessing Definitions for a Project

In the Development view, the project folder contains a folder for each definition type included in the project. To open folders and view related definitions, click the expand (+) button. Access the definitions for a project by double-clicking the definition.

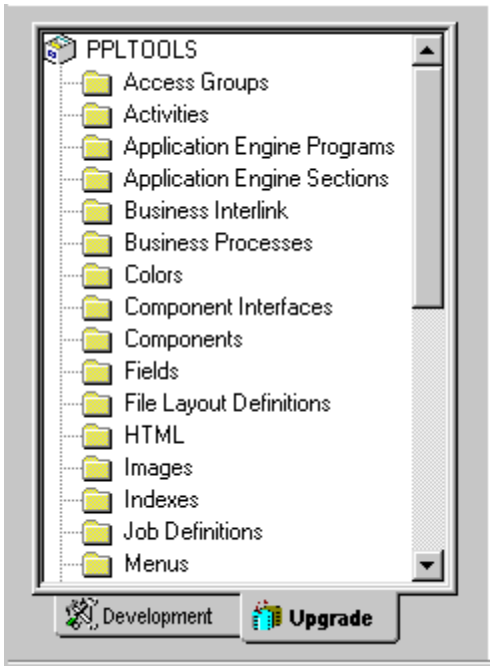


Development view in the project workspace

The definitions appear in a *project tree,* organized by definition type. The project tree enables you to see all definitions associated with the project and their connection, by showing the definitions in an hierarchical format. By expanding definitions that have nested levels, such as records, you'll see the field definitions included in that record.

Using the Upgrade View

The Upgrade view helps to streamline the migration of definitions—such as records, pages, or PeopleCode—from one PeopleSoft database to another. It displays all of the definitions available for upgrade and attributes related to the upgrade process. When you double-click a definition type in the Upgrade view, an upgrade definition window appears in the definition workspace, displaying the definitions of that type that are available for upgrade and the associated upgrade options.



Upgrade view in the project workspace

This view is important when moving changes into production and when upgrading to new PeopleSoft releases. Definitions in development projects and upgrade projects are interchangeable, meaning that components that were developed in PeopleSoft Application Designer can be copied or compared using the Upgrade view.

See Also

Chapter 20, “Upgrading with PeopleSoft Application Designer,” page 443

Creating and Saving Projects

This section discusses how to:

- Create a new project.
- Save a project.

Note. Changes that you make to a definition in a project are also reflected outside the project. Before you change a definition in a project, be aware of how it might affect other definitions outside the project. For example, when you rename or delete a field, you do so globally. Although you can enter a project name as selection criteria in certain PeopleSoft Application Designer dialog boxes (such as Open, Rename, and Delete), this is just to narrow the list of definitions returned in the selection list.

Creating a New Project

When you start PeopleSoft Application Designer, an empty project titled "Untitled" always appears, whether you use the project or not. Unlike other definitions, only one project can be open at a time. Although PeopleSoft encourages you to develop in projects, you can hide the project workspace window and ignore the project entirely.

To create a new project:

1. Select File, New.
2. Highlight Project as the new definition type to create, and click OK.

Note. Another way to create a new project is to open an existing project. Then, select File, Save Project As, and enter a new name for the project. All of the existing definitions in the project are also copied.

See Chapter 2, "Using PeopleSoft Application Designer," Saving Definitions, page 30.

To open an existing project, follow the same procedure as you would for any other definition type.

See Chapter 2, "Using PeopleSoft Application Designer," Opening Definitions, page 27.

Saving a Project

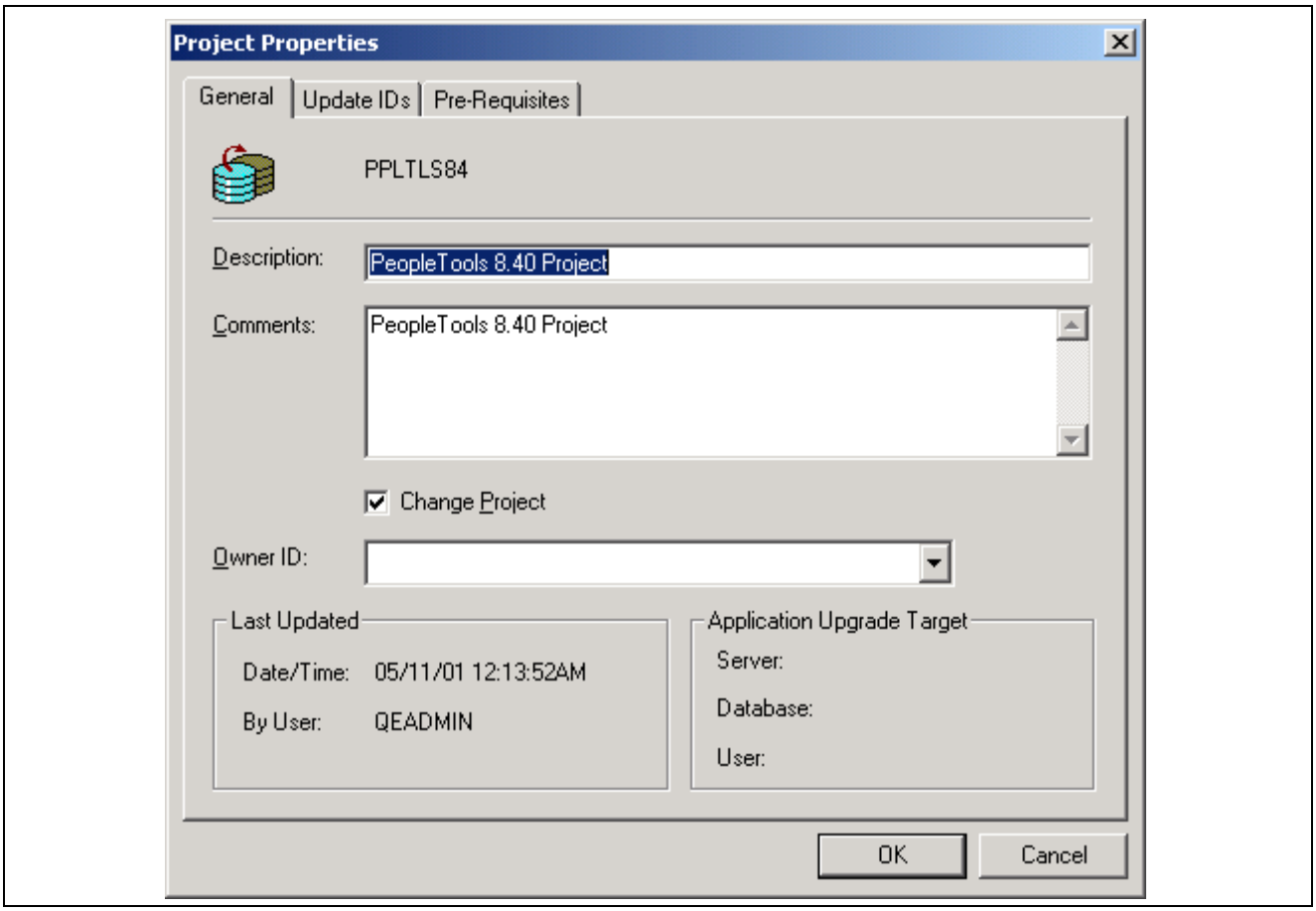
Use a different command when saving an entire project than when saving other types of definitions.

To save a project, select File, Save Project. You can also select File, Save Project As to save the project with a new name. This is a good way to make a copy of a project, because the original project still exists under the original name.

The save toolbar button saves whichever definition is active in the definition workspace, but it cannot be used to save an entire project.

Setting Project Properties

Use the Project Properties dialog box to enter information about the project. Access Project Properties from the File menu.



Project Properties dialog box

In the General tab, enter a description of the project and any additional comments you might want others to be aware of when using the project. Select the Change Project check box only if you are creating a change project to be used with the Change Packager. Selecting this option enables the Update IDs and the Pre-Requisites tabs, also used only with the Change Packager.

See *Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft Software Updates*, "Using Change Packages".

Select the appropriate Owner ID for the project. The Owner ID allows for a way to identify which definitions are owned by which PeopleSoft applications, such as PeopleSoft General Ledger, Accounts Receivables, and so on. The values in the drop-down list box are translate table values associated with the OBJECTOWNERID field.

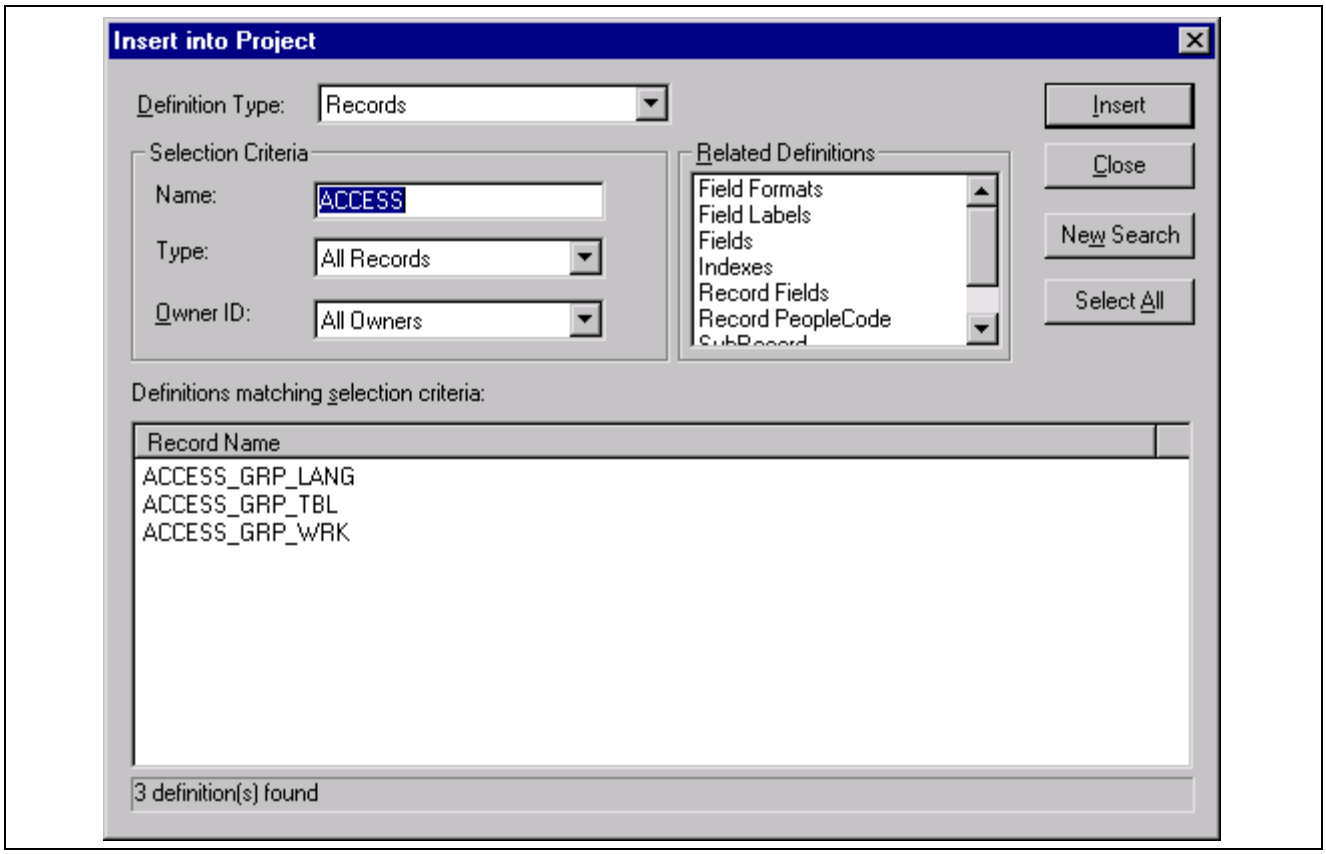
Inserting Definitions Into a Project

You can add definitions to a project by selecting Definitions into Project from the Insert menu.

To insert a definition into a project:

You can:

- Insert definitions individually.
- Select a number of definitions to insert as a group.



Insert into Project dialog box

Inserting a Single Definition

To insert a single definition into a project:

1. Open the definition that you want to insert into the project.

   Make sure that the definition is the active definition in the definition workspace.
2. Select Insert, Current Definition into Project.

   The definition is added to whichever project is currently open.

Inserting a Group of Definitions

To insert a group of definitions into a project:

1. Select Insert, Definitions into Project.

   The Insert into Project dialog box appears.
2. Select the type of definition to insert from the Definition drop-down list box.

   To see all available definitions of that type, including upgrade-only definition types, click the Insert button or press ENTER.
3. (Optional) Enter the selection criteria.

Name	Enter the definition name or a partial field name and press ENTER.
Type	Narrow your search by selecting a specific definition type, such as View for a record definition.

Owner ID	Narrow your search further by selecting an application with which the definition is used.

4. Select the definitions to insert.

   To select multiple definitions, hold down either SHIFT or CTRL while clicking the appropriate definitions.

5. (Optional) Specify which related definitions to insert.

   To insert related definitions, specify them in the list of related definitions. To select multiple related definitions, hold down either SHIFT or CTRL while clicking the appropriate definitions.

Note. After you insert definitions into a project, the upgrade-only definitions appear in the upgrade view of the project workspace, not the development view.

The status bar at the bottom of the Insert into Project dialog box indicates that definitions have been inserted. Additionally, the Results tab on the output window displays the number of definitions inserted each time you perform an insert.

Removing Definitions From a Project

Removing a definition from a project is different than *deleting* it from the database. When you remove a definition from a project, the reference to the definition is removed from the project, but the definition still exists in the database and thus may be a part of any other project.

To remove definitions from a project:

1. In the project workspace, select the definition that you want to remove from the project.

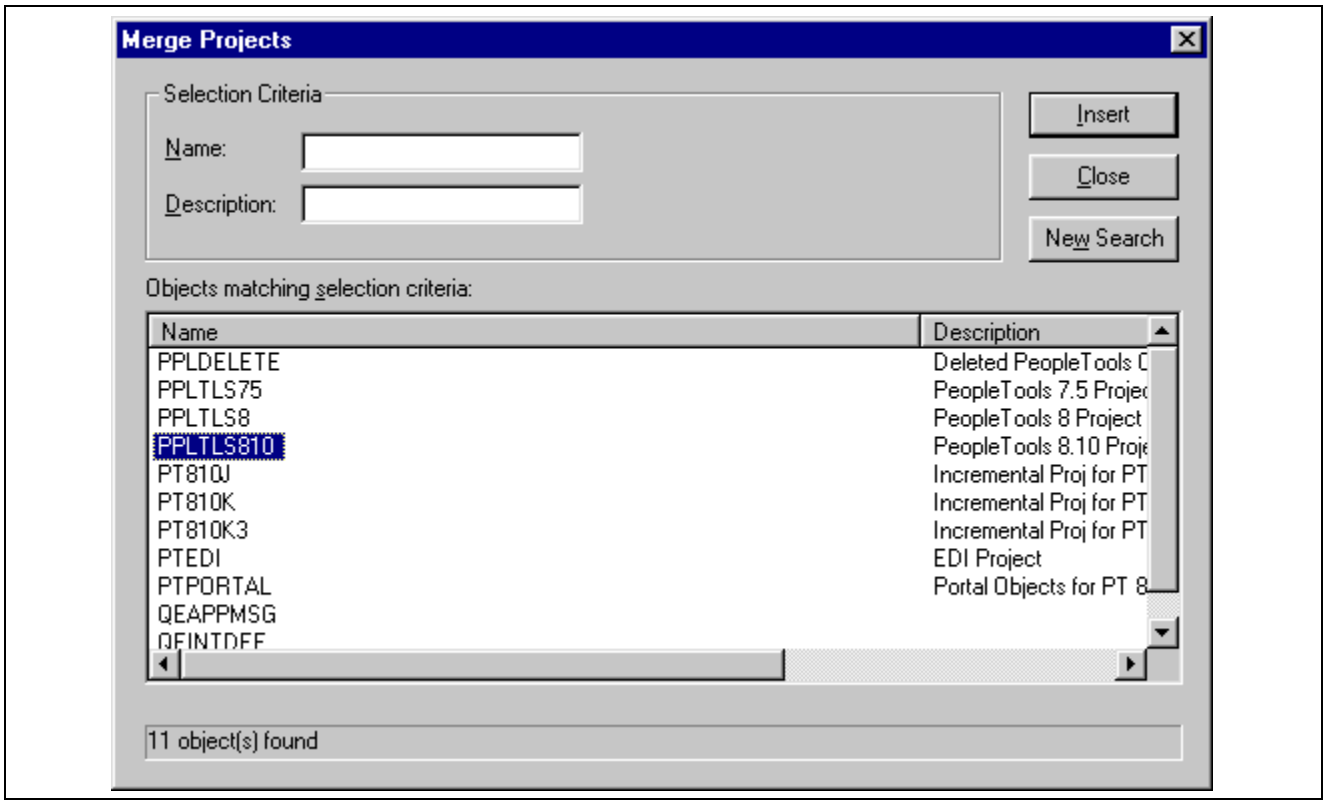
   To select multiple items, highlight one or more nodes by using the CTRL key while clicking the definitions to remove.

2. Press DELETE, or right-click to select Remove from Project from the pop-up menu.

   This does not delete the definition; it just removes it from the project.

Merging Projects

You can merge two or more projects by inserting all of the definitions from one project into another.



Merge Projects dialog box

To merge projects:

1. Open the project in which you want to insert another project.
2. Select File, Merge Projects.

   The Merge Projects dialog box appears.
3. Enter selection criteria.
   a. Enter a project name or description (or the beginning characters of either).
   b. Click Insert or press ENTER to display projects matching the selection criteria that you entered.
4. Select a project to insert into your currently open project.

   Double-click the project that you want to insert, or highlight the project and click Insert. To select multiple projects, use the SHIFT or CTRL keys.
5. Click Insert.

   All selected definitions are inserted into the project in one action. After each insert, note the information in the status bar and on the Results tab in the output window.

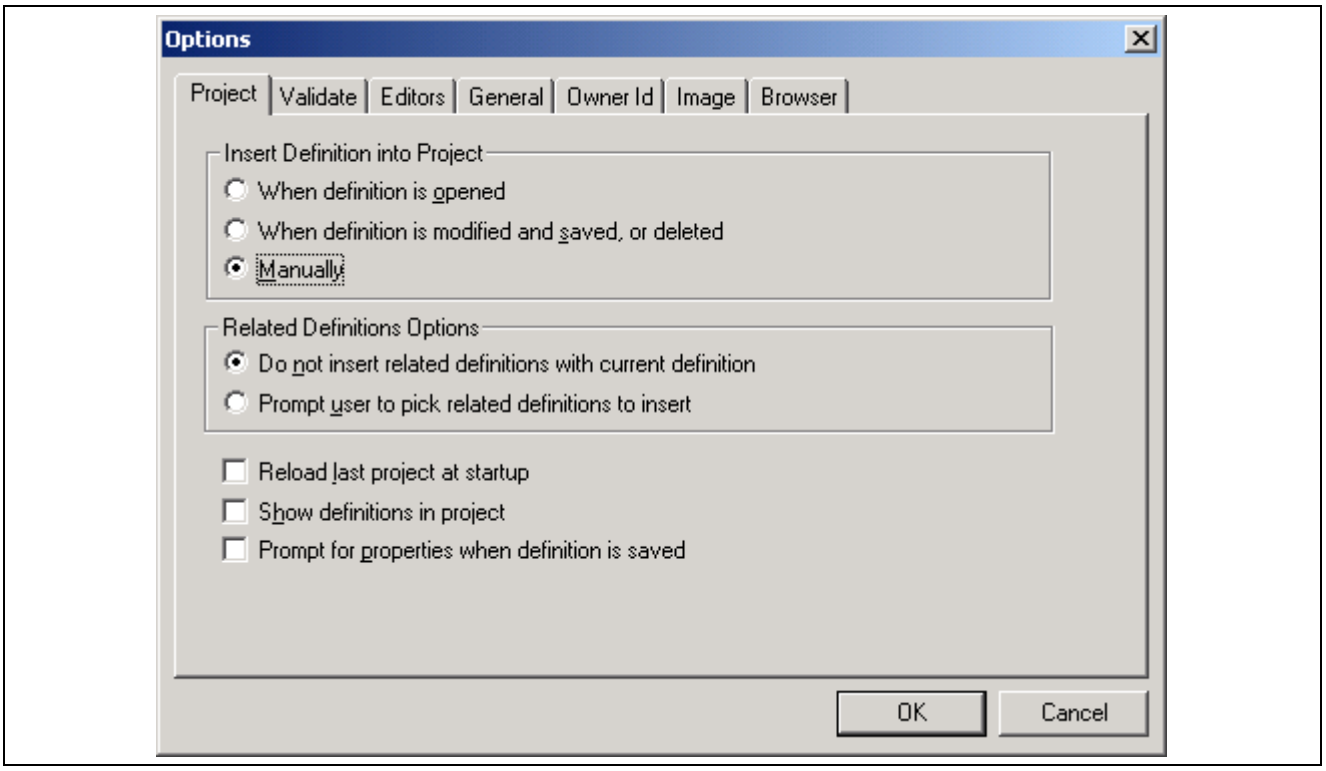
Using Change Projects

Change projects are used with the Change Packager feature to enable you to group together definitions that are affected by PeopleSoft application updates. Combined with the PeopleSoft Change Assistant, the Change Packager feature significantly reduces the complexity and time required to apply application updates from PeopleSoft.

When you create a change project, you must set the appropriate update IDs and pre-requisites.

Setting Project Options

Set processing options for all project operations in the Project Options dialog box.



Setting project options

To set project options:

1. Select Tools, Options.

   The Options dialog box appears.

2. Select the Project tab in the Options dialog box.

   Define when and how definitions are added to the project and how the project appears in the project workspace.

When definition is opened	Automatically inserts any definition that you open into the current project.
When definition is modified and saved, or deleted	Automatically inserts any definition that you save or delete into the current project.
Manually	Does not automatically insert any definition into the current project. This is the default option. Use the Insert menu bar to insert a definition into the project.
Do not insert related definitions with current definition	Does not prompt you to include related definitions. Only the specified definition is inserted, not related definitions.

Prompt user to pick related definitions to insert	After you select Insert, Current Definition into Project, a dialog box appears, prompting you to pick which related definitions to insert.
Reload last project at startup	When starting PeopleSoft Application Designer, the project that was last opened in the previous session opens automatically.
Show definitions in project	Displays a black mark next to icons for definitions that are explicitly in a project (Development view) to indicate that they are in the project. Attribute definitions, which are not explicitly part of the project, are not marked.
Prompt for properties when definition is saved	Prompts you with a definition properties dialog box before you can save the definition.

Validating Projects

An important part of the PeopleSoft upgrade process involves validating your upgrade project. PeopleSoft Application Designer includes a validate utility to make sure that all definitions included in the project actually exist in your database.

To validate a project:

1. Close all active component definitions in the definition workspace.

   Otherwise, the validation occurs in the component, rather than the project.
2. Select Tools, Options.
3. Select the Validate tab in the Options dialog box.
4. Select Validate project integrity.
5. Click OK.
6. Select Tools, Validate Project.

The validate utility runs a series of tests on the project or components and sends its results to the Validate tab in the output window. If errors are found, they are listed on this tab.

Setting System IDs

The system ID functionality makes system ID maintenance easier for developers. This is especially true for those working on mobile applications where the System ID field must be set to SYNCID on the record properties for each record of each component used in mobile applications.

You can set the system ID for an overall project or for the current record definition in the project workspace.

To set system IDs for a project:

1. Open the project.
2. Select Build, Set System IDs for Project

   The Build Progress dialog box appears, displaying the progress of the command for the number of objects affected by this command.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft Mobile Agent, "Using Synchronizable Component Interfaces," Understanding the Synchronization ID and Datetime Stamp

CHAPTER 4

Creating Field Definitions

This chapter provides an overview of field definitions and discusses how to:

- Create new field definitions.
- Use multiple labels.
- Open an existing field definition.
- View field properties.
- Change field definitions.
- Set custom field formats.
- Use the translate table.

Understanding Field Definitions

Fields are the basic building blocks in your PeopleSoft system; in database terms, they represent columns in a table or view. Field definitions are stand-alone development definitions, defined in PeopleSoft Application Designer, and can be shared across multiple record definitions. Changes to field properties affect all records that include that field.

Each field definition includes attributes, such as data type, field name, long name, short name, field length, and various formatting values.

Fields in Record Definitions

By grouping fields that share a common theme, you build a record definition. For example, a department table (record) might include a department ID field, department name field, location field, and so on.

For each field definition that you add to a record, you define additional characteristics, called record field properties, that are specific to the way the field is used in that particular record. Record field properties are *not* shared with other records in which the field is used.

Creating New Field Definitions

This section assumes that you are already familiar with the general terminology and functions of PeopleSoft Application Designer.

This section discusses how to:

- Create a new field definition.

- Specify attributes for a new field definition.
- Specify character field attributes.
- Specify long character field attributes.
- Specify number field attributes.
- Specify date field attributes.
- Specify time field attributes.
- Specify DateTime field attributes.
- Specify image field attributes.
- Specify ImageReference field attributes.

Creating a New Field Definition

To create a new field definition:

1. Click the New button on the PeopleSoft Application Designer toolbar.

   The New dialog box appears.
2. Select Field.
3. Click OK.

   A new character field opens in the workspace area.
4. Select one of the following field types from the Field Type drop-down list box.

Note. Make sure to name your fields according to the accepted naming conventions.

See Chapter 2, "Using PeopleSoft Application Designer," Saving Definitions, page 30.

Character (Char)	Alphanumeric field of fixed length.
Long Character (Long)	Alphanumeric field of variable length used for textual entries, such as comments or descriptions.
Number (Nbr)	Positive numeric field of fixed length for which decimals are allowed.
Signed Number (Sign)	Positive or negative numeric field of fixed length for which decimals are allowed.
Date (Date)	Date field of constant length. The system edits dates and prohibits incorrect ones, such as day 42 or month 20. Date fields always store a four-digit year.
Time (Time)	Time field of a constant length. Built-in edits prohibit impossible times, such as hour 26, minute 70, or second 94.
DateTime (DtTm)	Date and time field of constant length. Built-in edits prohibit impossible dates and times, as defined in the individual Date and Time fields. DateTime fields always store a four-digit year.
Image (Img)	Image field to store images in a user-defined format, such as JPEG or GIF.
ImageReference (Iref)	Use this to change an image dynamically at runtime using PeopleCode.

Attachment (Att) Maps to a BLOB database type to hold the contents of a file attachment. However, PeopleSoft recommends using the existing field, FILE_DATA, if a BLOB column is needed. For attachments use the subrecord ATTACH_DETAIL, which contains FILE_DATA.

After you select a field type, the definition workspace displays a field definition window in which you specify attributes to complete your new field definition.

Specifying Attributes for a New Field Definition

Access the field definition window for the new field definition.

The following property settings are shared by all field types.

Note. Multiple views of this dialog box are available, depending on which field type you select. PeopleSoft documents fields that are common to all views first.

Label ID Enter a unique identifier for the field that is less than 18 characters, without spaces, and in uppercase. Make this the default label by selecting the Def check box in the last column; otherwise, the first label is the default. You can set only one field label as the default.

Note. You can specify multiple labels for one field and change them at runtime using PeopleCode.

See Chapter 4, "Creating Field Definitions," Using Multiple Labels, page 67.

Long Name Enter up to 30 characters. The name that you enter here appears as the RFT Long option for a page field. This label is also used for the tool tip, or hover text, for links at runtime if it is different from the assigned display value of the link.

Short Name Enter up to 15 characters as an alternate name to use on pages and reports if you have insufficient space to display the long name. If you leave this field blank, the system automatically copies the first 15 characters of the long name into this field. The name that you enter here appears as the RFT Short option for a page field.

Note. If you name the field the same as the default label ID, you can identify it more easily when using PeopleCode.

Def (default) When you enter the first label ID, the system automatically selects the Def check box. The system uses this default field if you have multiple labels. You can have only one default field.

Not Used This check box is always read-only in the field definition properties dialog box. You can change its value using PeopleCode, causing the field to be:

- Skipped as part of the unique index.
- Exposed to PeopleCode for read and write operations.
- Ignored in Query.
- Ignored in nVision.

- Unavailable to users in search pages or list boxes if it is a search key or list box item.

See *Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference*, "PeopleCode Built-in Functions," SetDBFieldNotUsed.

Chart Field Read-only in the field definition properties dialog box. It is used for character fields and by financial applications to specify a usage pattern. You can change the value using PeopleCode.

Specifying Character Field Attributes

Character fields are used for names, codes, and anything with letter values. You also use them for numbers for which you want to contain formatting attributes and the data itself. Examples of such fields are those in which you enter telephone numbers and zip or postal codes. You cannot use character fields in calculations. You can enter decimal numbers in character fields, but you cannot use them mathematically until you convert them back to numeric fields.

You can specify character field attributes at design time, and you can access most of them at runtime with PeopleCode.

Field Length Enter a whole number between 1 and 254 for the length of the field.

Format Type Select one of the following values:

Uppercase: Converts the field value to uppercase and signifies that no other formatting options apply to this field. Use this option for code values, such as department ID, for which it doesn't matter whether the user enters the value in uppercase or lowercase. This is the default format.

Mixedcase: Stores uppercase and lowercase characters as entered. Use this option for fields that contain textual data, such as a department or company division name. For example, *Accounting − Receivables* is more readable than *ACCOUNTING − RECEIVABLES*.

Numbers Only: Forces entries to be numeric. This is useful for enforcing numeric values without redefining the field as a number field. This option automatically populates fields with leading zeros. For example, if the user enters *1* in a three-digit field, the system changes this to *001*.

SSN: Formats the entry in U.S. Social Security Number format (999-99-9999). Define 9 as the field length, even though the display length is 11. The system automatically adds dashes when formatting the field for display, but the number is stored in the database without the dashes.

SIN: Formats the entry in Canadian Social Insurance Number format (999-999-999) and performs the standard check-digit verification for SIN. Define 9 as the field length, even though the display length is 11. The system automatically adds dashes when formatting the field for display, but the number is stored in the database without the dashes.

Raw Binary: Allows character fields containing embedded NULLs, such as encrypted values.

Name: Requires that the field entry appear in the PeopleSoft standard name format:

[lastname] [suffix],[prefix] [firstname] [middle name/initial]

The entry can contain alphabetic characters, spaces, periods, hyphens, and apostrophes. Uppercase and lowercase characters are preserved as entered—in other words, mixed case formatting is included automatically. Valid entries might include:

- O'Brien,Michael.
- Jones IV,James.
- Phillips MD,Deanna Lynn.
- Reynolds Jr.,Dr. John Q.
- Phipps-Scott,Adrienne.
- Knauft,Günter.

Note. If the name contains Japanese characters, the first and last names must be separated by a space instead of a comma. The Japanese name format can contain hankaku katakana, Zenchiku katakana, hiragana, kanji, and romaji characters. It can also include spaces, periods, and hyphens.

Postal Code North America: Formats the entry to U.S. zip code format or Canadian postal code format. Canadian postal codes are edited to ensure that alpha and numeric characters are entered in the correct positions.

The following entry formats apply. Stored formats appear in parentheses following the entry format:

- 99999 (99999)
- 99999-9999 (99999-9999)
- 999999999 (99999-9999)
- A9A9A9 (A9A 9A9)
- A9A 9A9 (A9A 9A9)

Postal Code International: Allows the entry of international postal codes. The field length must be at least 7 digits. If 9 digits are entered, the system assumes that the value is a U.S. zip code; if the entry is in A9A9A9 format, the system assumes that the value is a Canadian postal code. Then, the value is formatted accordingly. For all other entries, no formatting is applied.

Phone Num North America (phone number North America): Formats the entry in North American telephone number format.

The following entry formats apply. Stored formats appear in parentheses following the entry format:

- 9999999 (999-9999)
- 999-9999 (999-9999)
- 9999999999 (999/999-9999)
- 999/999-9999 (999/999-9999)

Phone Number International: Allows the entry of international telephone numbers. If you enter 7 or 10 digits (and no other characters), the system assumes that the value is a North American phone number, and formats it accordingly. For all other entries, no formatting is applied.

Custom: If you select this value, the Family Name and Display Name fields become available for entry. These selections enable you to apply additional formatting attributes that affect how the field appears on a page.

Specifying Long Character Field Attributes

Depending on your database environment, the maximum length of a long character field ranges from several thousand characters to 32,767 characters (64,000 bytes). Using a long character field instead of a regular character field enables the user to insert a tab at runtime by pressing CTRL+TAB.

Maximum Length

To control the length of a long character field, enter the maximum number of bytes that you want the system to write to this field. If you don't specify a maximum length, or specify *0* (zero), you can enter an unlimited number of characters, depending on the capacity of your database system.

For pre 8i Oracle databases, if the maximum length of a long field is less than 2001 bytes, the field can be stored more efficiently as a VARCHAR2(2000). For Oracle 8i and above, if the maximum length of a long field is less than 4001 bytes, the field can be stored more efficiently as a VARCHAR2(4000). Beginning in PeopleTools 8.1x, to support PeopleSoft's Unicode implementation on the Oracle platform, PeopleSoft defined "long" columns with a specified length of 1330 or less as VARCHAR2 columns. If the length specified was greater than 1330, the column was generated as a long varchar or long raw, depending on the setting of the Raw Binary check box. This was done to allow for the maximum possible usage of 3x, the VARCHAR2 character length for Unicode-defined databases.

When working with fields be aware that your chosen database system limits the amount of data contained in a field. For Oracle the field size is truncated to 1333 characters. Consider this limitation when choosing to use fields of a Long Character data type.

Raw Binary

Select to store data that is not converted when moving data between different systems. Raw binary is intended for binary data and byte strings. For example, raw binary can store graphics, sound, documents, and arrays of binary data.

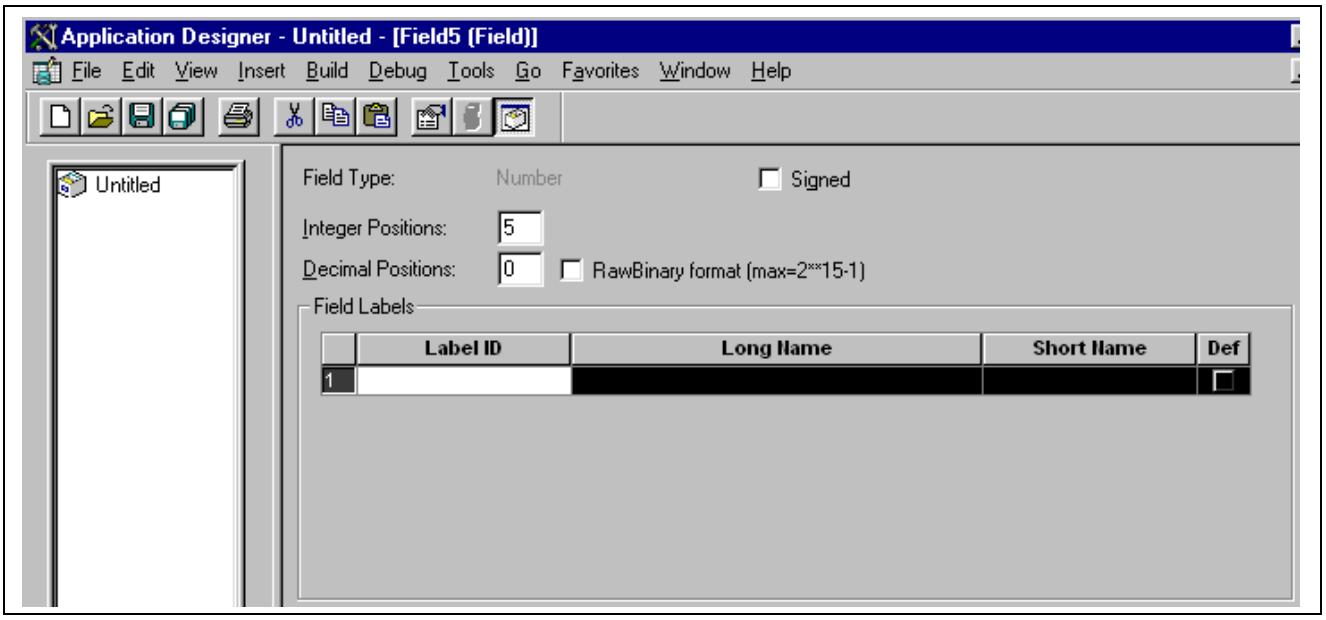
Specifying Number Field Attributes

When you create a new field, notice that there are two field types for numbers:

- Number fields.
- Signed number fields.

Both field types are fixed in field length and allow the entry of positive numbers. Only signed numbers, however, allow the entry of negative numbers. Otherwise, both number field types are the same.

Unlike character fields, a number field can contain decimals but does not contain special formatting, such as the formatting for telephone numbers. Use number fields for calculations. If you use number fields for codes, you sacrifice flexibility to change your coding structure to alphanumeric in the future.



Number Field type

Integer Positions Specify the number of integer positions to the left of the decimal. If the number contains only decimal positions, leave this field blank.

Decimal Positions Specify the number of decimal positions to the right of the decimal. If a number contains only integer positions, leave this field blank. In calculations, the system rounds up the result to the number of decimal positions defined here.

Note. Number fields cannot exceed 31 positions. Therefore, the sum of integer and decimal positions cannot exceed 31.

The field length notation differs between PeopleSoft Application Designer and Structured Query Language (SQL). If you specify a field length of 8 integer positions and 3 decimal positions in PeopleSoft Application Designer, SQL processes that as a length notation of 11.3.

SQL describes field length in terms of *precision* and *scale*. Precision is the total number of integer and decimal positions. Scale is the number of decimal positions. Thus, 11.3 means 8 integer positions and 3 decimal positions; 11.0 means 11 integer positions and 0 decimal positions.

When you enter *0* in the Decimal Positions field and enter *5* or *10* in the Integer Positions field, the RawBinary format option appears. The RawBinary format converts a number field value to a full-length 16- or 32-bit integer. See the example in the table below.

Signed Select this check box for a field that is used for arithmetic calculations that might contain a negative value.

This table shows how the integer position affects the RawBinary storage format:

Integer Position	Maximum Value	Number Stored As
5	65535	16-bit integer
10	4294967295	32-bit integer

Specifying Date Field Attributes

Date fields contain calendar dates. A date field has a field length of 10 and is maintained by the system. The default format of a date field is defined by the database and can be overridden by your browser settings.

Default to 2000 if year less than or equal to Specify the last two digits of a year, which is typically what users enter in a date field. If you enter *50,* the default century becomes 2000 when someone enters *0* through *50* as the year in a date field. If someone enters a number between *51* and *99* in a date field, the default century becomes 1900. The default value is *50.*

Specifying Time Field Attributes

Time fields are fixed-length fields (15 positions, format of HH:MI:SS.999999) that contain the time of day. The maximum time precision varies, depending on your database.

Time Formatting Specify the formatting for this field. HH represents hours, MI represents minutes, SS represents seconds, and 999999 represents microseconds.

Note. You can use %CLIENTDATE as the default constant for the Time field. %CLIENTDATE adjusts the date as appropriate to the time zone of the browser.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference, "System Variables," %ClientDate

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference, "System Variables," %Date

Specifying DateTime Field Attributes

The DateTime field is a fixed-length field (26 positions, format of YYY-MM-DD-HH-MI-SS.999999) that holds dates and times. The maximum date and time precision depends on your database.

Note. You can use %CLIENTDATE as the default constant for the DateTime field. %CLIENTDATE adjusts the date as appropriate to the time zone of the browser.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference, "System Variables," %ClientDate

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference, "System Variables," %Date

Specifying Image Field Attributes

Use Image fields to store application data that takes the form of images. Image fields are functionally no different from any other type of field. Just as end-users employ character fields to store names and addresses, they can employ image fields to keep track of all types of digital pictures. This field enables you to store pictures of assets, company logos (in SQL tables), or scanned images of employees (as part of their personal data rows).

Maximum Length

Specify the maximum number of bytes available to store an image. If you don't specify a maximum length, the maximum length is determined by your database platform. If a user attempts to cut and paste an image that is larger than the maximum length or database capacity, an error message appears.

The following databases apply (maximum length appears in parentheses):

- DB2/zOS (up to 32 kilobytes*).
- Oracle (2 gigabytes).
- Sybase (2 gigabytes).
- SQL Server (2 gigabytes).
- Informix (2 gigabytes).
- DB2 UDB for Linux, Unix, and Windows(32 kilobytes).

* Depends on the page size, the buffer pool, and the other data that is being stored in that row.

Image Format

Select an image format. Format determines the type of image that you can select and write to the database for this field. PeopleSoft supports BMP, DIB, GIF, CUT, EPS, JPG, PCX, PCT, RLE, and TGA image types. At runtime, the user can upload BMP, DIB, GIF, and JPG images to the database.

Specifying ImageReference Field Attributes

Use the ImageReference field to store static images that can be changed at runtime with PeopleCode. By associating image definitions with an ImageReference field on a page, you can display images dynamically. For example, to have different images appear on an employee profile depending on the status of the employee's current review, use the ImageReference field to reference the current review field and display the appropriate image.

Using Multiple Labels

This section provides an overview of multiple labels and discusses how to:

- Add a new label.
- Delete a label.
- Select record field labels.

Understanding Multiple Labels

You can define additional label pairs and an identifier for any field. Multiple fields are useful when you want different labels to appear on different pages. For example, on one page you can set the label to Begin Date such as to mark the beginning of a vacation, while on another page the label might be Class Start Date to mark the beginning of a training course.

Multiple labels are displayed in alphabetical order and sorted by label ID. You can sort the labels in a field by double-clicking the column header. The sorting is not saved, but it is helpful for quickly viewing the labels.

Adding a New Label

Open the field definition in the definition workspace.

To add a new label, enter the label ID, long name, and short name in the last row. Each label can have related language labels. After the multiple labels are defined, you can select appropriate labels when designing a record or page. You can also specify different labels in PeopleCode. To add a line feed for Long Name and Short Name, enter *\n* (backslash and the letter *n*). For example, *work \n month* adds a line feed between the words *work* and *month.*

When you create a new label, the default label is still the first label ID. You can change the default label by selecting Def for a different row. There can be only one default label.

Note. The label ID must be unique so that each field definition label can be identified separately, and it must be entered using uppercase letters with no spaces.

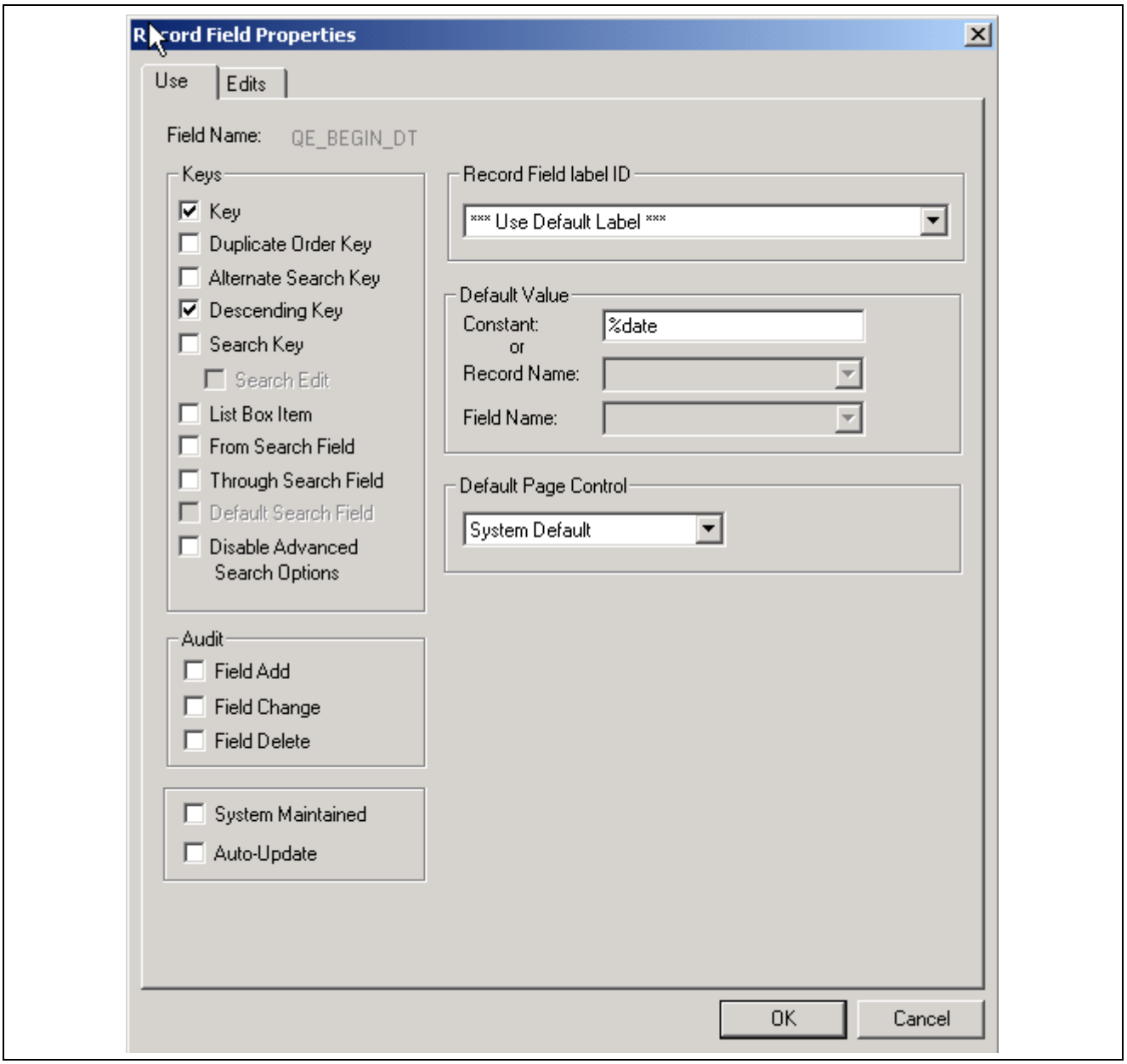
Deleting a Label

Open the field definition in the definition workspace.

To delete a label, right-click a field label row and select *Delete Label* from the pop-up menu. Labels that are currently in use cannot be deleted. To determine where the label is used, select the label and select *Find Definition Reference* from the pop-up menu. The results appear in the Find Definition Reference output window.

Selecting Record Field Labels

Access the Record Field Properties dialog box.



Record Field label ID drop-down list box

For the record definition, the Record Field label ID drop-down list box is available on the Use tab of the Record Field Properties dialog box. The drop-down list box displays the label ID, short name, and long name that you set in the field definition. *** *Use Default Label* *** is the default selection. The record field label changes automatically whenever you change the default label in the field definition.

Opening an Existing Field Definition

There are several ways to open a field definition:

- Select File, Open from the menu.

From this dialog box, you can view all available fields in the database. You can open all fields of a certain type or from a specific project, or you can open a specific field or set of fields.

- Clone an existing definition.

  To create a field definition with attributes similar to an existing one:

  1. Open an existing field definition.
  2. Select File, Save As.
  3. Enter a new name.

- Open the field from the project workspace.

  Double-click a field from the project workspace to open a field definition window in the definition workspace.

- Open the field from the record.

  Open an existing record definition. When the record definition window opens, you can:

  1. Select a field.
  2. Right-click.
  3. Select *View Definition.*

Viewing Field Properties

There are several ways to view field properties:

- While in the field definition workspace, click the Properties button.
- Select File, Definition Properties.
- While in a record definition:
  1. Select the field.
  2. Right-click the field name.
  3. Select *View Field Properties* from the pop-up menu.

The General tab in the Field Properties dialog box provides a place for you to enter comments documenting the purpose of the field definition. The Owner ID drop-down list box enables you to select a valid owner, as in application project or role. The Last Updated group box contains information—date, time, and user ID—about the last time that the field definition was modified.

The Translate Values tab is available only for character fields.

See Also

Chapter 4, “Creating Field Definitions,” Using the Translate Table, page 82

Changing Field Definitions

This section provides an overview of the effects of changing field definitions and discusses how to:

- Change field types.
- Rename field definitions.
- Delete field definitions.
- Print field definitions.

Understanding the Effects of Changing Field Definitions

When you develop new record definitions or modify existing ones, you might need to change characteristics or attributes for a field. If you change attributes in a field definition, the change affects every occurrence of the field in every record definition. So, before you change basic attributes in a field definition, consider how it affects all of the record definitions in which the field occurs. If the change isn't appropriate for every occurrence of this field, consider defining a new field instead.

If you still find that a change is needed, PeopleSoft recommends that you determine the extent of the change by finding out how many records are affected. Do this by using the Find Definition References tool. Open the field definition and select Edit, Find Definition References, or right-click and select the option from the pop-up menu. If you're in a record definition window, another method is to select the field, right-click the field name, and select *Find Definition References-Field* from the pop-up menu.

The Find Definition References tab in the Output window displays a list of all record definitions, page definitions, messages, channels, file layouts, and PeopleCode programs in which the field is used. Double-click a line of output to open the corresponding definition in the definition workspace.

Note. Changing the name or length in a field definition requires modification of the underlying SQL table. Do this either by running the build process and specifying Create Tables or Alter Tables, or by carrying out an action issued by your system administrator. For example, if you change the length in a field definition and 30 record definitions contain the same field name, you have 30 records that must be created or altered.

Changing Field Types

Change a field type by opening a field and selecting another field type from the drop-down list box. However, this feature is intended as a design-time change—that is, before your tables have been created in the database. While some field type conversion can be done, results vary, depending on your database platform.

Note. If you change a field from one type to another, all records containing that field must be rebuilt by running the Alter process. Use Find Definition References to find all incidences of the changed field.

See Chapter 7, "Administering Data," Altering Tables, page 155.

Renaming Field Definitions

You can use either the Rename Definition dialog box or the Open Definition dialog box to rename a field definition.

Using the Rename Definition Dialog Box

To rename a field definition from the Rename Definition dialog box:

1. Select File, Rename to open the Rename Definition dialog box.
2. Select *Field* as the definition type.
3. Enter the name of the field.

If you aren't sure of the name or the correct spelling, use the search criteria fields to locate the field to rename. The list displays field names that match your search criteria.

4. To rename a field in the list, select the field and click Rename, or double-click the field.

   The field name becomes available for entry, and you can type the new name.

5. When you finish typing the new name, press ENTER or click the Rename button.

   The Rename Field dialog box appears. Select the records in which you want the field to be renamed. The De-select All button toggles to Select All.

6. Click OK.

Using the Open Definition Dialog Box

To rename a field definition from the Open Definition dialog box:

1. Select File, Open to access the Open Definition dialog box.

   This dialog box enables you to set up search criteria for locating field names.

2. Select Field as the definition type.

   If you have additional information, use the Name field. You can further narrow your search criteria by selecting a field type or the name of the project that contains the field to delete.

3. Click the Open button or press ENTER when you have completed your search criteria.

4. You can rename a field in the Open Definition dialog box by selecting the field, right-clicking the field name, and selecting *Rename.*

   You can also select the field name and click it a second time. The field name becomes available for entry and you can enter a new name.

5. When you finish typing the new name, press ENTER or click the Rename button.

Results of Renaming Field Definitions

When you rename a field, the system automatically changes all occurrences of it, including data on tables with columns named FIELDNAME where the data matches the field being renamed.

The only references that are *not* renamed are the text portions of SQL functions, such as SQLExec and Scroll Select. If you have already used SQL Create to create the underlying tables for the record definitions that contain the field that you renamed, you must re-create or alter those tables. If the tables contain data that you want to preserve, use the SQL Alter function to rename the database table fields.

Deleting Field Definitions

You can use either the Delete Definition dialog box or the Open Definition dialog box to delete a field definition.

Using the Delete Definition Dialog Box

To delete field definitions by using the Delete Definition dialog box:

1. Select File, Delete to open the Delete Definition dialog box.

   Set up search criteria for locating field names.

2. Select *Field* as the definition type.

3. If you have additional information, use the Name field.

4. Select a field type or the name of the project that contains the field that you want to delete.

   This further narrows your search criteria.

5. When your search results appear in the output window, delete the field definition by selecting the field and clicking the Delete button or double-clicking the field name.

Note. You cannot delete a field that is currently used in any records. Before you delete a field definition, you must first remove it from records in which it appears.

Using the Open Definition Dialog Box

To delete field definitions by using the Open Definition dialog box:

1. Select File, Open to access the Open Definition dialog box.

   This dialog box enables you to set up search criteria for locating field names.

2. Select *Field* as the definition type.
3. If you have additional information, enter it in the Name field.
4. You can further narrow your search criteria by selecting a field type or the name of the project that contains the field that you want to delete.
5. When you have completed your search criteria, click Open or press ENTER.
6. Right-click the field that you want to delete from the list of field names displayed.
7. Select *Delete* from the pop-up menu.

Printing Field Definitions

If you plan to make changes to your field definitions, PeopleSoft recommends viewing your field definition before you proceed. You can view it on your screen or print it to a one-page report that combines information from several resources. This can also serve as a paper audit trail to document your database.

To print a field definition, select File, Print from the field definition window (or click the Print button in the toolbar) to open the Print dialog box, where you specify printing options. You can also print field definitions from the Open Definition dialog box. On the list resulting from your search, right-click the name of the field definition that you want to print, and select *Print* from the pop-up menu to view your printing options.

Setting Custom Field Formats

This section provides overviews of custom field formats and format notation and discusses how to:

- Change format families.
- Edit formats.
- Use family options.
- Test formats.

Understanding Custom Field Formats

PeopleTools has formatting provisions at both the field and page levels. The field format specifications affect internal values that are stored in the database, and the page formats affect the visual presentation of values.

There are several formatting options for U.S. Social Security Numbers, Canadian Social Insurance Numbers, postal codes, telephone numbers, and various currencies, dates, and times. Custom field formats extend these formatting provisions to support the same types of data in other countries. They also support other types of formatted information, such as bank codes, credit card numbers, part numbers, or serial numbers.

Understanding Format Notation

Stored and display formats are defined by strings that contain *lexical, literal,* and *meta* characters:

- Lexical characters delimit character expressions and designate interpretation rules.
- Literal characters represent only themselves.
- Meta characters represent a class of characters.

Use the format symbols in the following tables to create the format notation for your own custom field formats:

Meta Symbol	Description
#	Digit placeholder. If the number has more digits to the right of the decimal point than there are # symbols to the right in the format, the system *truncates* the number to as many decimal places as there are # symbols to the right. If the number has more digits to the left of the decimal point than there are # symbols to the left in the format, the system displays the extra digits. If the number has fewer digits to the right of the decimal point than there are # symbols to the right of the decimal point in the format, the system adds spaces. If the number has fewer digits to the left of the decimal point than # symbols to the left of the decimal point in the format, the system also adds spaces. Example format: ###.## Input: *1234.567* - Matches? Yes - Output: *1234.56*
0 (zero)	Digit placeholder. Follows the same rules as for *#,* except that if the number has fewer digits than there are *0*s in the format, the system displays the extra *0*s. Example format: 000.00 Input: *1.2345* - Matches? Yes - Output: *001.23*

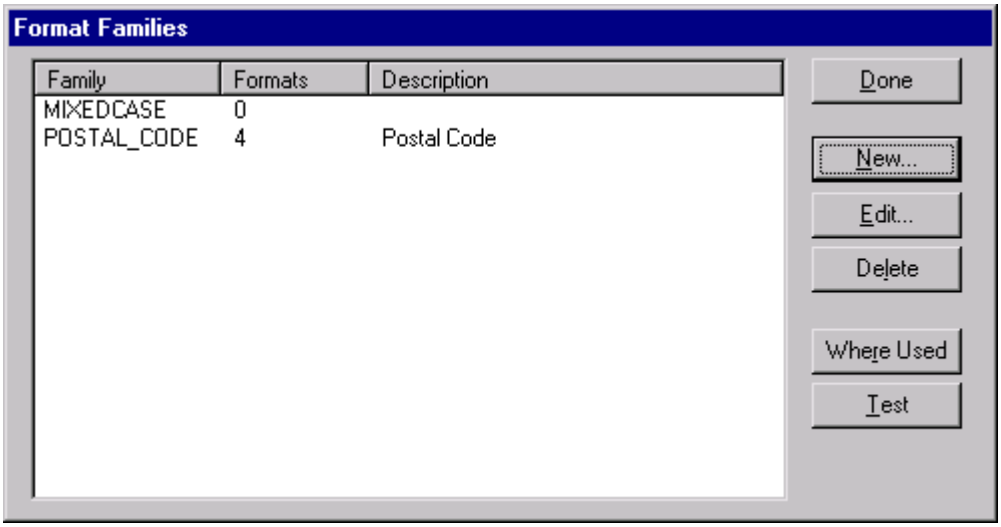
Meta Symbol	Description
(period)	Decimal point. This symbol determines how many digits (*0* or #) appear to the right and left of the decimal point. If the format contains only # symbols to the left of this symbol, numbers less than one appear with a decimal point. This symbol has meaning only in conjunction with the # and *0* symbols. Example format: ###.## Input: *.12345* - Matches? Yes - Output: *.12*
9	Required numeric placeholder. If the number does not have the same number of digits as there are *9*s, the system displays an error message. Example format: 999 Input: *123* - Matches? Yes - Output: *123* Input: *12* - Matches? No
A	Matches any alphabetic character: *A−Z* or *a−z*. Example format: AA Input: *Sd* - Matches? Yes - Output: *Sd* Input: *4A* - Matches? No
Z	Matches any alphabetic or numeric value: *A−Z, a−z,* or *0−9*. Example format: ZZ Input: *3g* - Matches? Yes - Output: *3g* Input: *A3C* - Matches? No
@	Matches any character. Example format: @@@ Input: *1q?* - Matches? Yes - Output: *1q?*

Lexical Symbol	Description
*	Matches zero or more occurrences of this character expression. Example format: a*b Input: *b* - Matches? Yes - Output: *b* Input: *ab* - Matches? Yes - Output: *ab* Input: *aab* - Matches? Yes - Output: *aab*
+	Matches occurrences of this character expression. Example format: a+b Input: *b* - Matches? No Input: *ab* - Matches? Yes - Output: *ab* Input: *aab* - Matches? Yes - Output: *aab*
[ ]	Denotes a character expression that matches the input character if the input character is the same as any character in the list enclosed by square brackets. If the expression matches, the input character appears. The system interprets all characters enclosed in square brackets as literal characters. Example format: [ab]c Input: *ac* - Matches? Yes - Output: *ac* Input: *bc* - Matches? Yes - Output: *bc*
{ }	Denotes a character expression that matches the input character if the input character matches any character in the list enclosed by curly braces. If the expression matches, the first character in the list (not the input character) is copied to output. All characters enclosed in curly braces are interpreted as literal characters. Example format: {ab}c Input: *ac* - Matches? Yes - Output: *ac* Input: *bc* - Matches? Yes - Output: *ac*
?	This expression is optional. It is copied to output only if it appeared in input. Example format: a?b Input: *ab* - Matches? Yes - Output: *ab* Input: *b* - Matches? Yes - Output: *b*

Lexical Symbol	Description
!	This expression is optional. It is copied to output regardless of whether or not it is matched. Example format: a!b Input: *ab* - Matches? Yes - Output: *ab* Input: *b* - Matches? Yes - Output: *ab*
~	This expression is optional. It is copied to output regardless of whether or not it is matched. Example format: a~b Input: *ab* - Matches? Yes - Output: *b* Input: *b* - Matches? Yes - Output: *b*
\	Example format: a\?b Input: ab - Matches? No Input: a?b - Matches? Yes - Output: a?b
( )	Groups expressions. Example format: (abc)!99 Input: *abc12* - Matches? Yes - Output: *abc12* Input: *12* - Matches? Yes - Output: *abc12*

Changing Format Families

Custom field formats enable you to create your own format definitions using format notation and apply them to fields. These formats are organized into format families, which can include one or more unique formats.



Format Families dialog box

To change format families:

1. Select Tools, Miscellaneous Definitions, Field Formats to access the Format Families dialog box.

   The Format Families dialog box lists the defined format families and enables you to edit, delete, or create new families. You can also determine where each family is used in your applications and perform tests.

2. To define a new format family, click the New button.

   The New Family dialog box appears.

3. Enter a name for your new format family, and click OK.

   The Formats dialog box appears.

4. In the Stored group box, enter a name and format.

   This defines how the format family is to be stored in the database and printed in reports.

5. Enter the format notation that you want to use for storing the data in the Format field.

   Because a stored format cannot exist alone, a display format is always required. If you are adding to a family that has existing stored formats, a display name and format pair is optional. PeopleSoft Application Designer automatically places all of the current display formats in the new stored format. The display format default is the stored format that you can redefine later.

6. In the Display group box, enter a name for the format.

   This defines how the format family appears online.

7. Enter the format notation that you want to use for displaying the data in the Format field.

8. Click the Add button to add the new format family, and then click OK when you are finished.

Max Display Length

Max Display Length enables you to override the default length that PeopleSoft Application Designer uses to determine the length of the edit field in custom format. This is useful when the displayed data is longer than the defined field length. For example, you might store data as *999* (field length in the database is 3 characters), but the display format of the data is *9-9-9* (5 characters).

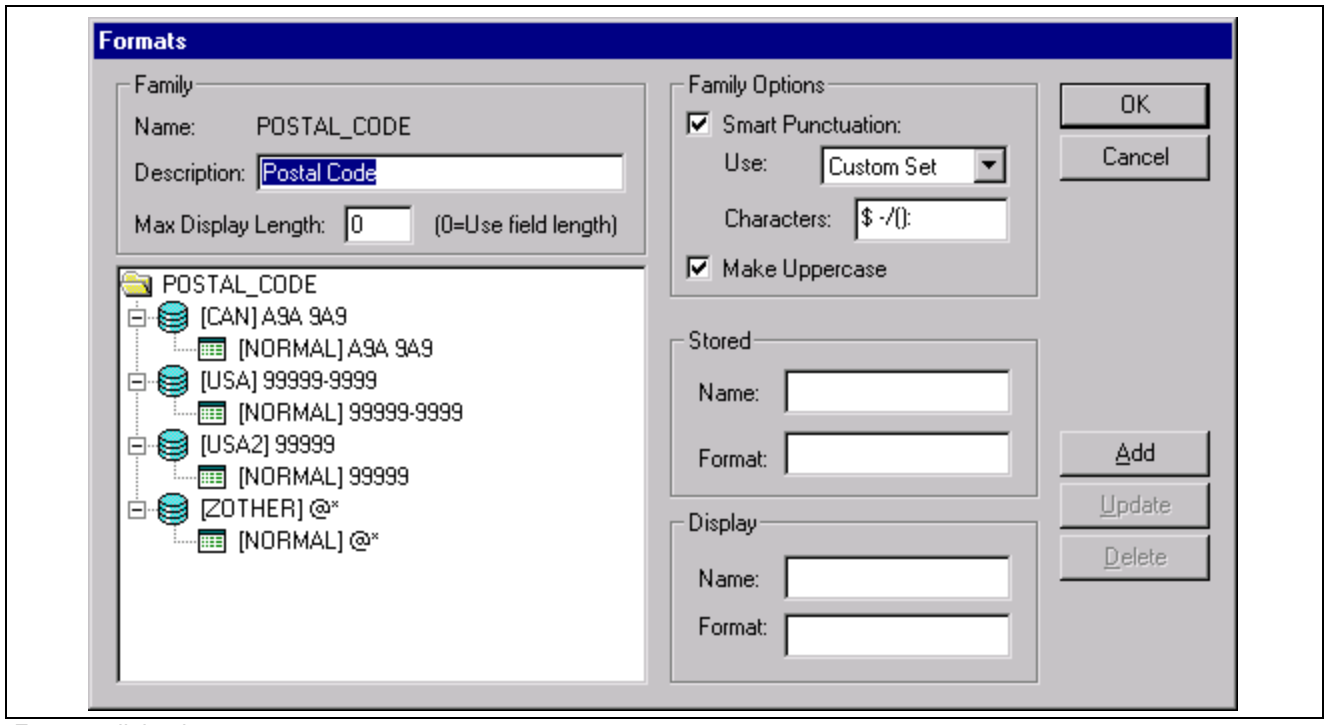
PeopleSoft Application Designer uses the field length of 3, by default, for the edit field, which is not long enough to hold the 5 characters of the reformatted data. By entering five in the Max Display Len (maximum display length) field, the page uses 5 characters for the edit field without requiring that the field length in the database be 5 characters long.

Editing Formats

The Edit Formats dialog box presents a tree where you define the stored and display formats for a family and all options and attributes. This dialog box enables you to:

- Add, update, and delete stored and display formats.
- Enter a description for the family.
- Specify options, such as uppercase and smart punctuation, for the family.

Click OK to save changes.



Formats dialog box

This section discusses how to:

- Add a new stored format.
- Add a new display format to a stored format.
- Update a display format.
- Delete stored formats.

Adding a New Stored Format

To add a new stored format:

1. Open the format family to which you want to add a format.
2. Select the format family name.

3. Enter the stored and display names and format notation.
4. Click Add.

   The new format appears in the tree below the existing formats.

Adding a New Display Format to a Stored Format

To add a new display format to a stored format:

1. In the tree, select the stored format name to which you want to add a display format.
2. In the Display group box, enter a new name and format notation.
3. Click the Add button to add the display format.

   The new display format appears in the tree, attached to the stored format to which it belongs.

Updating a Display Format

To update a display format:

1. Select the display format in the tree view.

   Note. Clicking the Update button applies only to display formats.

2. Select a display format and enter the enabled fields.
3. Click Update to update the display.

Deleting Stored Formats

To delete a stored format:

1. Select the display format.
2. Click the Delete button.

   PeopleSoft Application Designer displays a warning message indicating that deleting a display format might strand stored data. Select Yes to continue with the deletion.

Note. Stored formats cannot be deleted directly. Therefore, all display formats for a specific stored format must be deleted first. This ensures that data is not stranded in the database under an invalid format. When the last display format is deleted for a stored format, the stored format is automatically deleted.

Using Family Options

Family options include:

- Smart punctuation
- Make uppercase

Smart Punctuation

Smart punctuation automatically adds or removes punctuation characters to the data that users enter. For instance, if you enter a phone number like *8005551212* and press TAB to exit the entry field, it is reformatted as *800-555-1212*.

The system uses the punctuation characters specified in the punctuation list to strip out unwanted input and to modify the pattern specified before applying the pattern to the data.

Note. Smart punctuation and the standard set of characters are enabled by default.

You can modify the standard set of characters by selecting *Custom* in the options drop-down list box and typing another set of punctuation characters to use. Smart punctuation processes the characters defined in the standard set or custom set as follows:

- The input has all characters in the punctuation set stripped out—similar to ignoring white spaces.
- The pattern has all characters in the punctuation set expanded if they are not found in the input.

  This is done by enclosing each punctuation character that is found in the punctuation set with "[*puncchar*]!"
- The formatter is run on the modified data to apply the modified pattern.

Warning! Use meta characters and lexical characters in the punctuation sets with caution. Step two of the transformation process modifies the format pattern so that PeopleSoft Application Designer might sometimes convert special characters to literals (when they're placed inside the left or right brace).

For example:

- Input: *(800)555-1212*.
- Display pattern: *999-999-9999*.
- Punctuation set: *()-*.
- Stored pattern: *999999999*.
- The *"(" , ")",* and *"-"*are stripped out of the input because they appear in the punctuation set.

  Now the input looks as follows: *8005551212*.

The display pattern is modified to *999[-]!999[-]!9999* because the *"-"* is in the punctuation set. The transformed data (*8005551212*) is matched against the display pattern of *999[-]!999[-]!9999*. The match is successful, so the raw data is transformed into *800-555-1212*.

Now, the input data has successfully matched the expected display format. The next step is to transform this data into what we want stored. In this case, the stored format has no dashes, as in *999999999*.

The transformed data (*800-555-1212*) is stripped of the smart punctuation characters (*8005551212*), and the pattern of the stored format is *999999999*. A match is made so that the system stores *8005551212* in the database.

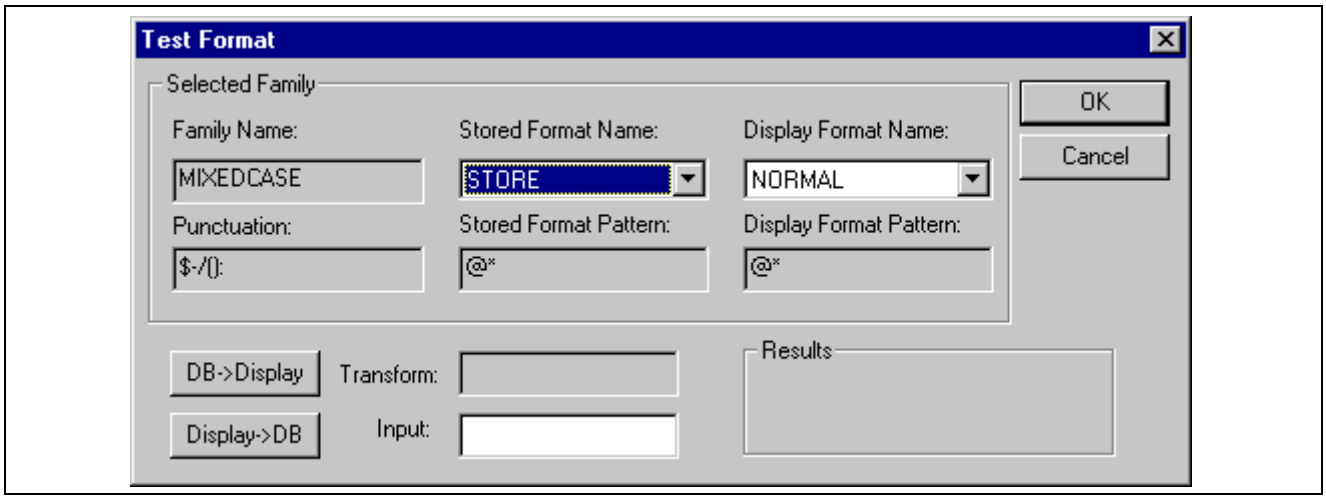
Finally, the stored data is reformatted back to the display using *8005551212* and the display pattern. Output to the display is reformatted to *800-555-1212*.

Make Uppercase

Custom format fields support mixed case. With uppercase activated, PeopleSoft Application Designer transforms the data into uppercase when you press TAB to exit the field.

Testing Formats

The Test Format dialog box enables you to test a specific format or unformatted path for a family without having to build a page.



Test Format dialog box

Stored Format Name and **Display Format Name** — Select a stored and display format pair to test.

DB->Display — Click this button to process the input field like data from the database. The system applies the stored format pattern to the input, then applies the display format pattern to the result. The output appears in the Transform field, which is the same output displayed for a field using this format.

Display->DB — Click this button to process the input field like user input from a page. The system applies the display format pattern to the input, then applies the stored format pattern to the result. The transformed output appears in the Transform field. This output reflects what is stored in the database if the operation is successful. On an actual page, when the user presses TAB to exit the field, the system calls the DB->Display function to reformat the user input for the display.

Using the Translate Table

This section provides an overview of the Translate table and discusses how to:

- Add values to the Translate table.
- Change translate values.
- Delete translate values.
- Save the Translate table.

Understanding the Translate Table

The Translate table is a prompt table, which is similar to an all-purpose data dictionary, to store values for fields that don't need individual prompt tables of their own. As a general rule, store field values in the Translate table if the field meets the following criteria:

- Field type is *Character*.
- Field length is 1 to 4 characters.

- Field values consist of a relatively small, static set of values that are not maintained by the user.
- No other fields relate to this field.

Note. If the only values for a field are *Y* (yes) and *N* (no), you don't need to enter them in the Translate table. The Translate table comes with a field for Y and N named PSYESNO. When you select the Yes/No Table Edit, the system automatically points to the PSYESNO field in the Translate table.

Example of When to Use the Translate Table

Consider the relative attributes of a department ID field and a gender field in a company database. In the following table, Department ID is not a good case for using the Translate table, because it requires its own prompt table. However, the Gender field is a good case for using the Translate Table:

Characteristic	Department ID	Gender
Field type.	Character.	Character.
Field length.	Longer than 3 characters.	1 character.
Field values.	Could be many values, 20 or more.	Two possible values.
Other related fields.	Related to other fields, like department manager.	Not related to other fields.
Requires maintenance.	Yes, users might have to add departments.	No, gender is a static value.

Translate Table Attributes

The system maintains the structure of the Translate table and you supply the data. This table contains the following fields:

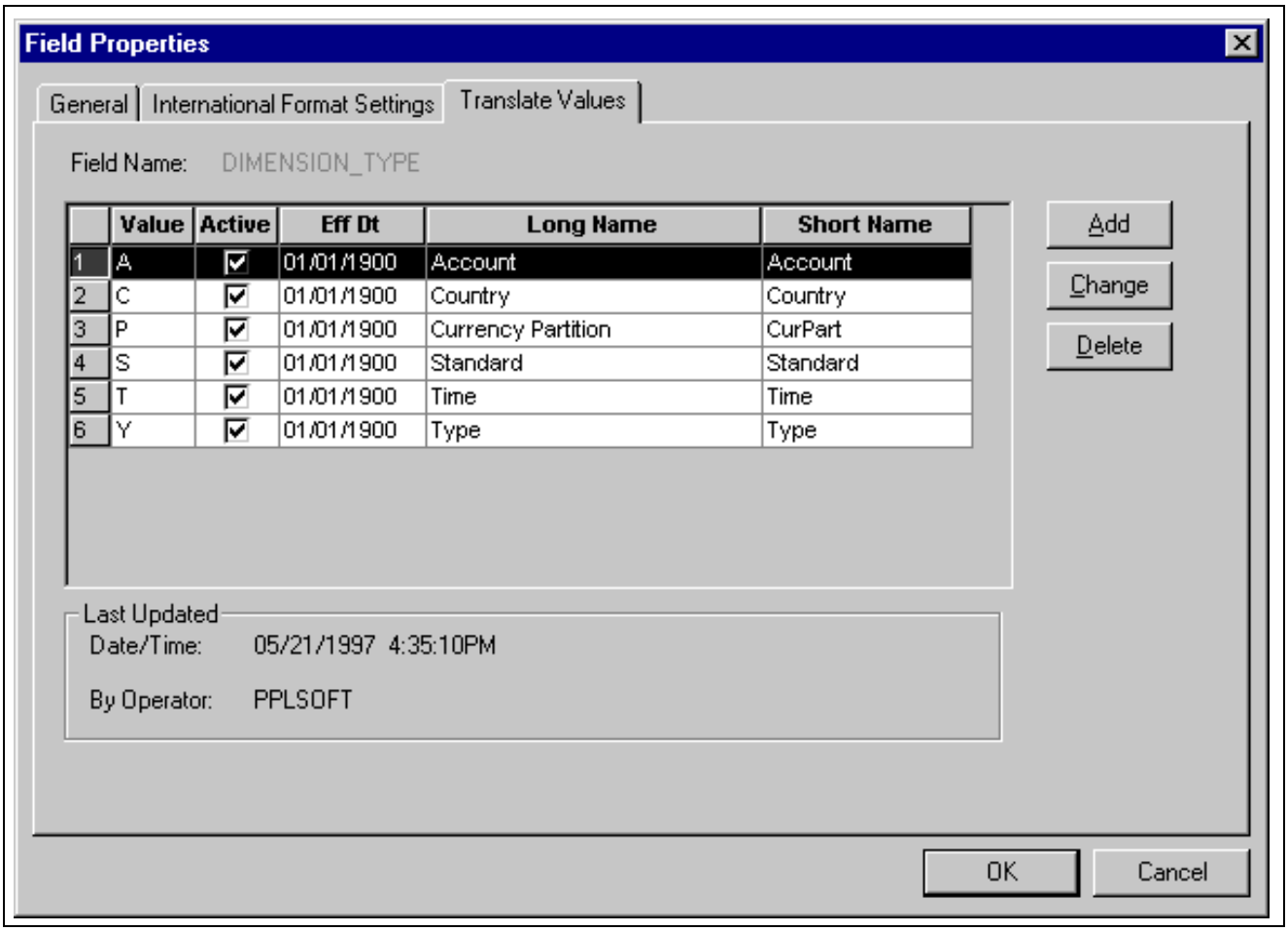
Field Name	Description
FIELDNAME	Field name, such as ABSENCE_TYPE.
LANGUAGE_CD	Language code.
FIELDVALUE	Value for the field.
EFFDT	Effective date.
VERSION	Internal version number (system-maintained).
EFF_STATUS	Status—active or inactive.

Field Name	Description
XLATLONGNAME	Thirty-character description; used as a label on pages and reports.
XLATSHORTNAME	Ten-character description; used as a label on pages and reports.
LASTUPDDTTM	DateTime field showing the last time that a field was updated.
LASTUPDOPRID	User ID of the user who most recently updated the field.

If you must define more information about a field other than the preceding attributes, create a separate prompt table for the field instead of adding it to the Translate table.

When the user presses the prompt button to prompt for valid values in a field on a page, the system displays a list of the translate values for a field.

Each value in the Translate table has an effective date, and the date must be earlier than the effective dates of any rows that reference the value. The translate values delivered by PeopleSoft all have an effective date of January 1, 1900. Remember this if you add new translate values for a field.



Field Properties dialog box: Translate Values tab

Adding Values to the Translate Table

Access the Add Translate Table Value dialog box.

To add translate values to the Translate table:

1. From a field definition window, select File, Definition Properties.

   You can also right-click and select *Field Properties,* or press ALT+ENTER.

2. From a record field definition window, right-click the field, and select *View Translates* from the pop-up menu.

3. Select the Translate Values tab.

   The Translate Values dialog box displays existing values for the field and enables you to add, change, or delete values. In the Last Updated box, you see information—date, time, and user ID—about the last update for the selected translate value.

4. Click Add to define a new value.

5. Enter the field value, effective date, long name, and short name that your users enter on the page.

   Field Value Enter the translate value for the field. The system automatically sorts values in ascending order as you enter them. If you enter three translate

values with field values *A, T,* and *C,* they appear in the Translate Values dialog box as *A, C, T.*

Effective Date Enter the date on which you want this value to take effect. The default value is today's date. If you want the effective date to predate all rows on your database, enter *01011900* (January 1, 1900).

Inactive When a value for a field becomes obsolete, PeopleSoft recommends that you select the Inactive check box rather than deleting the value. Deactivating a value enables fields in the database that still contain the value to use the correct long and short names. If you delete an obsolete code from the Translate table and you still have records in the database that contain that value, you must change all of those values to active values.

Long Name Enter up to 30 characters.

Short Name Enter up to 10 characters. If you leave this field blank, the system automatically copies the first 10 characters of the long name into this field. PeopleSoft recommends that you use mixed case to improve readability.

Changing Translate Values

Sometimes the meaning of a translate value changes, but you still need to retain both values in the Translate table. For example, suppose that your PROFICIENCY field has a value of *E* (extremely high). You've been in production for five years, when upper management decides to change the meaning of the value to *Exceptional,* as of January 1, 1998.

You can accommodate this type of change by creating a second active entry for the same translate value. The first value is valid in the time range between the effective dates of January 1, 1990 and December 31, 1997. The second entry is valid from January 1, 1998 onward. You don't want to delete the old entry because the database might contain rows that predate January 1, 1997 and contain this value. You might also maintain the old definition for historical reporting.

To change an existing translate value, select the value and click Change, or double-click the value. The system displays the Change Translate Table dialog box, in which you can make the necessary changes.

Deleting Translate Values

Use caution when deleting a translate value, unless you are removing an invalid value that was entered by mistake. To deactivate a value because it is no longer used or its meaning has changed, either change the long and short names, or change the status to *Inactive.* To delete the value, select it and click the Delete button. The row disappears.

Saving the Translate Table

After you have made all of your changes to the Translate table, you must save the *entire field definition.* There is no save option specifically for translate values. Click OK from the Field Properties dialog box, and then save the field definition by clicking the Save button or selecting File, Save.

To save the Translate table, you must be authorized to modify field definitions. There is a special *Translates Only* security access level for fields that allows translate values to be updated, but not other field attributes.

CHAPTER 5

Planning Records, Control Tables, and TableSets

The first step in the application development process is planning. You must consider as a system designer how to store, retrieve, manipulate, and process data that is stored in the tables in your application database.

This chapter provides an overview of the planning process and discusses how to share tables.

Understanding the Planning Process

This section discusses:

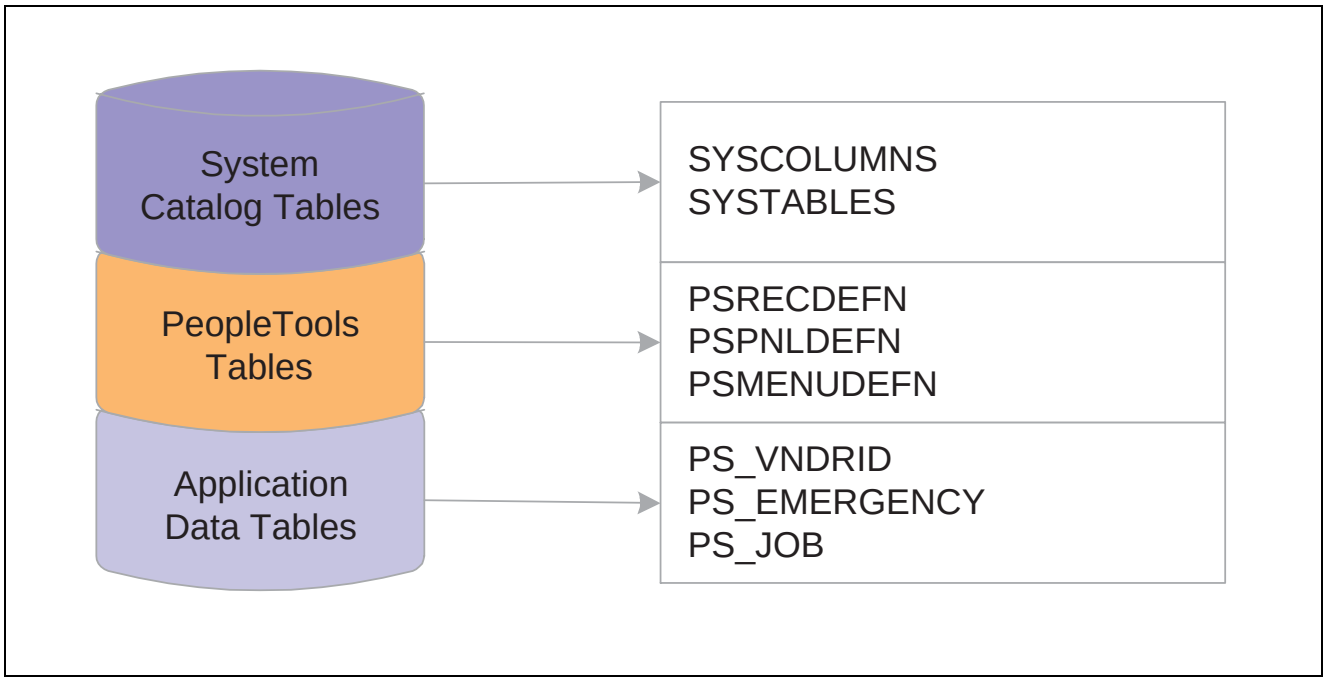
- Table-based systems.
- Normalized relational databases.
- Record definition planning.
- Effective dates.
- Control tables.
- TableSets.

Table-Based Systems

PeopleTools-based applications are table-based systems. A database for a PeopleTools application contains three major sets of tables:

- System Catalog tables store physical attributes of tables and views, which your database management system uses to optimize performance.
- PeopleTools tables contain information that you define using PeopleTools.
- Application Data tables house the actual data that your users enter and access through PeopleSoft application pages.

This figure shows PeopleSoft database tables and sample names:



Tables in a PeopleSoft database

Like a spreadsheet, each of these tables contain columns and rows. Columns define the structure of how the data is stored. Rows represent the actual data that is stored in the database.

Every time that you create a new definition using PeopleTools, the system inserts rows of data into various PeopleTools tables. The entries in these tables determine the online processing of the system and what happens during imports. PeopleSoft maintains the structure of these tables. You maintain data in the PeopleTools tables related to definitions that you create or adapt using PeopleTools. The PeopleTools tables can be viewed in the PPLTOOLS project using the PeopleSoft Application Designer.

To create the application data tables that store the rows of data that your *users* manipulate:

1. Create a record definition.

   In doing so you determine the structure of the table, the characteristics of the fields, and any online processing that you want to occur behind the scenes when a user enters data.

2. Apply the SQL Create option to build the SQL table in which your application data will reside based on a subset of parameters in your record definition.

   During this process, the system automatically gives the application data table the same name as your record definition, prefaced with *PS_*.

Normalized Relational Databases

To better understand the structure of your PeopleSoft system, you should be familiar with the concept of a normalized relational database. A *normalized* table adheres to standards that are designed to improve the productivity of the database user. Normalization makes the database more flexible, allowing data to be combined in many different ways.

The standards for a normalized database are called *forms,* such as *first normal form, second normal form,* and so on.

First Normal Form

The first normal form requires that a table contain no repeating groups of nonkey fields. In other words, when you're setting up a record definition, if you encounter a field that could have multiple occurrences, put that field in a separate record that is subordinate to the primary record definition (a child record). This allows unlimited occurrences of a repeating field rather than a specified number. Each row of data is uniquely identified by a primary key, which can be a single field or a group of fields that, when concatenated together, form a unique key.

For example, look at the record definition structure of the tables that we use to schedule exam times for different locations in our training database. Here are the necessary fields, in order of importance:

- LOCATION
- EXAM_DT
- EXAM_TIME

You know that you have multiple exam dates and times per location. You could set up record definitions to accommodate this data as follows:

Record Definition	Fields	Key?
LOCATION	LOCATION	Yes
EXAM	LOCATION EXAM_DT	Yes Yes
EXAM_TIME	LOCATION EXAM_DT EXAM_TIME	Yes Yes Yes

Because multiple exam dates per location might exist, we added exam dates to the second record definition (child record) that is subordinate to the first (*parent*) record. Similarly, because there can be multiple exam times per date, exam times are located in a third record definition that is subordinate to the second.

Second Normal Form

The second normal form dictates that every nonkey field in a table must be completely dependent on the primary key. If two fields make up the key to a table, every nonkey field must be dependent on both keys together. For example, if a table has the Employee ID and the Department ID fields as keys, you wouldn't put the Department Name field in the table because this field is dependent only on the Department ID field and not on the Employee ID field.

Third Normal Form

The third normal form is a corollary to the second; it requires that a nonkey field not be dependent on another nonkey field. For example, if a table is keyed by the Employee ID field, and Department ID is a nonkey field in the table, you wouldn't put the Department Name field in the record because this field is dependent on a nonkey field (Department ID). This is why the Department Name field would be found only on the table that is keyed by the Department ID field, not on any other that contains Department ID.

With the third normal form, you store shared fields in tables of their own and reference them elsewhere. For example, you wouldn't put the Department Name field in every record definition in which the Department ID field appears. Instead, you would create a prompt table of department IDs and department names. Similarly, you would create a prompt table of job codes and job titles instead of putting a job title in every employee's record.

Note. When designing record definitions, adherence to the third normal form is recommended to increase flexibility and reduce data redundancy.

Record Definition Planning

Before you begin to create record definitions, you should have a clear picture of how you plan to use the record definition, the fields that it will contain, special edits that you would like to see performed on the record definition, or specific fields in the definition.

You actually define two layers of information:

- Record level
- Field level

At the record level, determine the ultimate purpose of the record definition and how it will be used in the system. Is it destined to define an underlying SQL table to hold data? Are you building a view to join or retrieve information from other tables? Do you need a temporary work record where you can store derived data?

You can audit record-level changes, as opposed to individual fields contained in the record definition—an efficient alternative if you plan to audit several fields. More sophisticated use of record definitions, such as sharing information in TableSets and multilanguage controls, are also established at the record level.

At the field level, plan the details of what types of fields to add. Should they be character fields or number fields? Should automatic formatting be used? What are the keys to the data stored in the database? Which fields should you audit? Do you want to specify prompt tables so that users can select from lists of valid values that are stored elsewhere in the database?

In most cases, if you are creating a record definition for a SQL table, you don't have to worry about record-level definitions for parameters and conditions. Unless you change how a record definition is used, the system automatically assumes that you are defining a record definition for an underlying SQL table.

Effective Dates

Effective dates enable you to keep historical, current, and future information in tables. You can use the information to review the past and plan for the future. There are three types of effective dates:

Future	Data rows that have effective dates that are after the system date, which is usually today's date.
Current	Data row with the most recent effective date that is closest to today's (system) date, but not a future date. Only one row is the current row.
History	Data rows that have effective dates before the current data row.

The EFFDT (effective date) field has special properties related to the processing of effective dates on rows and should be used only when needed.

Unlike regular date fields, which you can use anywhere in the system, use the EFFDT field only on record definitions for which you want to maintain data history—future, current, and past—to store rows of data in sequence. This enables you to store multiple occurrences of data based on when it goes into effect.

For effective-dated rows, you can have multiple occurrences of future and history, but only one current row of data.

EFFDT is almost always a key and almost never a list item. Activate the Descending Key attribute so that the row with the most recent effective date appears first on pages. You might enter %DATE (current system date) as the default constant for this field.

Note. Alternatively, you can use %CLIENTDATE as the default constant for the date field. %CLIENTDATE adjusts the date as appropriate to the time zone of the browser.

To enable you to track an accurate history of your effective-dated information, the system invokes special logic when you access a record definition that contains EFFDT. The action that you select dictates whether you can access the row type and what you can do with each type of row:

Action Type	View	Change	Insert New Rows
Update/Display	Current, Future	Future only	Effective Date Greater Than the Current Row
Update/Display All	History, Current, Future	Future only	Effective Date Greater Than the Current Row
Correction	History, Current, Future	All Existing Rows	Add New Rows with No Effective Date Restrictions

Note. For records that do not contain EFFDT, all actions (Update/Display, Update/Display All, and Correction) operate the same way—they retrieve all existing rows for the specified keys.

When you're running a page with effective-dated records and you insert a row, the system copies the contents of the prior row into the new row to save you keying time. On a large effective-dated table, you don't want to reenter all of the data when only a single field changes. Also, anytime you insert an effective-dated row using PeopleCode, the same copying of the prior row's contents takes place.

Effective Status

In prompt tables, EFF_STATUS (Effective Date Status) usually accompanies EFFDT. When used with EFFDT, it's part of the mechanism that enables the system to select the appropriate effective-dated rows.

You can also use EFF_STATUS by itself as a simple status field, but don't change the translate values. They must be *A* (active) and *I* (inactive) for EFFDT to work properly. If you need a status field with different values, use or define a different field.

Effective Sequence

The EFFSEQ (Effective Sequence) field serves different purposes, depending on whether it's paired with EFFDT. If EFFSEQ isn't paired with EFFDT, EFFSEQ has no special function and can be used as a simple sequencing field wherever you need one.

If EFFSEQ is paired with EFFDT, it enables you to enter more than one row with the same effective date. You assign a unique sequence number to each row that has the same effective date. Do not make EFFSEQ a required field—*unrequired* allows the first EFFSEQ to be zero. Select Display Zero in the page definition to have zeros appear on the page.

For example, suppose that you want to enter both a transfer and a pay rate change for an employee, and both actions are effective on the same day. Enter the transfer on the job data pages as usual, and leave the Effective Sequence Number field as *0* (zero). Then, insert a row to enter the change in pay rate. This time, the effective date is identical to the previous row, but enter *1* in the Effective Sequence Number field.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference, "System Variables," %ClientDate

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference, "System Variables," %Date

Control Tables

Control tables store information that controls the processing of an application. This type of processing might be consistent throughout an organization (in which case the entire organization shares the same control information), or it might be used only by portions of the organization for more limited sharing of data.

Sharing One Set of Common Values

The first type of sharing is to create one table that everyone shares; it stores common information that is valid for *all* users, such as a country table to store country codes or a department table to store department codes. Such control tables are ordinarily maintained centrally because the data is shared throughout the entire organization.

Sharing Common Values in Overlapping Plans

What do you do if the codes that are stored in a table are valid only for *some* users? Consider benefit plans, for example. Typically, you store information for benefits plans in a plan table. However, not all plans are valid for all employees. It might depend on whether they are full-time or part-time, union or nonunion. Some plans might overlap; some might be appropriate for all employees and others only for some. In a relational database, you don't want to define the same plan value—and associated data—more than once.

In this case, you can easily resolve the problem by using two tables. The first is the plan table, which stores the relevant data for each plan. The second table defines which plans are valid for various benefit programs or groups of plans. For example, one benefit program might be valid for nonunion employees, and another benefit program might contain the plans as negotiated with a union.

This table shows how you might set up the two tables to reflect the benefits offered:

Benefit Program Table		Benefit Plan Table			
Key	Valid Values	Key	Description	Field	Field

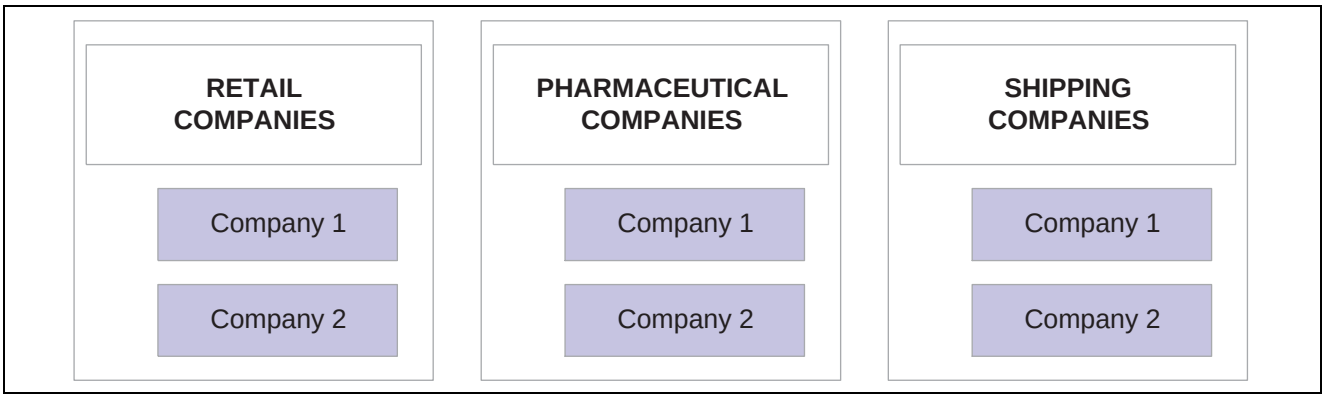
Benefit Program Table		Benefit Plan Table			
Nonunion Program	Plan 1 Plan 2	Plan 1 Plan 2	Health Life	... ...	... ...
Union Program	Plan 2 Plan 3 Plan 4	Plan 3 Plan 4	Savings Health-Union	... ...	... ...

These tables are ordinarily centrally maintained, because the data is being shared by various groups in the organization.

TableSets

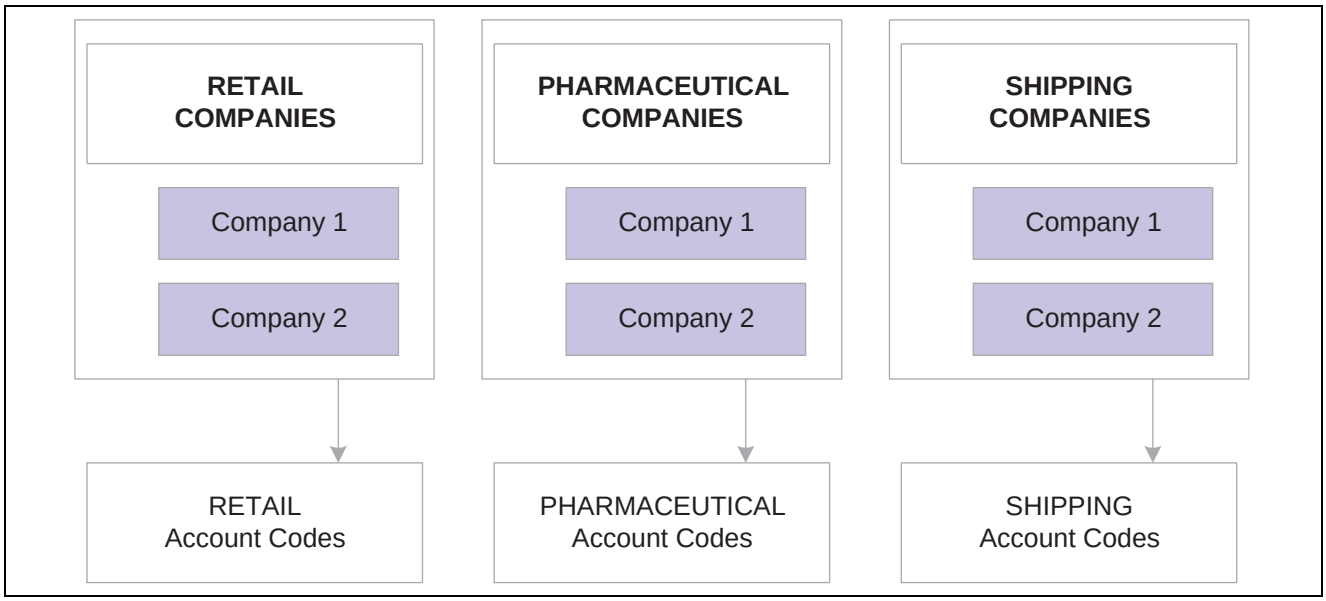
When *none* of the information stored in control tables is valid for all users, but the structure of these common tables is the same, you can set up a way to share multiple sets of values. For example, a multicompany organization must store completely different sets of accounting codes for its various operating entities, and the data for these accounting codes is maintained in a set of relevant control tables. The actual data values differ, but the structure of the control tables remains the same. PeopleTools enables you to share sets of values in a control table through *TableSets.*

To better understand TableSets, consider an organization that has two retail stores with common accounting codes, two pharmaceutical firms with another set of accounting codes, and two shipping firms with yet another set of codes.



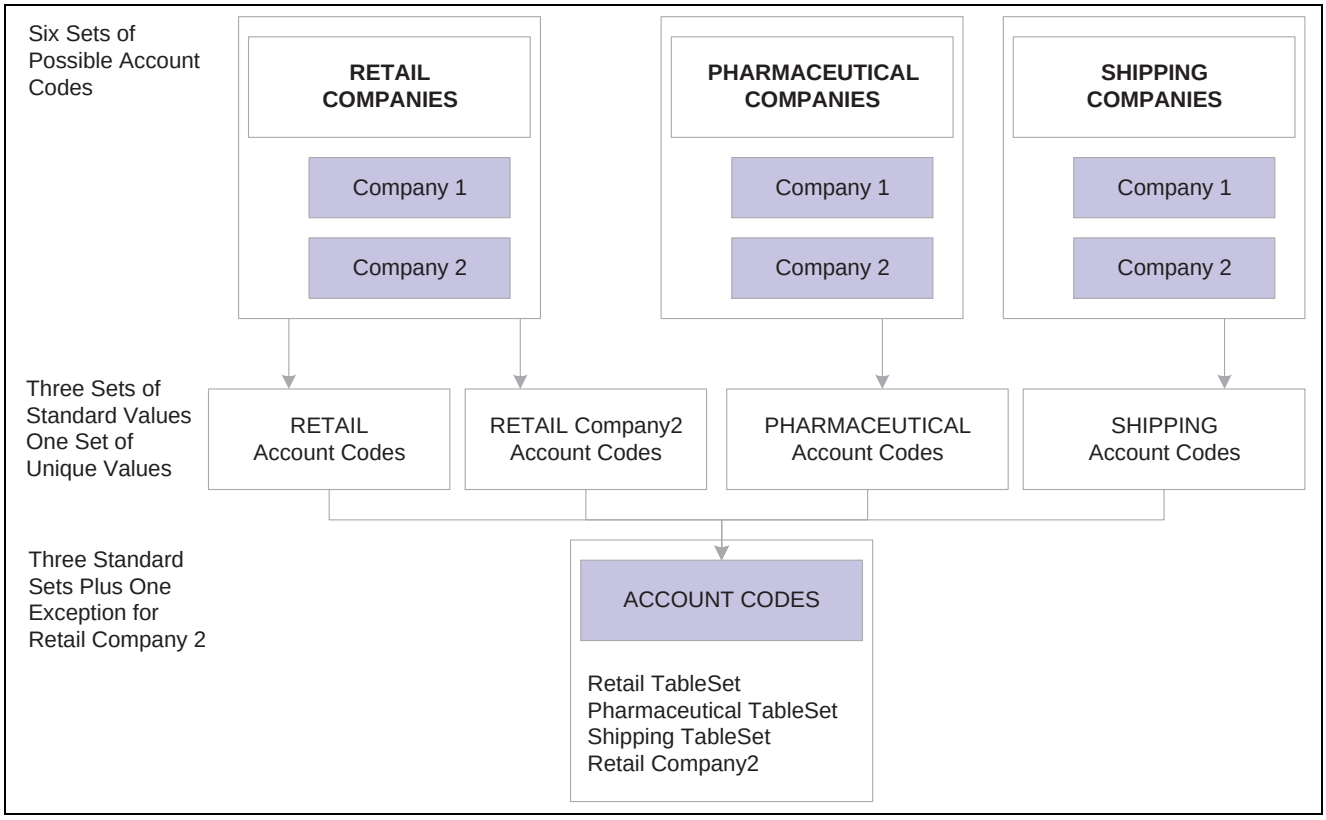
Maintaining multiple account codes for multiple companies

If each of these companies has completely different accounting codes, you can establish six different sets of account codes to be maintained by each company. If they all have exactly the same accounting codes, you can limit them to one set of values. However, the reality is usually somewhere in between. That is, there is one set of account codes for each type of business: retail, pharmaceutical, and shipping. Rather than having six different companies maintaining separate copies of this common data, you can reduce the number to three sets.



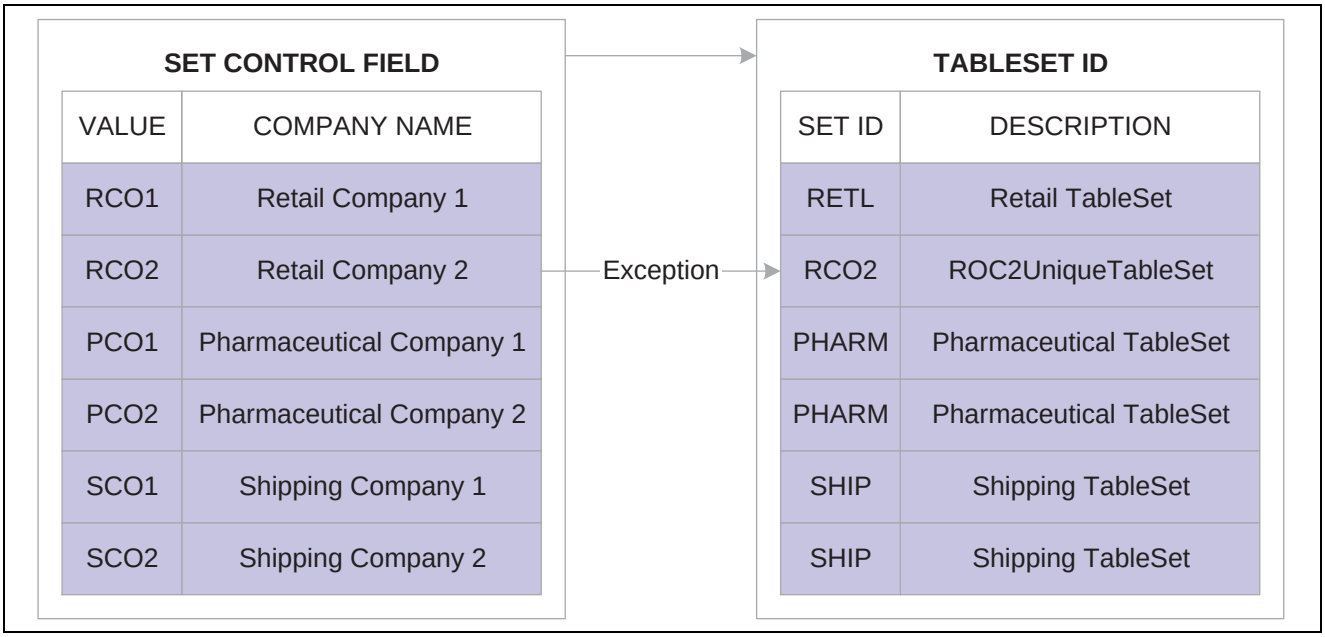
Sharing multiple account codes among companies

You can also handle exceptions. Suppose that Retail Company 2, a recently acquired company, has its own unique set of account codes. A separate set of values should be maintained for this company as an exception to the retail rule.



Sharing account codes among companies with exceptions

When you share tables in PeopleTools applications, you add the setID field as an additional key or unique identifier to the table that you want to share. This key identifies the sets of information in the table that are shared by multiple companies or business units under your corporate umbrella. You then specify a *set control* field, which identifies which fields map between the original key and the TableSets. You can specify any field that logically identifies the TableSet. In this example, you might assign the Company field as the set control.



Linking set controls and TableSets

Sharing Groups of Record Definitions

While this example illustrates how you might share data values for a single table—Account Codes—you typically share data that is stored in many tables that are based on the same TableSets. To minimize the overhead of defining TableSets, you can define *record groups* that share table data in a similar manner. For example, rather than use the TableSets that you establish for accounting codes solely for the Accounting Code table, you can group all accounting-related tables into one record group.

TableSets and PeopleSoft Applications

Some PeopleSoft applications already take full advantage of TableSets and table sharing. Throughout the PeopleSoft Financials and HRMS product lines, TableSets are used extensively, in most cases triggered by business unit.

Sharing Tables

This section provides an overview of table sharing and discusses how to:

- Add the SetID field to the record definition.
- Define a set control field as the field controlling the assignment of TableSets.
- Modify the set control field.
- Create setIDs.
- Define record groups to identify the tables and subordinate (child) tables that are affected.

- Define TableSet controls.
- Share trees.

Understanding Table Sharing

To share tables, you must modify the record definitions for both the table that you want to share and the one that contains the set control field. Using the online PeopleTools Utilities for TableSets, you define the terms or controls for sharing.

For example, in the PeopleTools database, there are three companies: one U.S.-based parent company (PST) and two sister companies (CCB in the U.S. and VNB in Canada). In this organization, all of the U.S.-based companies share one set of accounting codes, and all of the Canadian-based VNB companies share another.

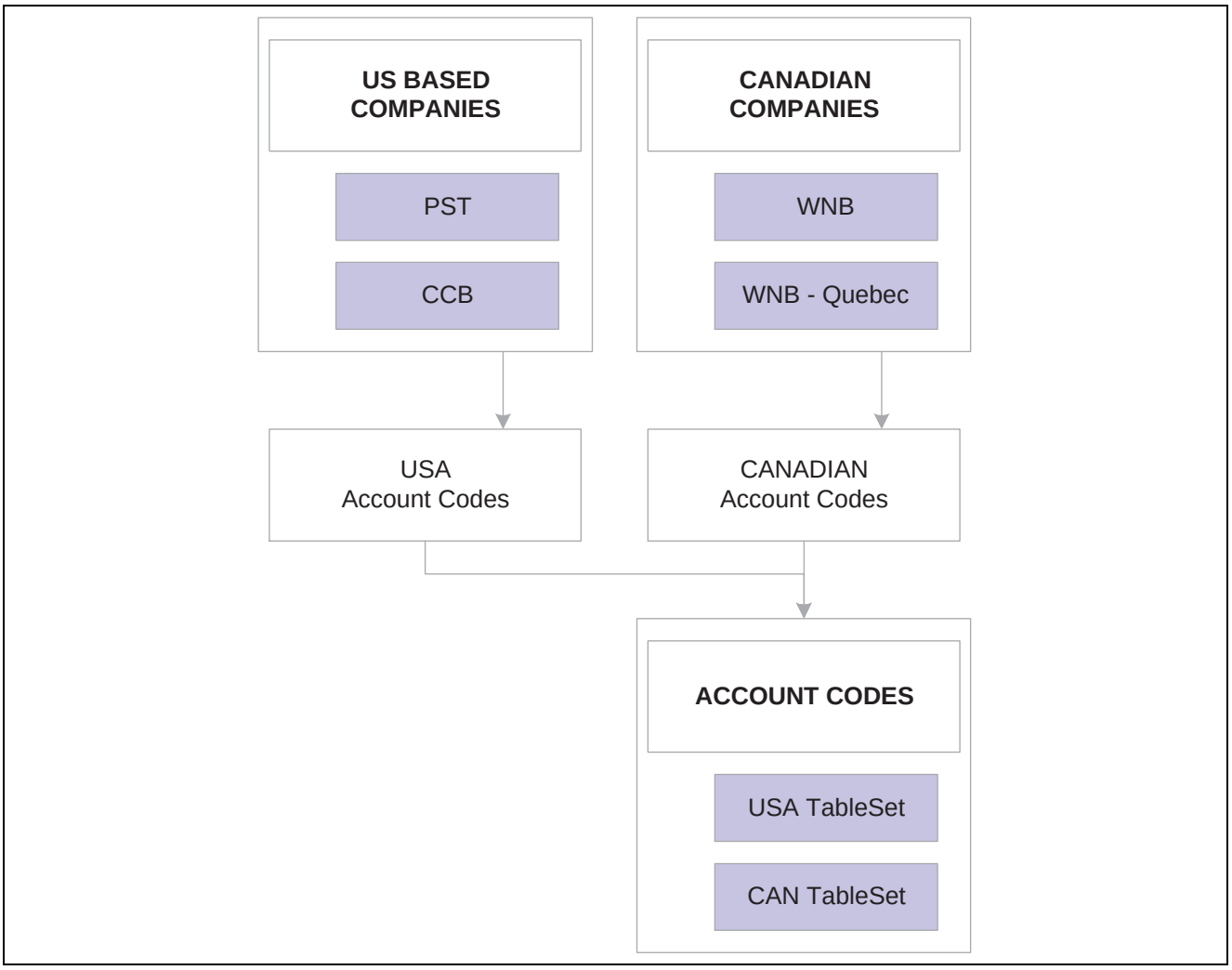
U.S. Account Codes	Canadian Account Codes	Description
123456789	123456789	Teller
987654321	987600000	Customer Service
CCB-4476-EXTSAL-USA	VNB-4476-EXTSAL-CDN	Extraordinary Salary Employees
CCB-4476-REGSAL-USA	VNB-4476-REGSAL-CDN	Regular Salary Employees

These two groups of companies must maintain parallel sets of accounting codes, and in some cases, they use the same code, uniquely identified for U.S. or Canadian companies.

We must set up the Account Code table so that users who access that page or prompt for valid values see only the values for their respective companies, depending on whether they're located in the U.S. or Canada.

To do this:

1. Modify the Account Code table, which will be shared, and the Company table, the values of which (CCB, PST, VNB) control the TableSets that are used.
2. Create two TableSet IDs:
   - USA: For U.S. companies.
   - CAN: For Canadian companies.



TableSets and set control fields

Assigning Set Control Fields

If you plan to use the Table Sharing feature to add an additional high-level key to identify common sets of values and handle exception values, you enter a set control field. The set control field determines which set of values appears, based on how you define table sharing.

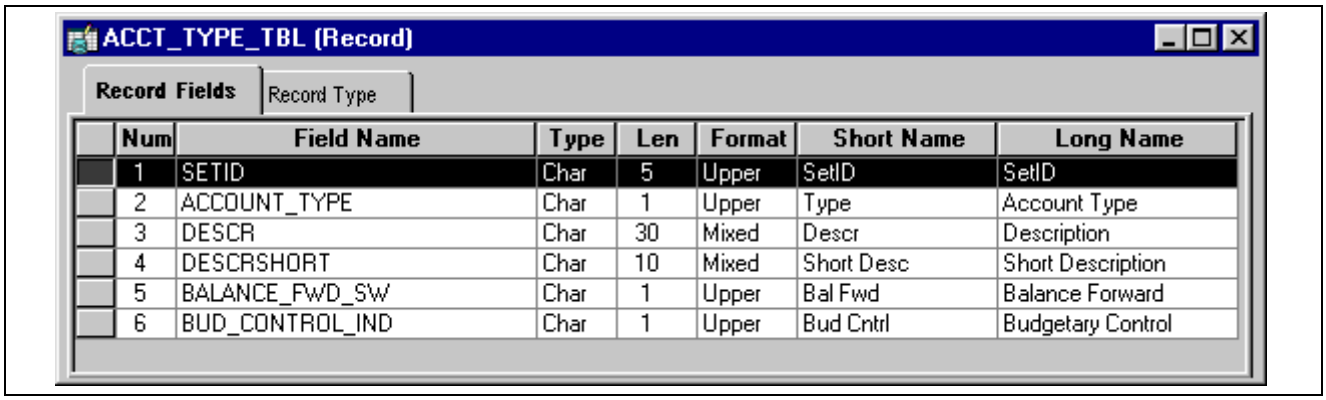
Table sharing is usually applied in multicompany environments, in which you might want to share certain tables in some operating entities while allowing others to retain control over the contents of their own. Use the feature to maintain a single table in which you can store multiple sets of values to be used by different entities in your organization.

When you create a record definition that will be shared, you add the field setID as a high-level key. The setID value is controlled by the key that you select in the Set Control Field drop-down list box in the Record Properties dialog box. These setIDs identify groups of tables to be shared and enable each business entity to identify whether it wants to use the corporatewide table or maintain its own. Enter the name of the key as your set control field for each record definition that will be shared.

For example, if you have several companies in your organization, many of which share the same set of account codes, add a SetID field to the Account table record definition. In this definition, enter *Company*. as the set control field. This enables different companies to access the account values stored in the same Account table. As each company defines its set controls, it has the option to use the shared Account table or maintain control of its own.

Adding the SetID Field to Record Definitions

Add the setID field to the record definition for table sharing purposes.



Num	Field Name	Type	Len	Format	Short Name	Long Name
1	SETID	Char	5	Upper	SetID	SetID
2	ACCOUNT_TYPE	Char	1	Upper	Type	Account Type
3	DESCR	Char	30	Mixed	Descr	Description
4	DESCRSHORT	Char	10	Mixed	Short Desc	Short Description
5	BALANCE_FWD_SW	Char	1	Upper	Bal Fwd	Balance Forward
6	BUD_CONTROL_IND	Char	1	Upper	Bud Cntrl	Budgetary Control

Adding setIDs to record definitions

To add the setID:

1. Open the record definition for the table that you want to share.
2. Select New, Field, Character.
3. Enter the special field that PeopleTools provides for table sharing:

   SETID

   SetID is a 5-character field. Add it to the top of your record definition list, and define it as a required key, search and list item, with a prompt table edit against the PeopleTools SETID_TBL.

Defining Set Control Fields

After you add the setID field to your record, identify the set control field in Record Properties.

To define the set control field:

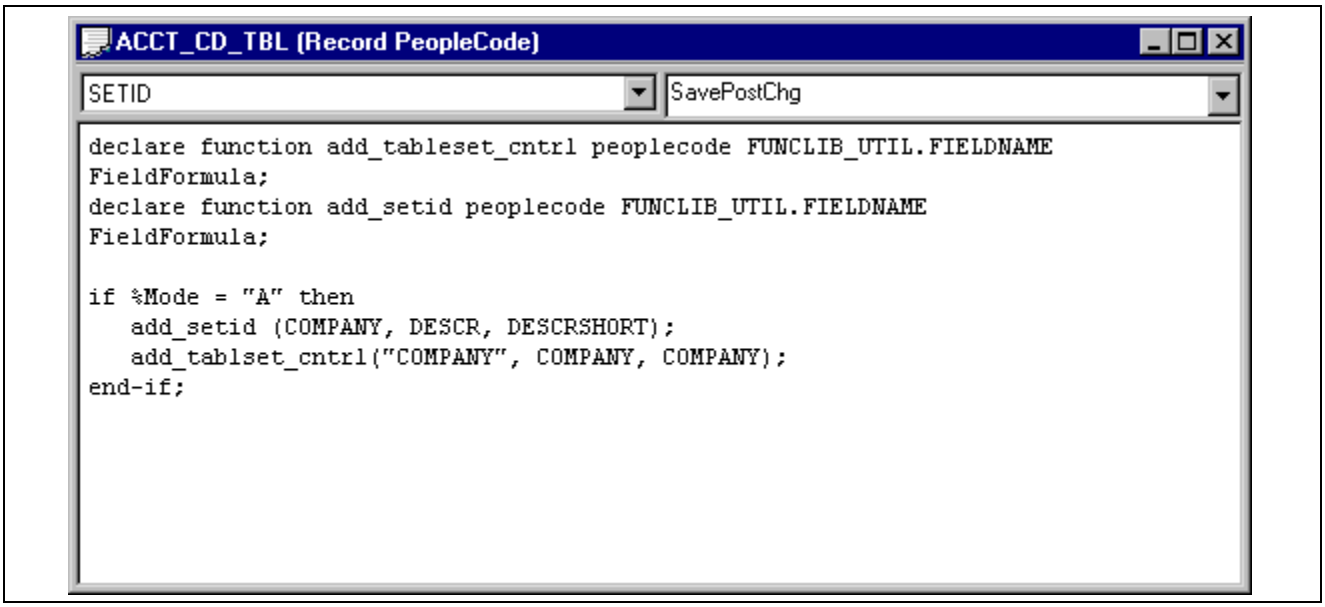
1. Select Edit, Definition Properties from the menu.
2. Select the Use tab.
3. Select the field that identifies the appropriate setID in the Set Control Field drop-down box.

   See Chapter 5, “Planning Records, Control Tables, and TableSets,” Understanding Table Sharing, page 96.
4. Click OK to save your changes.
5. Use the SQLAlter process to alter your underlying SQL table.
6. When the system prompts you for a default setID, enter the most common setID for your company.

Modifying the Set Control Field

If you are sharing tables or using a set control field that is not already defined as such in your PeopleSoft application, you must make some modifications to the record definition for the table in which you store values for your specified set control field. For example, all PST company codes are stored in the COMPANY_TBL.

Here, you must add PeopleCode to the set control field so that each time you add a new value, the system populates the set controls in PeopleTools utilities, where you assign the appropriate TableSets.



Attaching PeopleCode to your set control field

This program assigns a default setID with the same value as the Set Control Field value, for each new COMPANY row that you add to the COMPANY_TBL. For example, when you add a row for CCB in the Company table, it creates a default setID of CCB. This way, each value that you add is assigned a unique TableSet until you assign shared TableSets in the Utilities window.

You can easily clone and modify this program to change the ADD_SETID and ADD_TABLESET_CNTRL statements to reflect your table sharing objectives. Alternatively, if you're working with existing TableSet functionality, you can point to a model setID that is delivered with your PeopleSoft application.

See Also

Chapter 7, "Administering Data," Altering Tables, page 155

Creating SetIDs

After you prepare for sharing your table, you define the setIDs that logically group information. When you define setIDs, you create groups that might naturally share more than one table. For example, although CCB and VNB are planning to share only the ACCT_CD_TBL now, the setIDs that you set up might define logical divisions in the organization that serve as the basis for sharing all accounting-related tables. Describe your sets to give them as broad an application as is practical in your organization.

If possible, use descriptions that denote the shared table and set control field. For example, for CCB and VNB, we added two TableSet IDs, identifying them as related to accounting codes for companies.

setID	Description	Short Description
USA	Accounting Codes - USA Co.s	AcctCd USA
CAN	Accounting Codes - CAN Co.s	AcctCd CAN

You create SetIDs on the TableSetID page in PeopleTools, Utilities, Administration, TableSet IDs.

See Also

Enterprise PeopleTools 8.46 PeopleBook: System and Server Administration, "Using PeopleTools Utilities," TableSet IDs

Defining Record Groups

Record groups are a set of logically and functionally related control tables and views. They help enable TableSet sharing, which eliminates redundant data entry, and ensure that it is applied consistently across all related tables and views.

In the record group table, you group the record definitions for the tables that you want to share and any dependent record definitions. If you're adding a table to a PeopleSoft application, an appropriate record group might already be defined. However, if you're adding new business functions, you might need to add a new record group for the tables that you're defining. You access the record groups table in PeopleSoft Pure Internet Architecture on the Record Group page.

See Also

Enterprise PeopleTools 8.46 PeopleBook: System and Server Administration, "Using PeopleTools Utilities," Record Group

Defining TableSet Controls

As you add values for your set control, the system automatically populates the TableSet Controls 1 table with default values. You define TableSet controls in PeopleTools, Utilities, Administration, TableSet Control using the browser. Here you can enter the set control value for which you want to assign a TableSet.

For example, we use Company as our set control field and PST, CCB, and VNB are values that we're adding to the Company table. The system automatically assumes that each new set control value maintains its own set of tables and does not enable table sharing. So, the default values are the same as the set control value. In this case, when we added the value CCB to the Company table, the system populated the TableSet controls with a default setID of CCB.

Because CCB is a U.S.-based company that should share the same U.S. accounting codes, we must change the defaults to USA.

See Also

Enterprise PeopleTools 8.46 PeopleBook: System and Server Administration, "Using PeopleTools Utilities," TableSet Control

Sharing Trees

To share trees as well as tables and views, complete TableSet Controls 2 in the same way that you did TableSet Controls 1. For example, if PST and CCB want to share one department tree for organizational security and VNB another, you assign the appropriate setID for each value.

Defining TableSet Controls for Trees

To define TableSet controls for trees:

1. Select PeopleTools, Utilities, Administration, TableSet Control in PeopleSoft Pure Internet Architecture.
2. Enter the name of the set control value for which you want to assign a TableSet in the search page.

   For example, we use Company as our set control field and PST, CCB, and VNB are values that we're adding to the Company table.

   Because you already assigned a default setID in TableSet Controls 1, the system displays the default setID that you assigned to this field value. If you create another TableSet for sharing trees, you can change this value.
3. Specify the tree name.

   Click the prompt button next to the Tree Name field for a list of only the tree definitions with the same set control field (which has PostSave PeopleCode that recognizes it as a TableSet control field).

   This prompt list comes from a SQL view of tree definitions with that set control field that haven't already been associated with a tree group.
4. In each tree row, specify the appropriate setID.
5. Save your changes.

Viewing All Record Definitions Associated With a Set Control

You can view all record definitions that are associated with a set control in the Record Group tab of the TableSet Controls page.

Example of Set Controls

After you set up and define all of your set controls, you can see the results by looking at pages on which you reference codes that are stored in a shared table. For example, on Administer Workforce, Use, Job Data 1 and 2 pages, Account Code is an optional field that is edited against the ACCT_CODE_TBL. In this component, the system identifies the company based on the department to which an employee is assigned. For example, Simon Schumacher is in department *10100,* which is associated with the company *CCB*.

Select the Job Data 2 tab and enter *8001* or *Simon Schumacher* in the search record dialog box to retrieve a CCB row, for which the company is defined in the department table. Here, you can see that Simon works in department *00001,* which identifies him as a CCB employee. If you click the prompt button next to the Account Code field, the system displays only those rows in the Account Code Table that are associated with USA, the setID for CCB.

Alternatively, if you access the job row for Joan Avery, an employee of VNB, and click the prompt button for the same Job Data 2 Account Code field, you retrieve only values that are associated with CAN, the setID for VNB.

CHAPTER 6

Creating Record Definitions

Fields that are grouped together as a unit are *record definitions*. A record definition represents what the underlying Structured Query Language (SQL) database tables look like and how they process data.

This chapter discusses how to:

- View record definitions.
- Save record definitions.
- Name record definitions.
- Create a new record.
- Open an existing record.
- Manipulate fields in record definitions.
- Set record properties.
- Set record field properties.

Viewing Record Definitions

You can see four views of the record by selecting View from the main toolbar: Field Display, Use Display, Edits Display, and PeopleCode Display.

This section lists common elements and discusses how to:

- View basic field definitions.
- View key-related characteristics and default values.
- View editing options.
- View PeopleCode program types.
- Reorder fields.
- Size and sort columns.

Common Elements Used in This Section

Num (number)	The number of the field in the order in which it is defined in the record.
Field Name	The name of the field in the SQL database.
Type	The data type of the field, such as character, number, or date.

Viewing Basic Field Definitions

Field Display mode shows the basic field definition characteristics for fields in the record definition. Field definition characteristics are global—they affect all record definitions in which the field is used. To open the associated field definition, right-click while in Field View and select View Definition.

Len (length)	Indicates the maximum length of the field, including decimal places.
Format	Notes special formatting for the field, such as mixed case, date, international phone number, or RawBinary.
Short Name and **Long Name**	Displays the short and long names of the field as users see it on pages.

Viewing Key-Related Characteristics and Default Values

Use Display mode shows key-related characteristics and default values for fields that determine how fields are used in a record. The use characteristics might differ for fields that are used on more than one record definition. Double-click the field to access the Record Field Properties dialog box in which you define these parameters.

Key	Indicates whether the field is a key to the record definition. Key fields are included in an index that is automatically created during the table build process. The word "Not" in this column indicates that this field cannot be used as a chart field. This can only be set through PeopleCode using the SetDBFieldNotUsed function. See *Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference*, "PeopleCode Built-in Functions," SetDBFieldNotUsed.
Ordr (order)	Indicates the order of key fields in the index. This order can be configured from the Index dialog box and is reflected in this column.
Dir (direction)	Indicates the order in which the key field indexes are created in the database: ascending or descending.
CurC (currency control)	The currency format for this field is controlled by the currency code in another field.
Srch (search)	Indicates a search key—a field for which one is prompted in a search record dialog box.
List	Indicates a list box item—that is, whether the values for the field appear in the search record list box.
Sys (system)	Indicates that the field is generated and maintained by the system.
Audt (audit)	Specifies whether additions, changes, or deletions to data in this field are written to the standard PeopleTools Audit Table (PSAUDIT).
Default	Represents the default value that is used to initialize the field.

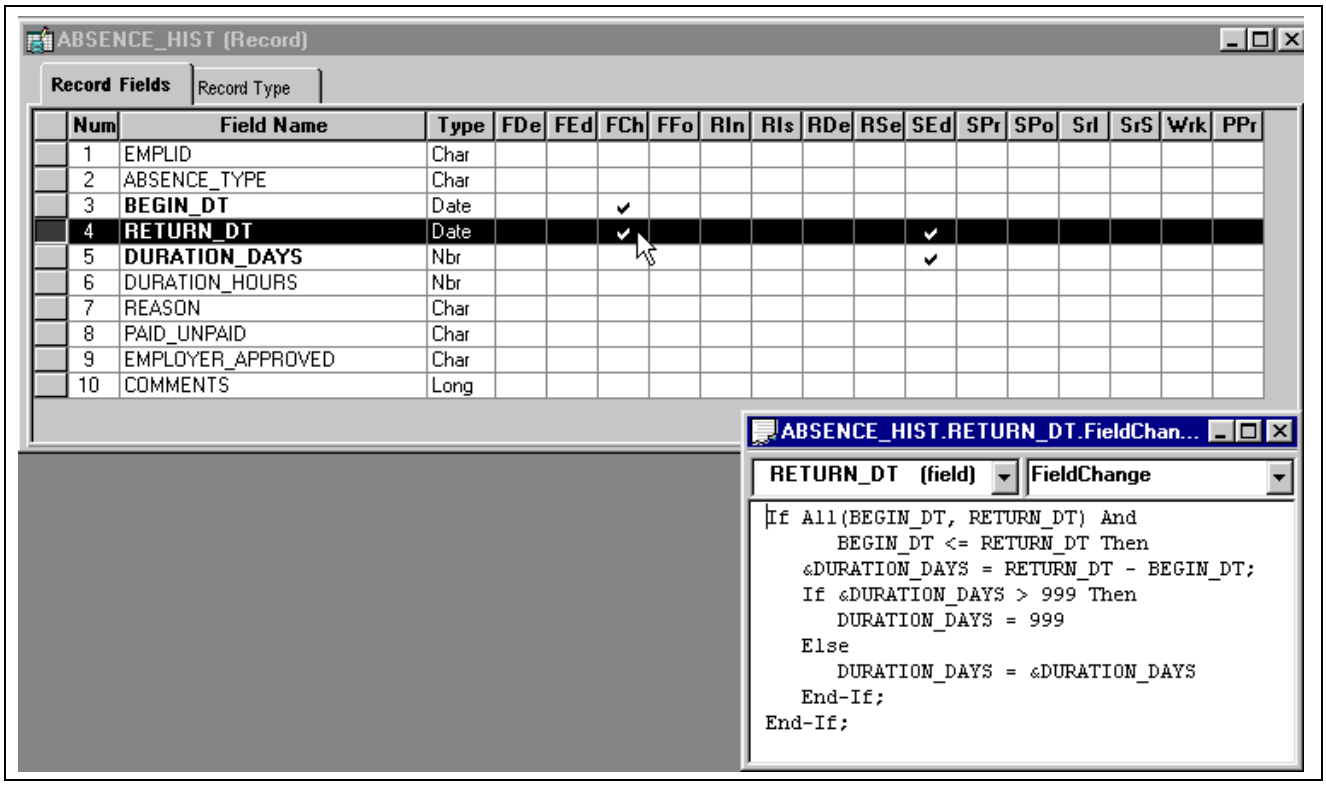
Viewing Editing Options

Edits Display mode shows all editing options (edit as a validation rule) that are available for fields in a record. Edits on a field vary from one record definition to another. To define parameters, access the Record Field Properties dialog box by double-clicking the field.

Req (required)	Indicates whether the field is required. A user must enter a value before the record can be written to the database.
Edit	Specifies that the values for this field are validated against a table. The translate table stores the codes and translate values: *Y/N* (yes or no): Only two values, Y or N, are valid. *Prompt:* Values reside in a designated prompt table.
Prompt Table	Indicates the prompt table for a field. When a user clicks the prompt button or presses the ALT+5 key combination on a page, the values that are stored in this table are retrieved.
Set Control Field	If you plan to use the Table Sharing feature to add an additional high-level key to identify common sets of values and handle exception values, add the name of the key here. The set control field determines which set of values appears, based on how you define table sharing.
Rs Dt (reasonable date)	Specifies whether a reasonable date test is performed on a date field. All date fields are automatically edited to ensure that you can enter only valid values. The reasonable date test warns if the date is outside a 30-day range before and after the current date. You can use this, among other things, to guard against entering the wrong year in a date.
Event	Indicates whether any type of PeopleCode has been added for this field. (You can also determine this because the field is bold if PeopleCode has been added.)

Viewing PeopleCode Program Types

PeopleCode Display mode contains a column for each PeopleCode program type. This display indicates which fields contain PeopleCode events with a check mark in the event type column. Double-click on a cell to launch the PeopleCode Editor. Note that fields containing PeopleCode are in bold in all display modes.



PeopleCode Display mode with PeopleCode Editor

Reordering Fields

You can reorder the display of fields in the record definition by double-clicking the attribute name. For example, if you double-click Field Name, the fields appear in alphabetical order; double-clicking Num returns the fields to their numeric order. This doesn't change the order of the fields in the actual record. The numbers that the fields are originally assigned remain the same. This is important when it comes to key fields.

To actually reorder the fields in the records, you must cut and paste or select the field and move it.

Sizing and Sorting Columns

You can change column lengths in any of the displays by dragging them to the appropriate size with your cursor. For example, you might make the short name column smaller so that the entire long name for each field appears. The default sizing of all columns returns after you close the record and reopen it.

You can also sort the rows in columns by double-clicking the column heading. For example, double-clicking the Num column heading returns the list of record fields to the default sort order.

Saving Record Definitions

PeopleSoft recommends that you save your work every time that you define a new record definition. As soon as you add or change one element in the new definition, save your work and name the record. You cannot save a record definition until you make at least one change to the record definition by changing record properties, adding or deleting at least one field, or changing the record field properties.

You cannot add PeopleCode to a field until you save the record definition.

To save a new record definition, select File, Save or File, Save As. If you haven't named the definition, the system prompts you to enter a record name. The system also prompts you to set the tablespace with the Change Space dialog box.

See Chapter 7, "Administering Data," Setting the Tablespace, page 169.

Naming Record Definitions

Use these guidelines for record definition names:

- The name length can be up to 15 characters, with the exception of the Temporary Table type, which has a maximum length of 13.
- The name must begin with a letter and can contain underscores to make it more readable.
- Avoid special characters, such as # or *$,* which can cause problems in some database environments.

See Chapter 2, "Using PeopleSoft Application Designer," Saving Definitions, page 30.

Record Naming Conventions

To help identify the purpose of different types of record definitions, PeopleSoft recommends that you adopt these naming conventions for record definition names, and use these suffixes:

_TBL	Identifies an edit or prompt table that contains data that is used for validation, as opposed to data that is maintained by the application. Prompt tables store commonly used values. They include, but are not limited to, control tables, which store company-wide values. For example, the location table (LOCATION_TBL) stores values for all operating locations in which your company does business; the country table (COUNTRY_TBL) stores values for all valid countries.
_VW	Identifies a record definition that is physically implemented by defining a SQL view.
_DVW	Identifies a dynamic view.
_WRK	Identifies derived work records.
_SBR	Identifies subrecords.
_QVW	Identifies a query view.
_WL	Identifies the record as a worklist record definition.

In some cases, PeopleSoft also uses these prefixes to identify special types of record definitions:

R_	Identifies work record definitions for Structured Query Report reports. The remainder of the record name consists of the program or report ID.
AUDIT_	Identifies record definitions that store audit information for other record definitions in the database.

WEBLIB_	Identifies record definitions that store internet scripts. Internet scripts are generally located in FieldFormula PeopleCode events. You must grant access in the Security component for a WEBLIB record with an internet script before it can be run in a PeopleCode program.
FUNCLIB_	Identifies record definitions that contain written PeopleCode functions, as opposed to built-in functions. You can include these records in the component and call them as functions. These self-developed functions are generally located in FieldFormula events, and the records are usually derived.
DERIVED_	Identifies shared record definitions (across an application module or group) that have fields for PeopleCode events.

Creating a New Record

This section discusses how to create new record definitions.

To create a new record definition:

1. Select File, New.
2. Select Record.
3. Click OK.

   The object workspace appears so that you can build a list of fields in a record definition.
4. Select the Record Type tab to define the type of record definition.

SQL Table (Structured Query Language table)	Select to define a record definition that has a corresponding physical SQL table in the database. Create this table when you run the Build Operation from the Build menu. This is the default setting.
SQL View (Structured Query Language view)	Select to define a record definition that corresponds to a SQL view, which is not a physical SQL table in the database, but rather fields from one or more SQL tables that are reorganized into a different sequence. This provides an alternate view of information that is stored in tables. To create the SQL view, click the Click to open SQL Editor button, enter a SQL Select statement, and then run the Build process. See Chapter 6, "Creating Record Definitions," Creating SQL View and Dynamic View Select Statements, page 129.
Dynamic View	Select to define a record definition that can be used like a view in pages and PeopleCode, but is not actually stored as a SQL view in the database. Instead, the system uses the view text as a base for the SQL Select that is performed at runtime. Dynamic views can provide superior performance in some situations, such as search records and in PeopleCode Selects, because they are optimized more efficiently than normal SQL views. **Note.** Keys for dynamic views should not be effective date fields.

Derived/Work	Select to define the record definition as a temporary workspace to use during online page processing. A derived or work record is not stored in the database, so you do not build it.
SubRecord	Select to define the record definition as a subrecord—a group of fields that are commonly used in multiple record definitions—that you can add to other record definitions. This way, you can change a group of fields in one place, as opposed to changing each record definition in which the group of fields is used.
Query View	Select to define the record definition as a view that is constructed using the PeopleSoft Query tool. Before you can create the view, PeopleSoft Application Designer prompts you to save the definition.
Temporary Table	Select to define the record definition as a temporary table. Temporary images of the table can be specified on the PeopleTools Options page. Temporary tables are used for running PeopleSoft Application Engine batch processes. Temporary tables can store specific data to update without risking the main application table.
Non Standard SQL Table Name (nonstandard Structured Query Language table name)	Specify the SQL table name that you are defining, to override the standard convention of prefixing PS_ to the record name.

See Also

Chapter 6, "Creating Record Definitions," Manipulating Fields in Record Definitions, page 109

Opening an Existing Record

Open a record definition in the same manner you open other definitions in PeopleSoft Application Designer. In the open dialog box you can narrow the search by selecting a record type or project. You can also open an existing record from the project tree view by double-clicking a record name.

Manipulating Fields in Record Definitions

This section provides an overview of fields in record definitions and discusses how to:

- Insert fields into records.
- Insert subrecords into records.

Understanding Fields in Record Definitions

You create record definitions by adding field definitions to a new record definition or by cloning and modifying an existing record definition. You can add fields in any order and reorder them at any time. Keys should be located at the top of the record definition, in order of importance.

Each field has basic attributes that are shared across all records that contain the field. These field properties include data type, field name, long name, short name, field length (or integer and decimal positions), formatting, help context number, and translate values. If you change any of these attributes for a field, the change affects *every* occurrence of the field in every record definition. If the change isn't appropriate for every occurrence of this field, consider defining a new field instead.

Note. Changing a field name or length requires modification of the underlying SQL table, either by running the SQL Build or SQL Alter menu items or by a system administrator action. For example, if you change a field length on one record definition and 30 other record definitions contain the same field name, you have 31 records that must be built or altered. If the records are all within one project, you can run the build process on the project instead.

Inserting Fields Into Records

You can insert a field into a record in one of several ways:

- Using the project workspace tree.

  To insert a field into a record definition directly from the project workspace by using drag and drop:

  1. Locate a field using the PeopleSoft Application Designer project workspace tree.
  2. Drag the field from the project workspace tree to the object workspace.

     The field and its attributes are automatically added to the list of fields in the record definition.

- Using the Insert menu (Insert, Field).

  Use the Insert, Field menu selection to search for fields with selection criteria, and then add them to the record using the Insert button. You can also double-click a selected field definition and select Insert the Field Definition. Fields are inserted below the selected field in the record definition.

- Dragging fields from existing records.

  To drag a field from one record definition to another:

  1. Open a record that contains the fields that you need.
  2. Select the field.
  3. Drag the field to a new record.

Inserting Subrecords Into Records

Select Insert, SubRecord to search, select, and insert subrecords into a record. A subrecord enables you to add a group of fields that are commonly used in multiple record definitions. A subrecord must be defined before it can be inserted into a record definition.

Viewing a Subrecord

Any open record in which a subrecord is inserted can have the subrecord expanded into the same record definition window by selecting View, Expand All Subrecords. After selecting this option, the parent record definition expands to show the fields in the subrecord. Subrecord fields are shaded.

When the subrecord is expanded, you cannot insert, cut, delete, paste, reorder, and sort fields. If you reordered the display of the fields, you cannot expand the subrecords.

The expanded subrecord fields are read-only, which means that you cannot see the properties of these fields. To access the properties, first open the subrecord. The shortcut to opening a subrecord is to click the expanded subrecord and select *View Definition.* This opens a subrecord definition from which you can view the properties of the fields.

Collapse the subrecord by selecting View, Collapse All Subrecords.

Nesting Subrecords

Nested subrecords are fully supported to any level. Expanding a record toggles the record field list to show all of the fields from all levels of nesting. Changes to subrecords are immediately reflected in expanded records.

Editing PeopleCode in Subrecords

You can edit PeopleCode that is attached to a subrecord field by double-clicking the appropriate field as it appears in the expanded record. Any PeopleCode changes that you make apply to all records that contain that subrecord.

Setting Record Properties

After you create a record definition, you'll want to apply attributes so the record functions. Access the dialog box by selecting Record Properties, then either the General or Use tab. This section discusses how to:

- Set general properties.
- Set use properties.
- Create user-defined audit record definitions.

Setting General Properties

Access the Record Properties, General tab.

Description Enter a descriptive name for the record.

Record Definition Enter appropriate comments in this area, including details about the record type, use, parent and child relationships, or other information that is important to other application designers.

Owner ID Displays a list of applications with which this record is used. This list is helpful to identify the applications with which the record is associated during application development.

Last Updated Displays the date and time of the last modification that was made to the record and the name of the user who made the modification.

Setting Use Properties

Access the Record Properties, Use tab.

These properties control the way the record definition is used in the system.

Specify the field with which the system maps between the original key and the tablesets in the Set Control Field drop-down list box.

See Chapter 5, "Planning Records, Control Tables, and TableSets," Defining Set Control Fields, page 98.

Record Relationship Settings

Parent Record If this is a subordinate or child record, specify the parent record.

Related Language Record Specify a related language record:

- The master record definition, which contains the appropriate key and nonkey field definitions.
- A clone of the master record definition, to which you add an additional key for language code.

  This is the related language record definition. This definition should contain only those nonkey fields for which contents vary by language. Link the two record definitions by specifying the name of the related language record definition in this field on the master record definition.

  At runtime, the system checks the user's language preference and retrieves the data value from the appropriate related language record definition.

Query Security Record Specify a query security record if you want secure access to a record using a security view.

Optimization Delete Record Specify a delete record to use for optimization.

Record Name Specify the user-defined audit record.

Audit Options

While you can audit individual fields at the field level, you might find it more efficient to have the system audit the entire row whenever a user adds, changes, or deletes information. With record-level audits, the system focuses on rows of data, instead of specific fields. Consequently, a record-level audit writes a single row of audit data, rather than writing multiple rows for each insert, change, or delete transaction at the field level.

Add Inserts an audit table row whenever a new row is added to the table underlying this record definition.

Change Inserts one or two audit table rows whenever a row is changed on the table underlying this record definition.

Selective Inserts one or two audit table rows whenever a field that is also included in the record definition for the audit table is changed.

Delete Inserts an audit table row whenever a row is deleted from the table underlying this record definition.

Record-Level Auto-Update Options

These settings are used exclusively for mobile applications, enabling developers to display derived values on a mobile page. They are not available for subrecords.

System ID Field Set this field to assign a unique way to identify the record for mobile synchronization purposes. This field must have a user defined index created for it.

Timestamp Field Set this field to automatically update this field with the date and time when there's a change to the record for mobile synchronization purposes.

Sync type (MSF)

The Sync type settings are used only with the PeopleSoft Enterprise Mobile Synchronization Framework (MSF).

Note. PeopleSoft intends to support the Mobile Synchronization Framework in a future release.

Record Information

The Record Information contains options used during PeopleSoft upgrades.

Tools Table Identifies SQL tables owned by Enterprise PeopleTools development, which is typically the same ownership as indicated by the PPLTOOLS project.

Managed Identifies SQL tables owned by Enterprise PeopleTools development that contain information which is used by managed (cached) objects.

Note. The Append ALL (Dynamic Views) option applies to dynamic views. If it is set, at runtime the system appends the WHERE clause generated at runtime to all the SELECT statements in a dynamic view with a UNION.

Also, if it is set, at runtime the system generates FILL as the table alias in the WHERE clause condition. For example, FILL.<record field name> LIKE '%O%'. You need to specify which table corresponds to the FILL in the dynamic view definition. For example, FROM tableA FILL. This is because the same record field name may exist in two different records.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft Mobile Agent, "Using Synchronizable Component Interfaces," Understanding the Synchronization ID and Datetime Stamp

PeopleSoft upgrade documentation

Creating User-Defined Audit Record Definitions

To audit at the record level, you must create a record definition and SQL table in which you store audit information. When you create a new audit record definition, name it with an *AUDIT_* prefix. Some processes, such as the Employee ID Change and Employee ID Delete processes in the PeopleSoft Human Resources Management product line, change fields, such as EMPLID (employee identification). These processes do not affect record definitions that begin with the *AUDIT_* prefix, leaving your audit data secure.

The easiest way to create an audit table is to open the record definition that you want to audit, and save it as a new record definition, prefaced with *AUDIT_*. Audit record definitions can't contain key fields. Therefore, if you clone a record definition to create an audit record definition, you must remove all key attributes.

PeopleSoft recommends that you also use the audit-specific fields that are already defined for the PeopleTools audit table (PSAUDIT), which PeopleSoft uses to track field-level audits. Place these audit fields at the top of the audit record definition, as you would keys. If you are creating several user-defined audit record definitions, you might consider creating and using a subrecord definition with these audit fields instead of adding them individually to each audit record definition.

This table lists audit field names and their purpose:

Audit Field Name	Purpose
AUDIT_OPRID	Identifies the user who caused the system to trigger the audits—either by performing an add, change, or delete to an audited field.
AUDIT_STAMP	Identifies the date and time the audit was triggered.
AUDIT_ACTN	Indicates the type of action that the system audited. Possible actions include: • A: Row inserted. • D: Row deleted. • C: Row changed (updated), but no key fields changed. The system writes old values to the audit table. • K: Row changed (updated), and at least one key field changed. The system writes old values to the audit table. • N: Row changed (updated), and at least one key field changed. The system writes new values to the audit table.
AUDIT_RECNAME	Identifies the name of the record definition that was audited.

In most cases you should include AUDIT_OPRID, AUDIT_STAMP, AUDIT_ACTN. The AUDIT_STAMP must be given the attribute AUTOUPDATE. You might also add AUDIT_RECNAME if you are creating an audit table to audit more than one record definition.

Note. Select the Auto-Update check box in the Record Field Properties dialog box; otherwise, the audit record does not receive a date and time stamp.

Setting Record Field Properties

This section provides overviews of record field properties and record key considerations, and discusses how to:

- Set record field use properties.
- Add from and through logic to the search page.
- Set record field edit properties.
- Move fields in the same record.
- Move fields to another record definition.
- Delete a field from a record definition.
- Rename record definitions.
- Delete record definitions.
- Print record definitions.
- Create SQL view and dynamic view Select statements.

Understanding Record Field Properties

When you add a field to a record definition, you must define attributes for how the field is used in that record. These include key settings, default values, table edits, and PeopleCode programs.

The properties of record fields are not shared among records; they are specific to a single record definition and are stored with the record. Therefore, even though you might add the same field to multiple records, each record stores a unique set of record field properties while the primary field definition remains the same.

When you access *record* field properties from a *record* definition, you set the *record field* properties—not field definition properties or record definition properties.

To edit record field properties from a record definition, select Edit, Record Field Properties from the PeopleSoft Application Designer menu.

Understanding Record Key Considerations

When creating key fields in your record definition there are several guidelines to keep in mind.

Records With Multiple Keys

You can specify more than one field as a key to a record definition—that is, a record definition can have a compound key.

	Num	Field Name	Type	Key	Ordr	Dir	CurC	Srch	List	Sys	Audt	Default
	1	EMPLID	Char	Key	1	Asc		Yes	Yes	No		
	2	ABSENCE_TYPE	Char	Key	2	Asc		No	No	No		'CNF'
	3	**BEGIN_DT**	Date	Key	3	Desc		No	No	No		%date
	4	**RETURN_DT**	Date					No	No	No		
	5	**DURATION_DAYS**	Nbr					No	No	No		
	6	DURATION_HOURS	Nbr					No	No	No		
	7	REASON	Char					No	No	No		
	8	PAID_UNPAID	Char					No	No	No		'U'
	9	EMPLOYER_APPROVED	Char					No	No	No		'N'
	10	COMMENTS	Long					No	No	No		

Defining compound key combinations

For example, the keys to the ABSENCE_HIST record definition are EMPLID, ABSENCE_TYPE, and BEGIN_DT. This means that an absence history can be created only once.

Keys on Parent and Child Tables

In some cases, you have a field in a table for which you want to allow multiple occurrences, in which case you create a subordinate or child table. For example, for employee reviews, an employee can be reviewed for performance in multiple categories—organization skills, interpersonal skills, and so on. These categories and ratings are stored in a separate child table, EE_REVIEW_RT, which is directly related to REVIEW_DT, the parent table that stores information about employee reviews.

The keys that you establish in a parent record definition determine which keys are required in child record definitions. The child must have the same keys as the parent, plus one or more keys that uniquely identify each row:

Item	Parent Table	Child Table
Record Definition	REVIEW_DT	EE_REVIEW_RT
Key Fields	EMPLID REVIEW_DT	EMPLID REVIEW_DT CATEGORY

Most record definitions have either one primary key, multiple keys that comprise independent, or parent and child key combinations. There are, however, exceptions, such as record definitions without keys and duplicate order keys.

Records Without Keys

Some record definitions, such as INSTALLATION, don't require keys, because only one row of data exists in the table. Whereas a table normally has keys to help distinguish between multiple occurrences of data, in this case there's only one row of data, so there's no need to distinguish one row from another. Another primary use for keys is to build database indexes to rows—because there's only one row for each table, the record doesn't need indexes.

Num	Field Name	Type	Len	Format	Short Name	Long Name
1	COMPANY	Char	3	Upper	Co	Company
2	**MIN_STD_HRS**	Nbr	2.2		Min Std Hr	Minimum Standard Hour
3	**MAX_STD_HRS**	Nbr	2.2		Max Std Hr	Maximum Standard Hour
4	STD_HRS_DEFAULT	Nbr	2.2		Default Hr	Default Standard Hours
5	TEMP_SSN_MASK	Char	3	Upper	Temp SSN	'Temporary SSN' Mask
6	COMMIT_AFTER	Nbr	4		Commit Aft	Commit After Empl Proce
7	POSITION_MGMT	Char	1	Upper	Posn Mgmt	Position Management O
8	COUNTRY	Char	3	Upper	Cntry	Country
9	COMP_FREQUENCY	Char	1	Upper	Comp Freq	Compensation Frequenc
10	EMPLID_LAST_EMPL	Nbr	10		Last Empl	Last Employee ID Assign
11	EMPLID_LAST_APPL	Nbr	10		Last Appl	Last Applicant ID Assign
12	NON_EMPLOYEE_LAST	Nbr	10		Last NonEm	Last Non-Employee ID A
13	JOB_REQ_NBR_LAST	Nbr	6		Last Req#	Last Job Requisition # U

INSTALLATION Table

Records With Duplicate Order Keys

Occasionally, you might encounter situations in which a unique identifier for each row does not exist. *Duplicate order keys* are a way of ordering data in the table when duplicate values are allowed.

For example, in the EDUCATN table, PeopleSoft anticipated that an employee can receive two degrees of the same type on the same date. For example, though rare, Simon Schumaker could receive two honorary degrees in computer science on the same day. Because there is no unique identifier—the employee ID, date earned, and degree are all the same—the user must maintain the data differently. The key, instead of defining a unique row, defines a group of rows. In that group, you must determine the order in which you want to display information.

In the EDUCATN record definition, there are three keys that together determine how information is stored and retrieved. EMPLID identifies the group of rows; the placement of the duplicate order keys, DT_EARNED and DEGREE, instructs the system to order rows in the group first by date, then by degree:

EMPLID	DT_EARNED	DEGREE
8001	June 1, 1992	HON
	June 1, 1992	HON

The system concatenates or joins keys when it checks for uniqueness. In this case, the system accepts duplicate entries in the DEGREE and DT_EARNED fields because they are part of a set that is identified by EMPLID.

Ordering Keys

The position of keys relative to one another is critical in a record definition; always list them in order of importance. The primary key must be the first field in the record, followed by the next most important key, and so on.

Key fields are followed by duplicate order keys, in order of importance, then by fields that are not keys. You can scatter alternate key fields anywhere among regular fields, in any order. They do not need to be grouped.

Key, Duplicate Order Key, and Alternate Search Key are mutually exclusive.

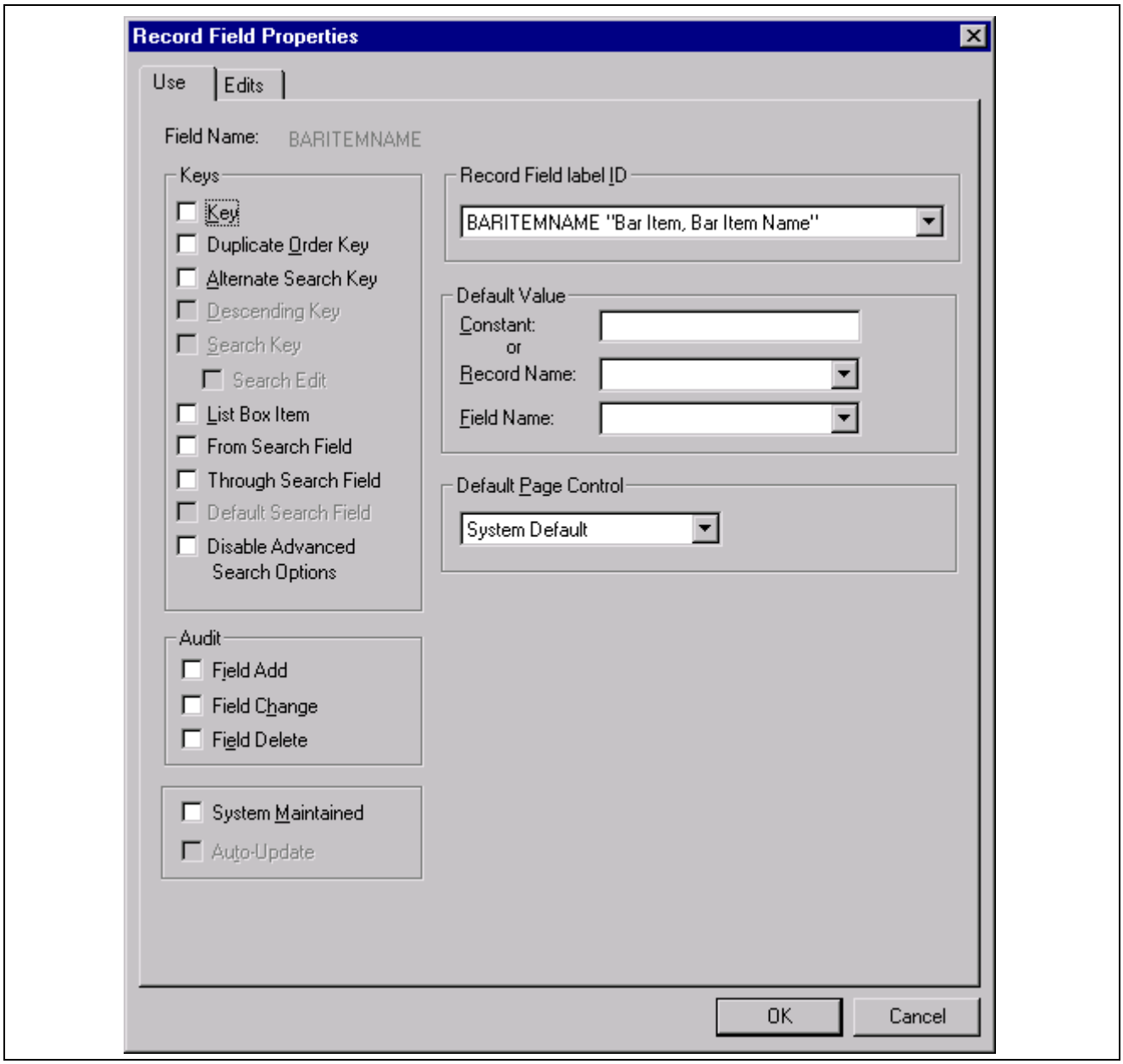
Note. The display of key fields in record definition views does not always match the order in the record. Always check the Num column to see the actual order.

Each alternate search key that you establish creates a database index when you SQL Create the table. While database indexes are important, they consume disk space and, when the system must support the alternate key, processing time. Therefore, don’t add alternate search keys unless you really need them.

Setting Record Field Use Properties

As you add fields to a record definition, you must decide which fields uniquely identify each row; these become the record keys. The nature of the data that you are storing should naturally determine the "keys" to the information in the database.

The record field properties options that are available for field types might vary slightly—for example, some of the properties that you assign might be relevant only to a character field in a record and not to a date or time field. However, all of the options are described in this section.



Record Field Properties dialog box: Use tab

Keys

Key Select to identify the field as the search criteria that uniquely identifies each row. You cannot have duplicate values for primary keys. For example, EMPLID is the only key to the PERSONAL_DATA record definition. Therefore, EMPLID must be a unique value for each employee and there can be only one PERSONAL_DATA row per employee.

Duplicate Order Key Select to indicate that duplicate values can occur. The order in which you place duplicate order keys in a field list determines the order in which duplicate keys are retrieved.

Alternate Search Key Select to identify the field as a key that provides an alternate path into the table data. Duplicate values are allowed in an alternate search key field. If you

define a field as an alternate search key in a search record, when you bring up a page, the system prompts you to enter a key or alternate search key values.

Descending Key Select to identify the field as descending if you want rows of data to be retrieved in reverse alphanumeric order (for example, 3, 2, and 1). If you clear this check box, the key is ascending, meaning that rows are stored and retrieved in alphanumeric order (for example, 1, 2, and 3). This option applies only to a field that is specified as a key, duplicate order key, or alternate search key. PeopleSoft uses descending order primarily for effective date fields; most character keys are ascending.

Search Key Select to make the field available on the basic and advanced search or lookup pages. A search key is valid only for keys and should be used only in search and prompt records. If you select this check box, the system automatically selects List Box Item.

Search Edit Enabled only if Search Key is selected. Selecting this option enforces the required property and table edits on the search page. It also enforces these edits under circumstances where the search page would normally be bypassed. With this option, the user no longer has the ability to perform partial searches on this field.

List Box Item Select if you want the field to appear in the list box preceding a page. If a field has values in the translate table and you designate it as a list box item, the list box automatically shows the translated value instead of the code.

From Search Field and **Through Search Field** Select for fields that are used as search records. If you select From Search Field, the displayed list contains rows in which the field value is greater than or equal to a value that the user enters. If you select Through Search Field, the displayed list contains rows in which the field value is less than or equal to a value that the user enters.

If you do not want these fields to be in a search list box, clear the List Box Item check box, even if the field is an alternate search key.

Default Search Field Select to control which field name appears in the Search By drop-down list box on the basic search page.

Disable Advanced Search Options Select to prevent runtime search pages from displaying advanced search features for this field.

Audit

The audit options apply only to data that is manipulated on a normal PeopleSoft application page through component processing. These options do *not* apply to data that is added using SQLExec in PeopleCode or by some other means. PSAUDIT logs the user ID, the date and time the field was modified, and the old and new values.

To audit certain fields, regardless of the record definitions in which they're included, you want to control when the fields are audited. To audit several fields in a record definition, you might want to consider specifying audits at the record definition level.

Field Add Audits this field whenever a new row of data is added.

Field Change Audits this field whenever the contents are changed.

Field Delete Audits this field whenever a row of data is deleted.

System Maintained Select to indicate that the field value is system-generated. This option is for documentation purposes only and doesn't affect processing.

Auto-Update Select to have the field updated with the server's current date and time whenever a user creates or updates a row. Any user entries—even if permitted on a page—are overwritten by the server time.

Currency Control Field Enables the user to specify where to find the currency code that is used to display the currency symbol, decimal digits, and scale of a number field. To use this option, the multicurrency option must be set. You might also want to enable the current display when you define the field on the page.

Record Field Label ID

Specify which label, long name or short name, to use for the record. The default value is ****Use Default Label***. This enables you to change labels of record fields dynamically anytime that the default label on the field definition is changed.

For example, if a field definition has three labels:

- Label1 (Long Name1, Short Name1), marked as default.
- Label2 (Long Name2, Short Name2).
- Label3 (Long Name3, Short Name3).

When the label ID in a record field is set to *Use Default Label,* initially the long name and short name are Long Name1 and Short Name1. If the default label is changed to Label3 in the field definition, then the long name and short name automatically become Long Name3 and Short Name3.

Default Value

Select the most commonly used value as the default. You can always enter a different value if the default is inappropriate. The more defaults that you provide, the more data entry time you'll save your users.

For a field, you can enter a default value as a system variable or as a combination of record and field names.

Constant Specify a default value.

The value is case-sensitive. If the record has translate values for this field, the values appear in a drop-down list.

You can specify a system variable only when you want to display the value of the current date or time. The accepted system variables to be used as constants are:

- %DATE for DATE, TIME, or DATETIME fields.
- %TIME for TIME fields.
- %DATETIME for DATETIME fields.
- %CLIENTDATE for DATE, TIME, or DATETIME fields. Note that in this case %CLIENTDATE is only relevant for a DATE field. Otherwise it behaves the same as %DATE.

Record Name and **Field Name** Enter the record and field names of the default value.

Default Page Control Specify the default appearance of a field as it appears on the page that corresponds with the record field that you are creating.

Time Zone and Related Date Fields

These fields are enabled only if the current field is a time or date and time field. They determine whether the field is displayed or entered in a specified time zone.

Specified Time Zone Times are always stored in a database base time zone, but when you place a time field on a page, you can display the time in the base time zone or another time zone.

If you clear this check box, the time appears in the database base time zone. If you have users in multiple time zones, you can reduce confusion by showing the time zone along with the time.

If you select this check box, the system converts the time according to the time zone specified in Time Zone Control Field. This control field must be a field in the current record. Set an appropriate default value for the time zone control field.

Date Control Field Select which related date field in the current record stores the calendar date to which this field should be adjusted.

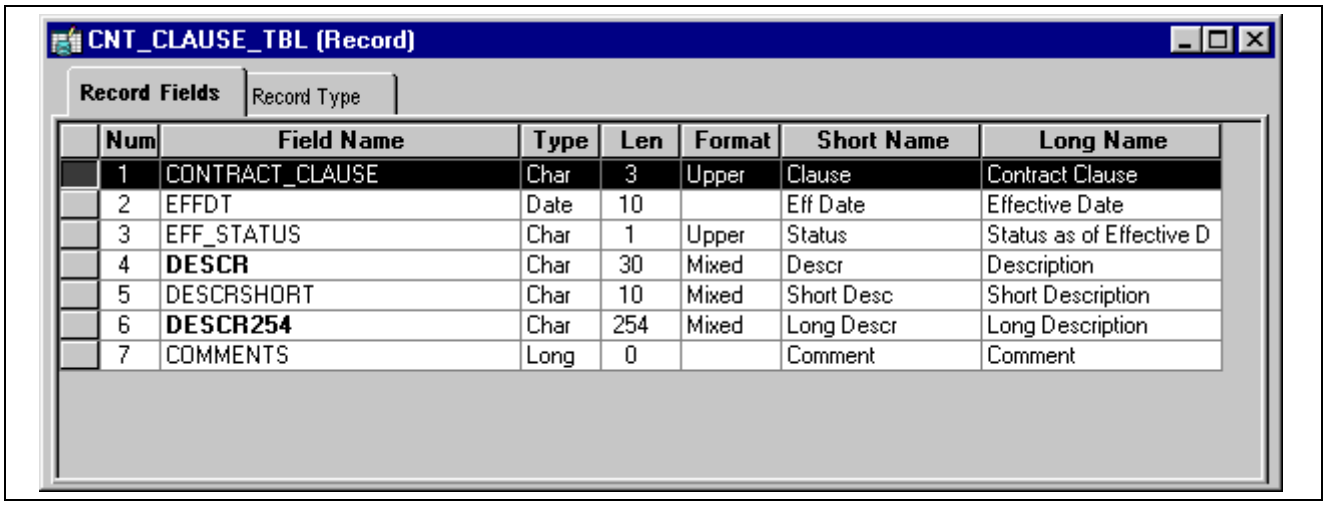
Typically, you want to make a date field a descending key so that the row with the latest and most current time appears first. If you want the default value to be the current system date, enter the value %date (or %time) as the constant in the Default Values group box.

In general, each Time record field that is related to the Time Zone field should also be related to a Date field on that same record. Otherwise, the time data that is displayed or saved may not properly reflect the appropriate state of daylight savings in that time zone. Furthermore, each Time record field should be associated with a *different* Date record field.

For applications where two Time record fields need to share a common Date record field (as in, records with a start time and an end time *always* occurring on the same date), you can relate each Time record field to the same Date record field. However, keep in mind that the Date record field will only consider itself associated with *one* Time record field—the related Time record field that has the earliest position in the record field ordering for that record.

Adding From and Through Logic to the Search Page

Refer to the following example when applying from and through logic to a search page.



Num	Field Name	Type	Len	Format	Short Name	Long Name
1	CONTRACT_CLAUSE	Char	3	Upper	Clause	Contract Clause
2	EFFDT	Date	10		Eff Date	Effective Date
3	EFF_STATUS	Char	1	Upper	Status	Status as of Effective D
4	**DESCR**	Char	30	Mixed	Descr	Description
5	DESCRSHORT	Char	10	Mixed	Short Desc	Short Description
6	**DESCR254**	Char	254	Mixed	Long Descr	Long Description
7	COMMENTS	Long	0		Comment	Comment

CNT_CLAUSE_TBL record

To apply the from and through logic to a search page:

1. Determine which component you want to change.

   You must modify the search record for a particular page, so you must first identify the appropriate component.

2. Determine on which field to use the from and through search logic.

   Open the component in PeopleSoft Application Designer and examine the search record that is associated with the component. In the CNT_CLAUSE_TBL record, the search record is CNT_CLAUSE_TBL, and the field to which you want to apply the from and through search logic is CONTRACT_CLAUSE.

3. Create a new view that contains the same fields as the original search record.

   To use the from and through search logic, the search record *must be a view.* If the search record is already based on a view, you can modify the existing view instead of creating a new view.

4. Select the From Search Field property for the field.

   In the new view, select the from search field and apply the following record field properties: Key, Search Key, and From Search Field (List Box Item is optional).

5. Create a new field with exactly the same attributes as the from field.

   For example, if CONTRACT_CLAUSE represents the *field* from which you want to search, create a field called CONTRACT_CLAUSE_TO representing the field *through* which you want to search.

6. Insert the new field directly below the original field.

7. Select the Through Search Field property for the field.

   Select the new through search field and apply the following record field properties: Key, Search Key, and Through Search Field only.

8. Update the SQL view text.

   Update the SQL view Select statement in the new view to reflect the new column. That is, the view text should select the same field twice in a row (as shown in the example that follows this procedure). This is because the same field is used for the from logic and the through logic.

9. Save and build the new view.

10. Update the component properties.

    You must update the search record so that the component uses the new view.

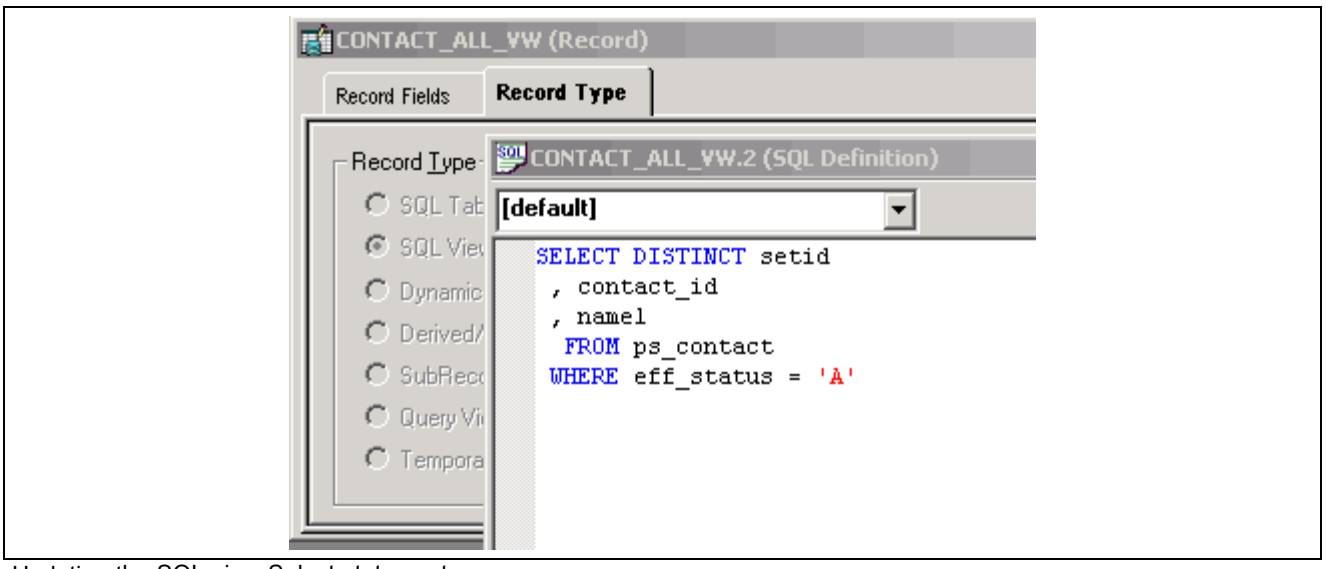
11. Test the new search page.

    The search page should now include the new through field so that the user can specify a range of values for the field. Because you want to search on both fields, you must use an advanced search.

    The results in the list box should reflect a range of values between the from and through fields that are specified. The results are inclusive—they include the minimum and maximum values that the user specified.

Example of Updating the SQL View Select Statement

Once you define a search field as a Through Search Field, you'll need to update the SQL view text.



Updating the SQL view Select statement

Setting Record Field Edit Properties

The Edits tab enables you to specify whether the system is to perform special edits or validations on a record field. You also name the record definition for the prompt table that stores values.

Required Select if you don't want users to skip a field or leave it blank. Users are unable to save their work until they complete all of the required fields on a page.

Note. The system only checks required fields when the page field is changed or the record buffer is changed.

Edit Type

No Edit Select if you don't want to edit the contents of this field against a table. This is the default, which makes the options in the Table Edit group box unavailable.

Table Edit Select to edit the contents of the field against the values that are maintained in the specified table. When you select Table Edit, the Type field becomes available in the Table Edit group box.

Table Edit

Type Select from the drop-down list box:

Prompt Table with No Edit: Provides users with a list of suggested values, but does not edit the contents of the field against the prompt table. Users can enter any value. Selecting this option makes the Prompt Table field available.

Prompt Table Edit: Edits the contents of the field against the values that are maintained in the specified prompt table. Selecting this option activates the Prompt Table field. When you enter a prompt table name and exit the field by pressing TAB, Set Control Field becomes activated.

Translate Table Edit: Edits the contents of the field against the translate table. The translate table stores values for fields that must be validated but don't need individual tables of their own. If you select this option, Prompt Table and Set Control Field become unavailable.

Yes/No Table Edit: Makes the values for this field Y (yes) and N (no) only. If you select this option, Prompt Table and Set Control Field become unavailable.

This is a 1/0 table edit where 1=True and 0=False.

Note. The list of available table edit types is dependent on the field type.

If you add a field (other than with the paste action) to a record and the field name is already defined in the database with previously defined translate values, the system automatically selects Table Edit and selects *Translate Table Edit* as the table type. For both *Translate Table Edit* and *Yes/No Table Edit,* PeopleSoft recommends that you follow its design standards, select Required, and specify a default value for the field in the Record Field Properties dialog box.

Prompt Table

Enter the name of the record definition that you want to use as the prompt table for this field.

If you want the prompt table to vary depending on the context of the field, indicate a field in the derived or work record (DERIVED) that contains the name of the prompt table at runtime. Then, in this field enter *%FieldName.*

The *%* is required, and indicates that you're referencing a derived or work record definition named DERIVED. *FieldName* is the name of the field in that DERIVED record definition.

Set Control Field

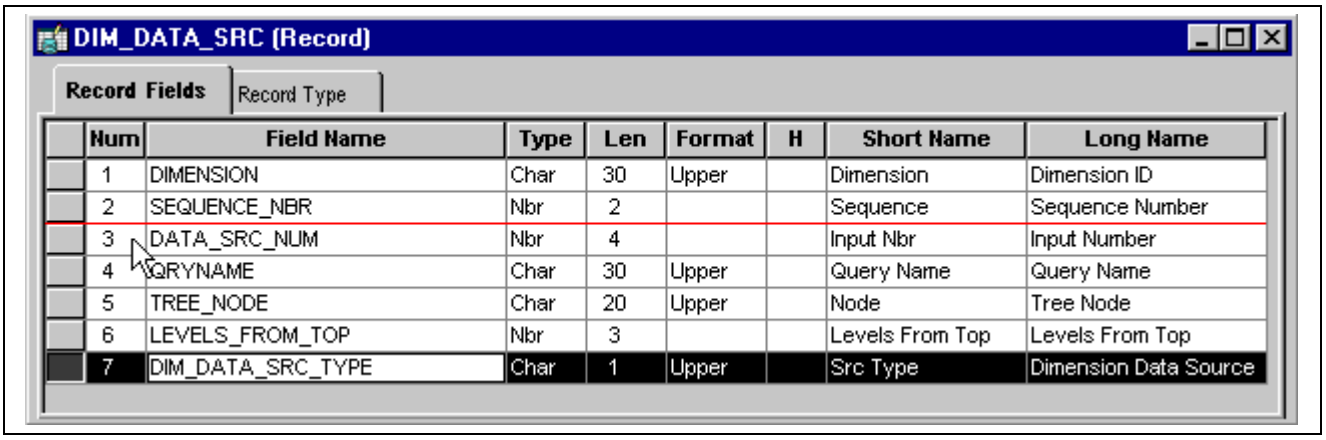
Select a set control field that overrides the set control field of the record definition specified in the prompt table. If you don't specify a name in this field, the default is the set control field of the record definition specified in the prompt table.

Reasonable Date

Select if you want the system to test the field value to determine whether it is within 30 days of the current date. If the date is out of range, a warning message appears when the user exits the field.

Moving Fields in the Same Record

You can move fields in a record by dragging a field to another place in the open record definition. In addition, you can change the visible order of fields by clicking any of the grid headings.



Moving field to new position

To move a field in the same record definition:

1. Select the field that you want to move.

   Use the CTRL and SHIFT keys to select multiple fields at once.

2. Drag the selected field number to the new position in the record definition window.

   A red line between rows indicates the new placement options as you drag the field. The Num column automatically renumbers the fields in the new order.

Note. The fields are reordered only in the visible display of the record definition, not in the actual table.

Moving Fields to Another Record Definition

To move fields from one record definition to another, you can cut and paste the fields. You can also drag a field from the project workspace into a record definition in the object workspace or between open record definitions.

To move a field from one record definition to another:

1. Open the two records between which you want to move the field.
2. Select the field that you want to move.

   Move multiple fields by using the CTRL or SHIFT keys.

3. Select Edit, Cut.

   If this is the correct field to cut from the record, click Yes.

4. Select the new position for the field in the destination record.
5. Select Edit, Paste to paste the field into the new record definition.

Note. PeopleCode that is associated with fields is not carried over with cut and paste operations. The same is true for delete and undo with field deletions in records. RecordField attributes, such as key, search key, and so on, *are* retained.

Deleting a Field From a Record Definition

To delete a field from a record definition:

1. Select the field that you want to remove and press the DEL (delete) key.

This deletes the field completely and doesn't copy it to the clipboard, unlike a cut operation, which *does* copy to the clipboard.

2. When the system prompts you to confirm the deletion, click Yes.

   If you've already SQL Created the underlying table for the record definition from which you are deleting the field, re-create the table, or use the SQL Alter function to alter the table.

Important! If you delete a field from a record definition, you must also delete it from any pages on which it appears. When you delete a field, the system does not automatically delete references to the field in PeopleCode, so you must do this manually. To determine where the field is referenced in PeopleCode, use the Find Object References feature.

You can also reference the following two reports: "Fields and Records" (XRFFLRC) shows which records contain the field; "Fields Referenced by PeopleCode Programs" (XRFFLPC) shows PeopleCode that refers to the field in the record.

Modify or remove PeopleCode when you find references to the deleted field.

Renaming Record Definitions

To rename a record definition:

1. Select File, Rename.

   The Rename Definition dialog box appears.
2. Select *Record* from Definition Type.
3. Click Rename.
4. Select the record and click Rename.

   A rectangular box appears around the name.
5. Enter the new name and press ENTER.

Results of Renaming Record Definitions

When you rename a record definition, the system automatically renames all references to it, including data on tables with columns named RECNAME where the data matches the record being renamed.

The only references that are *not* renamed are the text portion of SQL functions, such as SQLExec and Scroll Select, and the record names in the view text. To find the text portion of SQL functions in PeopleCode or record names in view text, select Edit, Find In to search for the matching text.

If you have already SQL Created the underlying tables for the record definition that you renamed, re-create that table. To preserve data in the tables, use the SQL Alter function to rename the database tables.

Deleting Record Definitions

To delete a record definition:

1. Select File, Delete.
2. Select the record definition to delete.
3. Click Delete.

Warning! When you delete a record definition, the system automatically deletes any PeopleCode that is associated with the record.

4. Click Yes if you really want to delete the record definition.

Note. Notify your database administrator about which record definition you deleted, so that the administrator can drop the underlying SQL table and its contents from the database.

Printing Record Definitions

You can print your record definitions as references identifying all of the fields and their various attributes—any special use, edits, or PeopleCode that you've applied.

To print a record definition, it must be open in the object workspace.

To print a record definition:

1. Select File, Page Setup to change any of the print record defaults.

   The system retains your changes until you reset them again. The Page Setup dialog box appears.

2. Select printing options.

Definition	Print a picture of what the definition looks like.
PeopleCode	Select if you want the report to include a listing of any PeopleCode programs that are attached to each field, identifying the program type and listing all of the PeopleCode statements. Selected by default.
Graphics	Not used for record definition printing.
Margins(mm)	Set the distance (in millimeters) from the edge of the page to the left, right, top, and bottom edges of the page image or report. The defaults are: *20* (top), *5* (bottom), *5* (left), and *0* (right).
Header	Print a header at the top of the report indicating the date and time at which you printed the report and the database name, record name, version number, and page number. Selected by default.
Footer	Print a footer at the bottom of the report indicating the date and time at which you printed the report and the database name, record name, version number, and page number. Cleared by default.
Border	Print a border or box around a record definition report. To print reports faster, clear this check box so that the printer can print the report in character mode, rather than in graphics mode. Cleared by default.
Border Space(mm)	Insert a set amount of space between a graphical boarder around the record definition report and the margins of the report. The default value is *3*.

3. Click OK when you are done, to close the Print Setup dialog box and save your settings.
4. Select File, Print.

Record Definition Report

The following table lists the columns in the record definition report and their contents:

Column	Contents
Field Name	The name of the field.
Type	The field type.
Length	The length of the field (not specified for long character fields).
Format	The field format.
Long Name	The 30-character name of the field.
Short Name	The 15-character name of the field.
Key	Identifies key attributes (characters defined by position).
Req (required)	*Yes* indicates that the field is required.
TblEdt (table edit)	*Prompt:* Field values are edited against a specified prompt table. *Y/N:* The field uses the Yes/No Table. *Xlat:* The field has values in the translate table. Values (if printed) are listed below the field.
AU (auto-update)	*Yes* indicates that the auto-update option is enabled.
Dt (date)	*Yes* indicates that the reasonable date option is enabled.
PC (PeopleCode)	*Yes* indicates that the field contains PeopleCode. PeopleCode text (if printed) appears below the field.
Aud (audit)	*Yes:* The field audit flag is enabled. *A:* Audit add. *C:* Audit change. *D:* Audit delete.
Prompt Table	The name of the prompt table.
Default Value	Any default value or constant.

You might also see these additional reference lines below each field or at the end of the report:

Reference	Description
SQL View	Shows the SQL view Select statement for view-type record definitions. This appears at the top of the report.
System Maintained	Indicates that the System Maintained check box is selected. Because this option is for documentation purposes only, it doesn't warrant its own column heading.
DbField Help Context: *nnn*	Indicates that the field has been assigned a field help context number to link it to a help file that describes how the field is used wherever it appears in the database.
RecField Help Context: *nnn*	Indicates that the field has been assigned to a record field help context number to link it to a help file that describes how the field is used only as it appears in this record definition.
Audit Record	Identifies a user-defined audit record. Lists the audit record name and the type of audit.
Set Control Field	Identifies a set control field that is designated for the record definition.
Related Language Record	Identifies a related language record that is designated for the record definition.
Query Security Record	Identifies views that are used to restrict query access to data that is stored in the table.
Parent Record Name	Identifies the hierarchical relationship of the record for query reporting.

Printing records with subrecords takes into account whether the record view is expanded or collapsed. If the record view is expanded, the subrecord fields are indented to the appropriate level of nesting.

Creating SQL View and Dynamic View Select Statements

If you are creating a SQL view or dynamic view record definition, you must enter a SQL view Select statement, to indicate which field values you want to join from which tables. The only difference between the standard view and dynamic view is that the dynamic view is not defined as a view to the database—it is stored on the client and run as a Select at runtime. Dynamic views avoid some constraints on views on some platforms.

Non-Standard SQL Table Name (nonstandard Structured Query Language table name)
: Override the standard convention of prefixing *PS_* to the record name.

Build Sequence No (build sequence number)
: Set the order in which the dynamic view is to be created. The default value is *1* when the record or view is initially created. Views that must be created first can be set to *0,* while views that you want created last can be set to *1* or greater. The build sequence number is stored with the other details of the record or view in the database.

Click to open SQL Editor The view text is saved when the record is saved, by selecting File, Save. The record must be saved first, before opening the SQL Editor.

Note. The order of the columns in the Select statement must be identical to the field order in the corresponding record definition. Also, only certain types of meta-SQL statements can be used in view text.

See Also

Chapter 7, "Administering Data," Using Cross-Platform Meta-SQL for Dynamic Views, page 167

CHAPTER 7

Administering Data

This chapter provides an overview of the PeopleSoft Application Designer data administration and the Build process and discusses how to:

- Use the Build menu.
- Create tables.
- Create indexes.
- Alter tables.
- Create triggers.
- Create views.
- Administer DDL.

Understanding Data Administration and the Build Process

Using PeopleSoft Application Designer, you create several kinds of definitions that represent database components. For instance, field definitions represent table columns, and record definitions represent tables and views. From these field and record definitions, you can create tables, views, and indexes. The important concept to remember is that the definitions are just the blueprints for the actual, physical database components with which they are associated. In the context of the entire application development cycle, use the Build process to create Structured Query Language (SQL) tables, views, triggers, and indexes occurs after you define new fields and create the record definitions. After you build the SQL tables, you begin creating page definitions.

After you create and define your field and record definitions, you must create or build the underlying SQL tables that house the application data that your users enter online in your production environment. This build process is the centerpiece of the data administration features in PeopleSoft Application Designer. The Build process uses Data Definition Language (DDL) to construct a physical database component that is based on the associated record and field definitions that you created. With the build feature, you can create the following:

- Tables
- Indexes
- Views
- Triggers

You can also use the build feature to *alter* existing tables if you change the record definition after the table already exists. Altering a table is useful, because it enables you to make changes without losing the application data that is already housed in the table. In general, the results of the build operation are written to a script file that a database administrator can run later. On some database platforms, you can run the SQL online, if you prefer, so that your changes are immediately reflected in the physical database. However, if you run the SQL immediately, you cannot review it to make sure that the table that was built truly meets all of your requirements.

Before you begin using the data administration tools and running a build process, make sure to:

- Review what DDL means for PeopleSoft applications.
- Grant build authority.

Reviewing DDL

DDL is the part of SQL that pertains to the creation of tables, indexes, views, triggers, and tablespaces. DDL is also the part of SQL that differs most between the various relational database platforms. Each database vendor provides different syntax and configuration options for creating and organizing tables and for optimizing performance. Because PeopleTools supports multiple database platforms, PeopleSoft has designed a flexible way of specifying DDL that enables you to take advantage of each vendor's features. The basic components of the PeopleSoft DDL support include the following:

- DDL model definition: A complete set of the supported DDL statements for each database platform.

  Statements include Create Table, Create Tablespace, and Create Index. Each DDL model statement has substitution parameters that can be specified at the database level or overridden for individual records.
- Record DDL: Specify the DDL model substitution parameters for an individual record.
- Index DDL: Specify the DDL model substitution parameters for an index.
- Sizing sets: A way to maintain multiple versions of your DDL model statements for a database platform.

  For example, you can use one sizing set during a development phase, when tables have only test data, and another during production, when tables have much more data.

Granting Build Authority

PeopleSoft Security enables you to specify which users can build scripts, run scripts (Execute SQL now), maintain DDL, and so on. Access Security from the PeopleTools link in the menu.

See Also

Enterprise PeopleTools 8.46 PeopleBook: Security Administration, "Setting Up Permission Lists," Setting PeopleTools Permissions

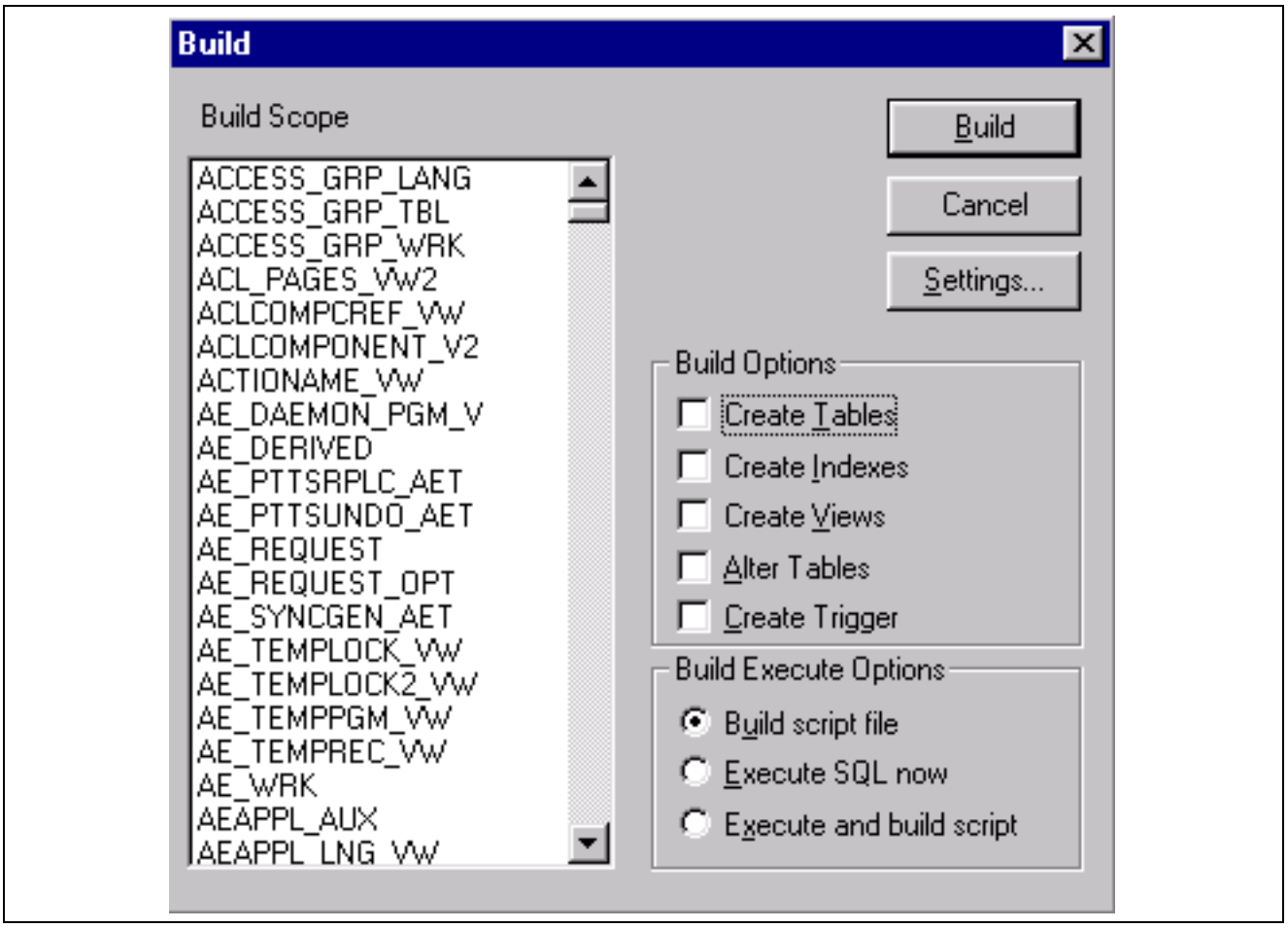
Running the Build Process

This section provides an overview of the Build menu and discusses how to:

- Select the build scope.
- Select build options and run the Build process.

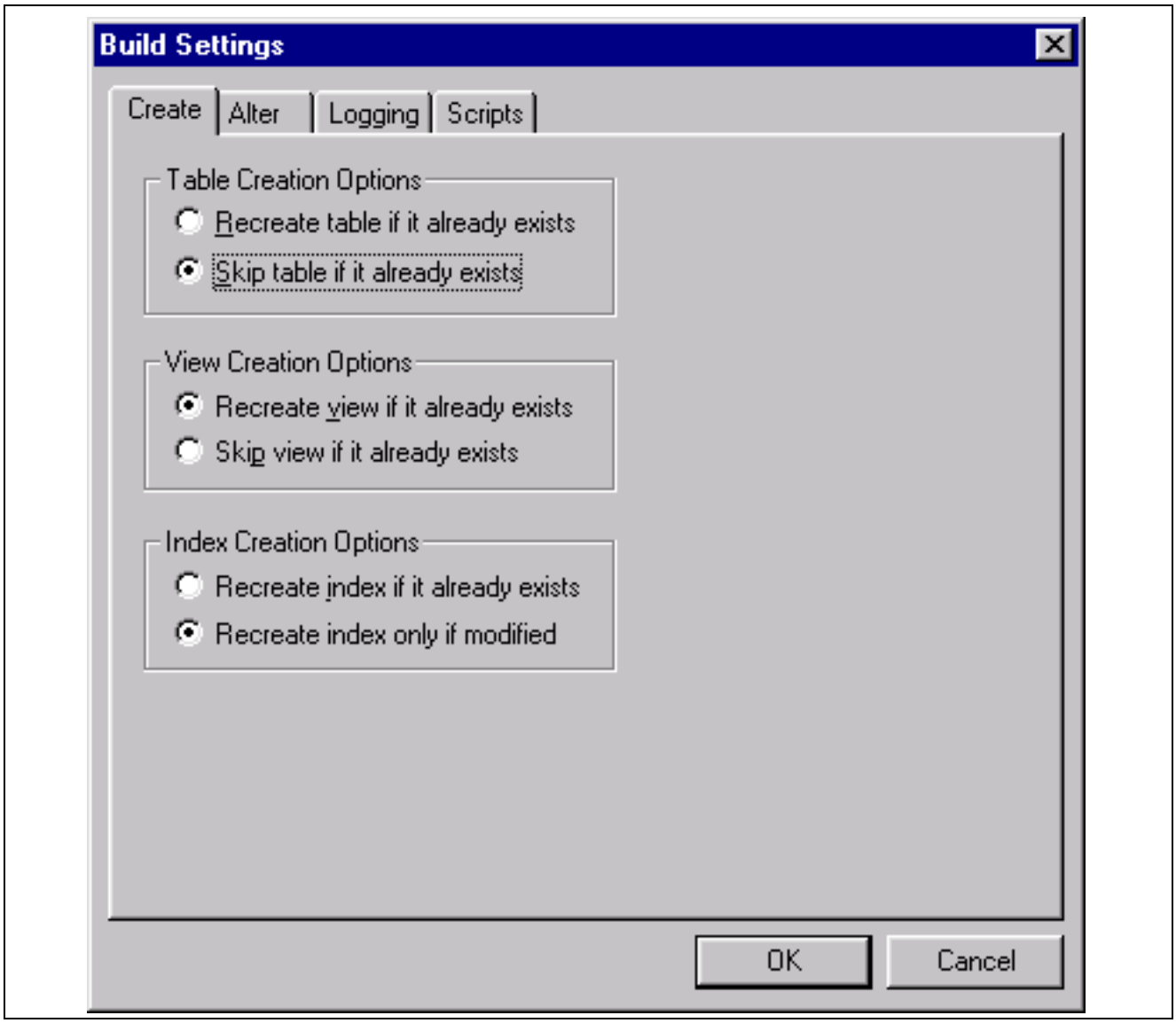
Understanding the Build Menu

Access all of the commands and options that are associated with building tables, views, indexes, triggers, and altering tables from the Build menu. When you choose to build an item from the Build menu, the tasks for creating or running SQL scripts that define the underlying database components are included in the Build dialog box.



Build dialog box

The settings for the Build process on the Build Settings dialog box enable you to configure various aspects of the process. Depending on which build option you are running, your settings vary. The Build Settings that you select are stored on your workstation so that they can be reused during future PeopleSoft Application Designer sessions. Access the Build settings by selecting Settings from the Build menu in PeopleSoft Application Designer or click theSettings button in the Build dialog box.



Build Settings dialog box

When you select the Create Tables, Create Views, or Create Indexes options in the Build dialog box, specify the appropriate options on the Create tab of the Build Settings dialog box such as if you need to specify whether an existing table, view, or index is skipped or dropped and re-created.

If you modify your record definitions, the tables in your production database should reflect those changes to maintain your data integrity. When you alter a table, select the appropriate options, such as the options in the Drop Column Options area on the Alter tab of the Build Settings dialog box.

You can monitor the Build process by reviewing the log files that it automatically generates. Keep in mind that the log file is *entirely* separate from the script file. The amount of information that the log file contains is up to you. You can set up logging so that all statuses (both good and bad) appear in the log, or you can specify that only errors or warnings appear in the log. Control the settings for the Build log file (such as the logging level and the location for the output log file) on the Logging tab of the Build Settings dialog box.

If you build a script file, then the Build process generates a script file that contains all of the CREATE and ALTER SQL statements so that you can review them before running the SQL through another SQL command processor. If the generated script file meets your requirements, a database administrator (DBA) can run the script later. The Build process can produce multiple scripts during a single run—one for each build option—depending on the script settings that you specify at runtime. For example, you can specify that the Build process generate a separate script for your tables, views, indexes, triggers, and alters, or you can have all of the SQL for each action contained in one script. Use the Scripts tab of the Build Settings dialog box to specify where the SQL script is written, whether you want multiple scripts generated for each definition type, and whether you want previous scripts overwritten.

Selecting the Build Scope

The Build feature includes three different scopes that determine the size of your build project. Depending on what you actually want to build—one record or an entire project—you can determine this by selecting one of the scopes described in the following sections.

Current Definition

Select Current Definition from the Build menu to build or alter the active record definition. *Active definition* means the definition that is currently active in the definition workspace.

Project

Select Project from the Build menu to build or alter all of the records, indexes, triggers, and views in the current project—that is, all of the records that appear in the project workspace. You typically find numerous record definitions in the Build Scope list box.

To build all definitions in a database, create a new project and insert all of the appropriate records. For example, insert records of a particular type, such as views. If you create another record after the *all records* project is built, you must manually add the new record to the project.

You may also build a project using the command line and specific parameters. The prerequisites for using the command line to build a project are:

- The project exists with all objects.
- The build settings need to be set in the Windows registry.

Note. The Build Project process accesses every single record that is in the project, including work records, even if they are marked to be deleted.

Select Definitions Into Project

In some situations, you might want to build a subset of the records in the project that is currently open. If you do not want to build an entire project or even the current project, you can build only the definitions that you select in the project workspace by pressing the CTRL key and selecting multiple records in the project workspace. After you select the appropriate records, right-click and select *Build* from the pop-up menu. Only the definitions that are selected in the project workspace appear in the Build Scope list box.

Note. You must invoke the Build process from the pop-up menu; you cannot build selected definitions from an open project using the Build menu.

Selecting Build Options and Running the Build Process

Access the Build dialog box.

Build Scope	This list box displays all of the definitions that are included in the current Build process. The records that appear in this list box cannot be selected or cleared. If you must narrow the scope of your build, do so before accessing the Build dialog box.
Build	Click this button to start the Build process. While the Build process is running, the Build Progress dialog box appears, showing the current record being processed, the record number being processed in the series, and the total number of records that comprise the build. To stop a running Build process, click the Cancel button. When the Build process completes, the Cancel button is unavailable and the Close button is the only valid button.
Settings	Click this button to open the Build Settings dialog box, where you can view or change your options.

Note. After the Build process begins, there are no runtime prompts until the process is complete. All events are written to the Build log.

Build Options

The Build Options group box enables you to specify what action you want to occur: Create Tables, Create Indexes, Create Views, Alter Tables, or Create Trigger. If you select Create Tables or Alter Tables, Create Indexes is automatically selected by default. Also, if you select Alter Tables, Create Indexes and Create Trigger are automatically selected by default.

Note. You can select both Alter Tables and Create Tables to run concurrently, as long as the Skip table if it already exists option is enabled on the Create tab in the Build Settings dialog box. Otherwise, there is no way to determine whether you wanted to alter or re-create a table that already exists.

Build Execute Options

Build script file	Select this option to review and update the SQL before running the script. This is the safest method.
Execute SQL now (execute Structured Query Language now)	Select this option if you don't want to invoke another program to run the SQL; the SQL runs as part of the Build process. The disadvantage with running the SQL immediately is that you have no opportunity to review the SQL before it is committed to the database.
Execute and build script	Select this option to review the SQL that the Build process just ran.

To run the SQL script file that the Build process generates, you must use a third-party SQL interpreter, such as Oracle SQL*Plus or Microsoft ISQL/W. Most database vendors include a native command processor that you can run on the client or the server.

Note. The Execute SQL now option is unavailable if you use the Alter Tables Build option. However, you can use the Execute and build script option when using Alter Tables. Selecting this option builds a script with the entire alter SQL. This script may help if errors are encountered during the alter process. However, if there are multiple tables in an alter process and an error occurs, the errors are reported to a log file and the process continues to the next table.

Using Command Line Syntax to Build a Project

Use the same command line syntax as identified previously to build a project.

See Chapter 18, "Using Command Line Parameters," Understanding PeopleSoft Application Designer Command Line Parameters, page 405.

Use the command line statement for the project build to:

- Connect the project to the source database.
- Use the build settings from the Windows registry to generate the SQL script for the create or alter processes.

Before running the build command line, verify that:

- The project's system components are created and loaded.
- The build options are set in the Windows registry.

Available Parameters

This table lists all of the available parameters for the project build statement:

Parameter	Description	Error Handling
-HIDE	Use to hide the PeopleSoft Application Designer interface. Always use this parameter when performing a command line Copy process.	Required for all project command line processes.
-CT	Database type. Enter the type of the database to which you are connecting (MICROSFT, ORACLE, SYBASE, and so on).	Required. If you do not supply this parameter, the last database type is taken from the registry. If it fails, the process stops and error messages are written to the log file.
-CS	Server name. Enter the name of the source database server for the database to which you are connecting.	Required for some database types. If you do not supply this parameter, the process stops and error messages are written to the log file.
-CD	Database name. Enter the name of the source database to which you are connecting, as you would enter it into the PeopleSoft Login dialog box.	Required. If you do not supply this parameter, the process stops and error messages are written to the log file.
-CO	User ID. Enter the PeopleSoft user ID that is needed to sign in to the source database.	Required. If you do not supply this parameter, the last database type is taken from the registry. If it fails, the process stops and error messages are written to the log file.

Parameter	Description	Error Handling
-CP	User password. Enter the password for the specified user ID for the source database.	Required. If you do not supply this parameter, a PeopleSoft Login dialog box appears for the user to enter a valid user password. If the password fails, the process stops and error messages are written to the log file.
-PJB	Project name. Enter the name of the project to be built. This project should be available in the database before starting the command line project build.	Required. This is the main parameter and is used internally to decide whether the user can build a project. If you do not supply this parameter and if you supply all of the source database login parameters, the program only starts the application.

Example

For this example, assume that the:

- Project name is CJR1.
- Database type is Microsoft.
- Database name is CJR810G.
- User ID is PTDMO.
- Password is PTDMO.
- Path name of the SQL script file is c:\temp\psbuild.sql.
- Path name of the log file is c:\temp\psbuild.log in the Windows registry.

For this example, you would enter the following at the command line:

PSIDE.EXE −CT MICROSFT −CD CJR810G −CO PTDMO −CP PTDMO −PJB CJR_PRJ

Creating Tables

This section provides an overview of the Create Table process and discusses how to:

- Create a table.
- Specify Create options.
- Specify Logging options.
- Specify Script options.
- Confirm a table build.

Understanding the Create Table Process

The Build process generates the appropriate SQL Create statements to build tables based on both your record definition and your platform. It prefaces each new application SQL table with *PS_* to identify it as an application that was built using PeopleTools. For example:

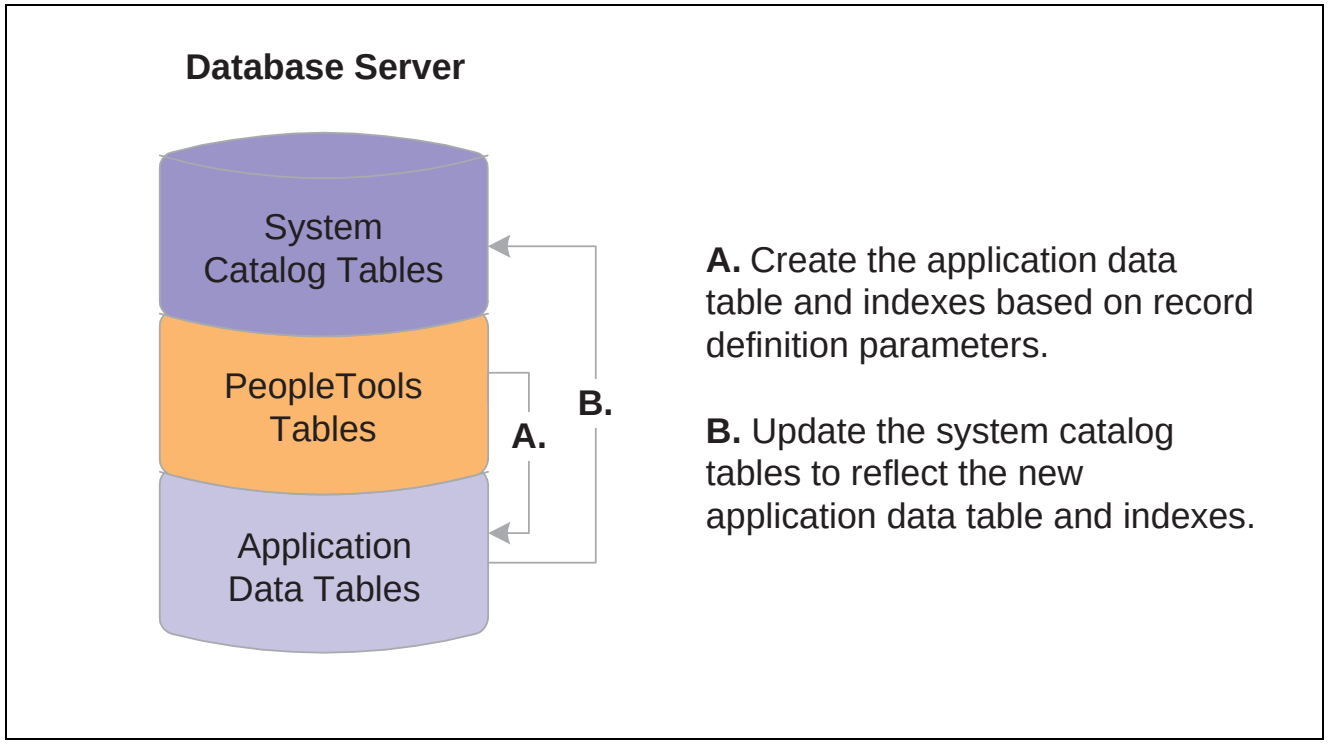
```
PS_ABSENCE_HIST
```

Note. PeopleTools does not preface table names with *PS_* if you specified a custom name in the Non-Standard SQL Table Name edit box located on the Type tab of the Record Properties dialog box.

The Build process also creates the appropriate indexes. Because long character fields operate more efficiently in some database environments when they're located at the end of the table, the Build process automatically positions long character fields at the end of the table for each database environment.

The Create Table process creates a new application table based on parameters defined in the record definition. When a new table is created, the database management system updates the system catalog tables to reflect the attributes of the new table.

The Create Table process is illustrated by the following figure:



Create Table process

After you build an updated SQL build script and run it, the PeopleTools tables and the system catalog tables are synchronized; the record definition and the application data table are synchronized. The following table lists the steps of the Create Table process and the associated record definition parameters:

Create Table Process	Record Definition Parameter	Usage
Drop the table if it already exists.	NA	NA
Create the application data table.	Record definition name. Field names. Field type. Field length.	Table name (add *PS_* prefix). Column names. Column type. Column length.
Create indexes.	Key fields. Alternate search key fields. Custom indexes.	Unique index: (_) Alternate index: 10 (0–9) per table. Custom index: (A-M) per table.

The following procedure covers all of the high-level steps that you need to successfully complete the Create Table build process. Steps that involve a variety of options include links to the area where those options appear in the PeopleBooks.

Note. You can have a maximum of 500 columns per table.

Creating a Table

To create a table:

1. Open the project for which you want to build SQL tables.
2. Select Build, Project.
3. From the Build menu, select the appropriate scope of your build.

   See Chapter 7, "Administering Data," Selecting the Build Scope, page 135.

   The Build dialog box appears.
4. Select Create Tables in the Build Options group box.

   PeopleSoft automatically activates the Create Indexes option. If you're creating tables, the indexes that are used to extract information from those tables must also be updated. Definitions to be built appear in the Build Scope list box, which does not allow you to edit, remove, or add definitions.
5. Select one of the Build Execute options.

   The default option builds an SQL script file containing the commands to run the selected build options.
6. Click the Settings button in the Build dialog box to set user-defined defaults.

   The Create tab in the Build Settings dialog box appears.
7. Select the appropriate settings on the Create tab.

   See Chapter 7, "Administering Data," Specifying Create Options, page 141.

   Re-creating an existing table removes all data contained in the table as well as views or grants referencing that table.

8. Select the Logging tab.
9. Set the Logging Levels and associated options.

   See Chapter 7, "Administering Data," Specifying Logging Options, page 142.
10. Select the Scripts tab.
11. Specify the script file options.

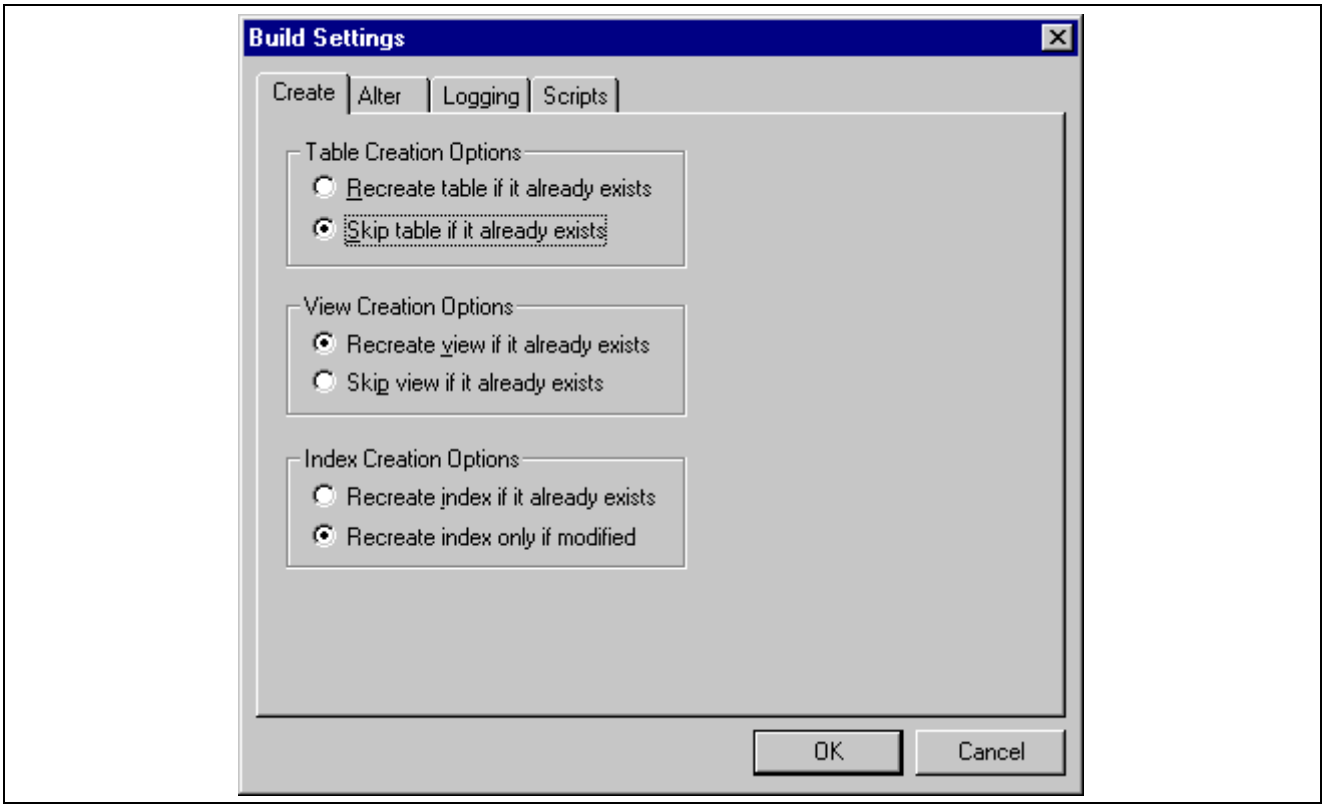
    If you selected Execute SQL Now as your build option in the Build dialog box, you can skip the Scripts tab, because you will be running the SQL online. Settings on the Scripts tab are relevant only if you are building a SQL script to run later.

    See Chapter 7, "Administering Data," Specifying Script Options, page 146.
12. Click OK to close the Build Settings dialog box.
13. In the Build dialog box, click the Build button to run your build option.

    The length of a build process depends on the number of definitions that require building. Watch the Build Progress dialog box to monitor the Build process. When the process completes, check any errors listed in the log file.

Specifying Create Options

Access the Build Settings dialog box. Select the Create tab.



Build Settings dialog box: Create tab

Table Creation Options

These options determine when a table should and *should not* be created.

Recreate table if it already exists	Select to drop and re-create a table if it already exists. Select this option with extreme care because if data already exists in the table, it is also dropped. If you select this option, the Build process prompts you to confirm your intention before performing any destructive action. If you don't care about losing the data that resides in the table, then this option is faster than the Alter Tables option.
Skip table if it already exists	Select to create only those tables that are newly defined. If you want to preserve the data that already resides in existing tables or if you're just interested in creating the tables that do not already exist, select this option.

View Creation Options

Similar settings are available for creating views that you use for creating tables.

Recreate view if it already exists	Because views are just logical views of data, it is safe to select this option; you don't run the risk of losing physical data. Using this option ensures that all views in the project are rebuilt, whether they need to be or not.
Skip view if it already exists	If you're concerned only with creating views that do not already exist in the database, select this option. This option is useful if you want to run Build Project on a large project and only a subset of the views in the project must be created. This consumes less time than re-creating all of the views in the project.

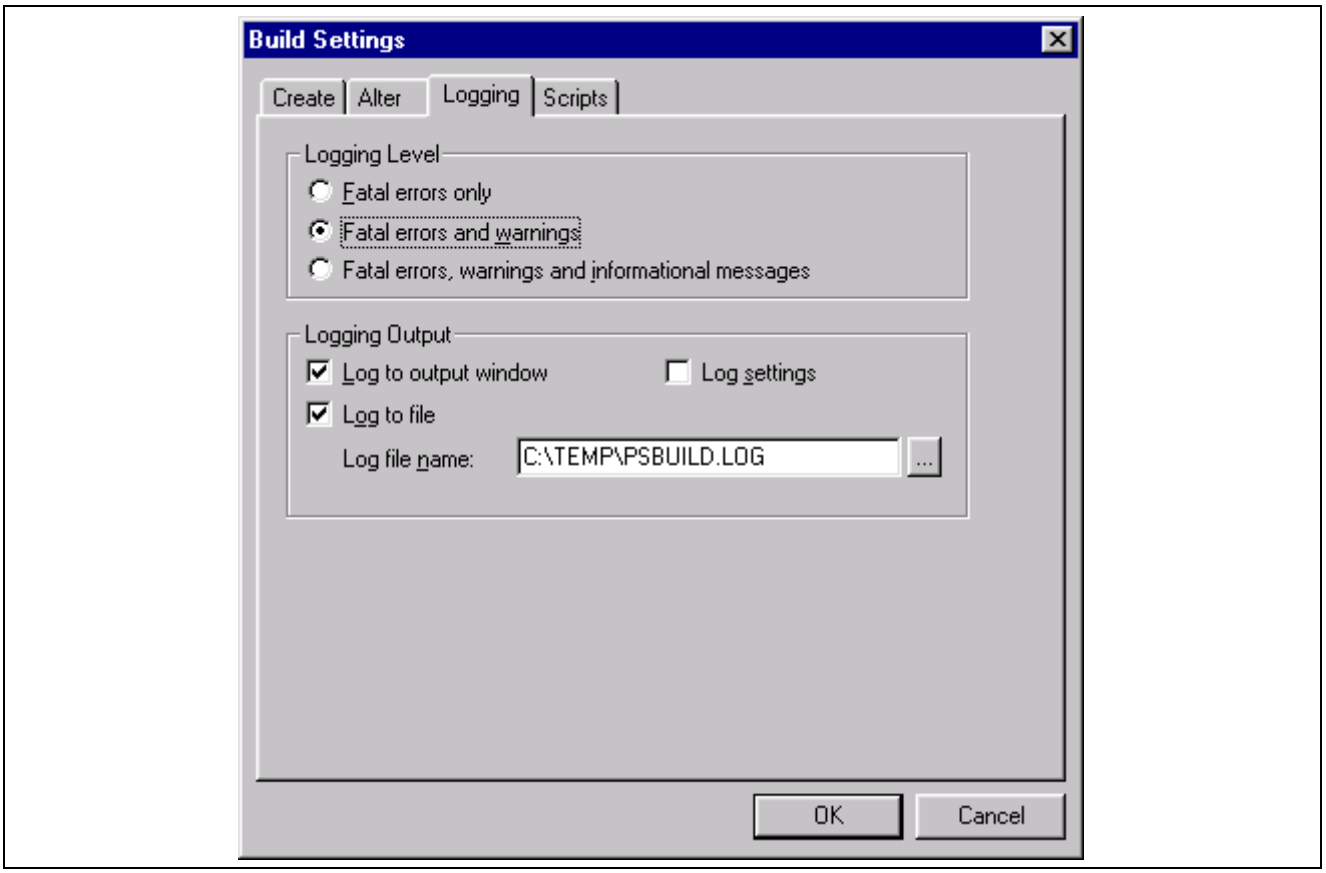
Index Creation Options

These options determine when an index should be re-created.

Recreate index if it already exists	Select to re-create the index for your tables, even if you already have one in place. It re-creates the index no matter what the situation.
Recreate index only if modified	Select to re-create the index only if the data is being modified in the indexes.

Specifying Logging Options

Access the Build Settings dialog box. Select the Logging tab.



Build Settings dialog box: Logging tab

Logging Level

Specify the detail of information that you want in your Build log output.

Fatal errors only	Select this option if you want to see only the operations that failed.
Fatal errors and warnings	Select this option to add warnings to the fatal errors.
Fatal errors, warnings and informational messages	Select this option to see everything that processed successfully *and* all of the errors and warnings.

Note. These options are personal preferences and do not affect the actual build of your SQL tables, but they might help you track down potential failures. For example, if you're processing a large number of definitions, you'll want to see only the operations that failed. Whereas, if you're processing a small number of definitions, you'll want to see all of the successful operations too.

Logging Output

Specify where and in what form you want to view your log output.

Log to output window	Select to write the same information that appears in the log file to the PeopleSoft Application Designer output window. Always be aware of the level that you select. If there is a lot of detail (high logging level plus many records to process), it might be easier to copy the logging information to a file and print it later.

Log to file	Select to write the log to a file. If you select this check box, you can specify a location and name for your log file in the Log file name edit box. To search for a name, click the Browse button. Select a .LOG type file from the Build File Selection dialog box. If you do not select this check box, the edit box is unavailable for entry.
Log settings	Select to write all of the runtime options to the log. If you select this check box, it is not necessary to rerun a test when you have a problem. Should it be necessary to report a problem with the Build process or troubleshoot, it is important to know the settings that were active.

Note. PeopleSoft recommends selecting the Log to file check box *and* the Log to output window with a minimum logging level of fatal errors and warnings. In case you run into a problem, you already have the information that is needed to research the problem. Otherwise, you must run the process again with a higher logging level.

Example Log Results

The following are samples of the type of information that you can expect to see in your log output that corresponds to the selections that you make on the Logging tab:

- Fatal errors:

```
SQL Build process began on 7/30/2003 at 8:46:46 PM for database
OM51U20
Error: BI_BILL_BY_F_VW - Unable to retrieve current DDL space name.
 Alter processed failed.  (76,47)
Error: BI_CHARGE_VW - Unable to retrieve current DDL space name.
Alter processed failed.  (76,47)
Error: PS_BI_CYCLE_VW - alter failed due to an unknown column type
(UNDEFINED) found for field BILL_CYCLE_ID.  (76,22)
Error: PS_BI_IVCLAYOUT_VW - alter failed due to an unknown column
type (UNDEFINED) found for field INVOICE_LAYOUT_ID.  (76,22)
Error: CARINA - alter failed because SQL table does not exist.  (76,7)
SQL Build process ended on 7/30/2003 at 8:54:34 PM.
2487 records processed, 11 errors, 0 warnings
SQL Build script for all processes written to file C:\TEMP\step38.SQL.
SQL Build log file written to C:\TEMP\step38.LOG
```

- Warnings:

```
SQL Build process began on 8/27/2003 at 4:00:32 PM for database DXD7L
Warning: ABSENCE_HIST2 - data would be truncated by altering
REASON.  Record processed.  (76,24)
```

- Fatal errors, warnings, and informational messages:

```
SQL Build process began on 8/27/2003 at 3:58:58 PM for database DXD7L
Warning: ABSENCE_HIST2 - data would be truncated by altering
REASON.  Record processed.  (76,24)
Error: ABSENCE_HIST2 - field PAID_UNPAID to be deleted has data
present.  Record skipped.  (76,23)
Informational: ACCOMPLISHMT_VW - view created and scripted
successfully.  (76,18)
```

```
Informational: ACCT_AD2_INV_VW - view created and scripted
successfully.  (76,18)
Informational: ACCT_ADJ_INV_VW - view created and scripted
successfully.  (76,18)
Informational: ACCT_ISS_INV_VW - view created and scripted
successfully.  (76,18)
Informational: ACCT_STK_INV_VW - view created and scripted
successfully.  (76,18)
Informational: ACCT_TYPE_VW - view created and scripted
successfully.  (76,18)
Informational: ACTION_SP_VW - view created and scripted
successfully.  (76,18)
Informational: ACTION_XLAT_VW - view created and scripted
successfully.  (76,18)
Informational: ADJUST_INV2_VW - view created and scripted
successfully.  (76,18)
Informational: ADJUST_INV_VW - view created and scripted
successfully.  (76,18)
11 records processed, 1 errors, 1 warnings
SQL Build script for all processes written to file
C:\TEMP\PSBUILD.SQL.
SQL executed online.
SQL Build log file written to C:\TEMP\PSBLD.log
```

- Log settings:

```
**** Begin Build Settings for this Run
Create Tables = No
Create Indexes = Yes
Create Views = No
Create Triggers = Yes
Alter Tables = Yes
Log to File = Yes
Log to Window = Yes
Write comments to script = No
Always overwrite files = Yes
Execute SQL Now = No
Write SQL to script file = Yes
Logging level = Log fatal errors, warnings and informational messages
Table creation option = Skip table if it exists
View creation option = Drop and recreate view if it exists
IndexCreationOption = Drop and recreate index always
Alter Adds = Yes
Alter Changes = Yes
Alter Renames = Yes
Alter Deletes = Yes
Alter even if no changes = No
Alter Table Option = Alter by Table Rename
Write script output to: Single file
Log filename = c:\temp\PSBUILD.LOG
```

```
Single script filename = c:\temp\PSBUILD.SQL
Alter drop column option = skip record if data present
Alter truncate column option = skip record if data would be truncated
Target database platform = MICROSFT
Target sizing set = 0
```

Working With the Output Window

You can navigate from error messages in the PeopleSoft Application Designer output window to the corresponding record definition by selecting the appropriate line in the Build log and double-clicking anywhere on that line. PeopleSoft Application Designer opens the corresponding record in the definition workspace.

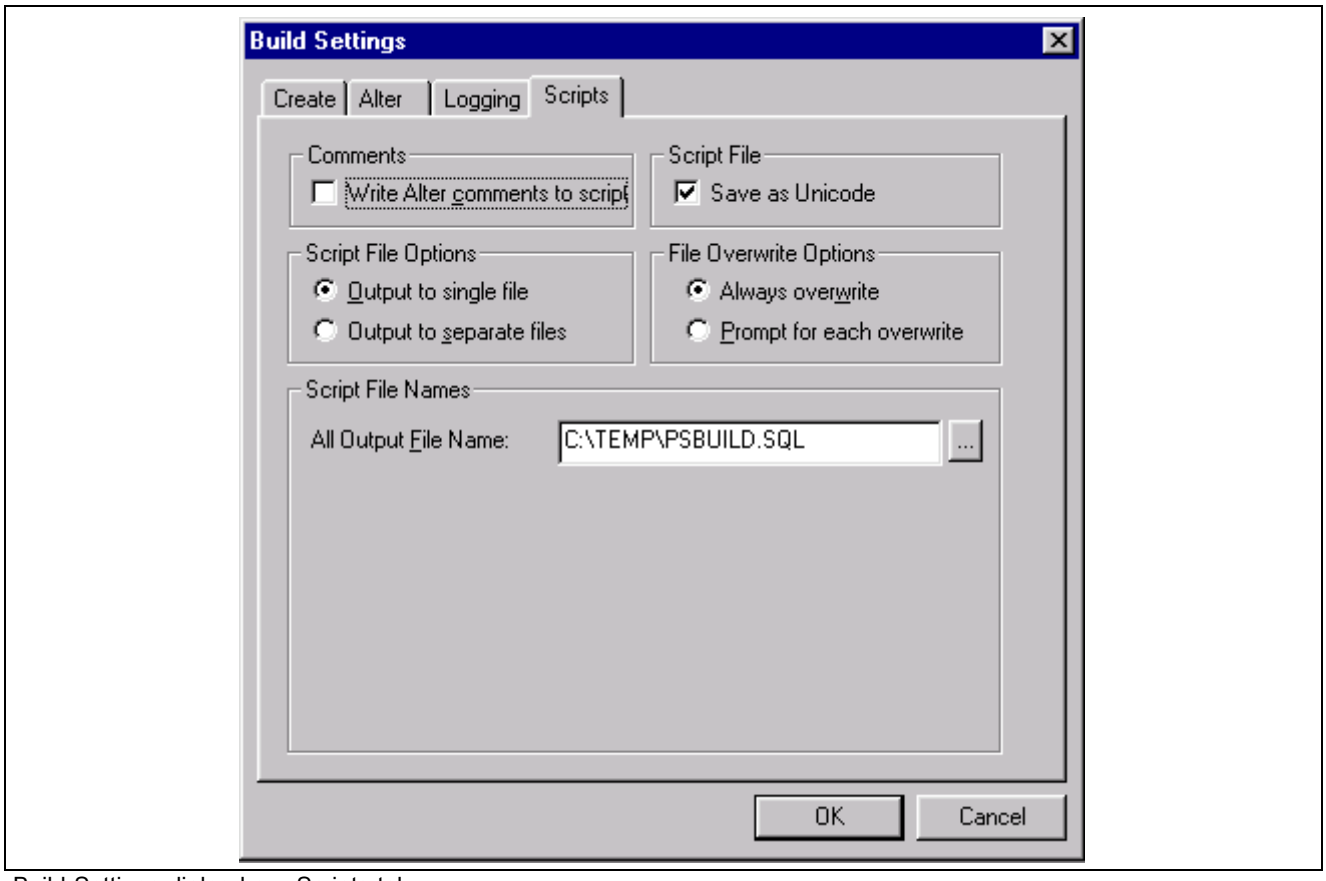
Also, you can double-click any line in the output window that corresponds to a file—not just a record. PeopleSoft Application Designer opens that file with whatever application that you defined to open files with a particular extension. For example, if you associated SQL files with your native SQL command utility, your SQL utility opens and loads your PSBUILD.SQL script when you double-click the line that reads:

```
Single script file name = C:\TEMP\PSBUILD.SQL
```

Note. PeopleSoft Application Designer uses the standard Microsoft Windows method for defining which programs are associated with particular file types. To modify the file associations, open My Computer, select View, Folder Options, and then select the File Types tab.

Specifying Script Options

Access the Build Settings dialog box. Select the Scripts tab.



Build Settings dialog box: Scripts tab

Comments

The Write Alter comments to script check box enables you to either include or suppress alter comments. The following example displays the types of comments that you see in your PSALTER.SQL script if you enable this option:

```
-- Alters for record PS_AE_RUN_CONTROL ;
--           AE_THREAD - change ;
--               OPRID - change ;

-- Start the Transaction ;


-- Data Conversion ;


-- Drop Old Indexes ;

DROP INDEX SYSADM.PS_AE_RUN_CONTROL
/

-- Add Columns ;

ALTER TABLE PS_AE_RUN_CONTROL ADD Z_TMP_ALTER_1 DECIMAL(12,4)
/
ALTER TABLE PS_AE_RUN_CONTROL ADD Z_TMP_ALTER_2 CHAR(12)
/
UPDATE PS_AE_RUN_CONTROL SET
    Z_TMP_ALTER_1 = AE_THREAD,
    Z_TMP_ALTER_2 = OPRID
/
```

If you do not view the alter comments, the script containing the same commands as the previous script looks like this:

```
DROP INDEX SYSADM.PS_AE_RUN_CONTROL
/
ALTER TABLE PS_AE_RUN_CONTROL ADD Z_TMP_ALTER_1 DECIMAL(12,4)
/
ALTER TABLE PS_AE_RUN_CONTROL ADD Z_TMP_ALTER_2 CHAR(12)
/
UPDATE PS_AE_RUN_CONTROL SET
    Z_TMP_ALTER_1 = AE_THREAD,
    Z_TMP_ALTER_2 = OPRID
/
```

Script File

The default for the Save as Unicode check box is based on the UNICODE/ANSI database. This check box is available only when using MSSQLServer, Oracle, DB2/UDB for Linux, UNIX, and Windows, Sybase and DB2 UDB for OS/390 and z/OS databases. Only on Informix , the check box is permanently unavailable, because the script files are always ANSI.

The following table explains the default settings for the Save as Unicode check box:

Database Type	Default for Save as Unicode Check Box
Unicode	Selected
ANSI	Unavailable

The script file option, Save as Unicode, is stored in the registry with the other build settings. Therefore, the previous setting is always the default every time that the dialog box is opened.

The type of script file that is generated during the Build process is based on the Save as Unicode check box setting for the UNICODE/ANSI build and UNICODE/ANSI database.

The details are as follows:

Database Platform	Unicode	ANSI
MSSQL Server	UCS2	ANSI
Sybase	UTF8	ANSI
Oracle	UTF8	ANSI
DB2/UDB for Linux, Unix, and Windows	UTF8	ANSI
DB2 UDB for OS/390 and z/OS	UTF8	ANSI

Script File Options

If you want all of your CREATE TABLE statements to be written to one SQL script file and your CREATE INDEX statements to another, then select the Output to separate files option. On the other hand, if you prefer to have all of your statements—CREATE, ALTER, and so on—contained in a single file, then select the Output to single file option.

Note. Script files can be quite large. To reduce the size of files so that they are easier to manage, select the Output to separate files option. Also, the system never appends script files; it overwrites them or you can terminate the process if you elected to be prompted before a build script file is overwritten.

Depending on which output option you select, the options in the Script File Names group box change to suit one file or multiple files.

File Overwrite Options

These options indicate whether you want to overwrite automatically or be prompted before script files are overwritten. Your personal preference determines which technique you employ.

Always overwrite Select to overwrite your previous build scripts.

Prompt for each overwrite Select to be alerted when a script is about to be overwritten.

To avoid the possibility of overwriting files altogether, you can use a naming convention that, in itself, prevents any overwrites. For example, you could specify a unique name for each build script, as shown:

- C:\TEMP\PSINDEX1.SQL
- C:\TEMP\PSINDEX2.SQL

Script File Names

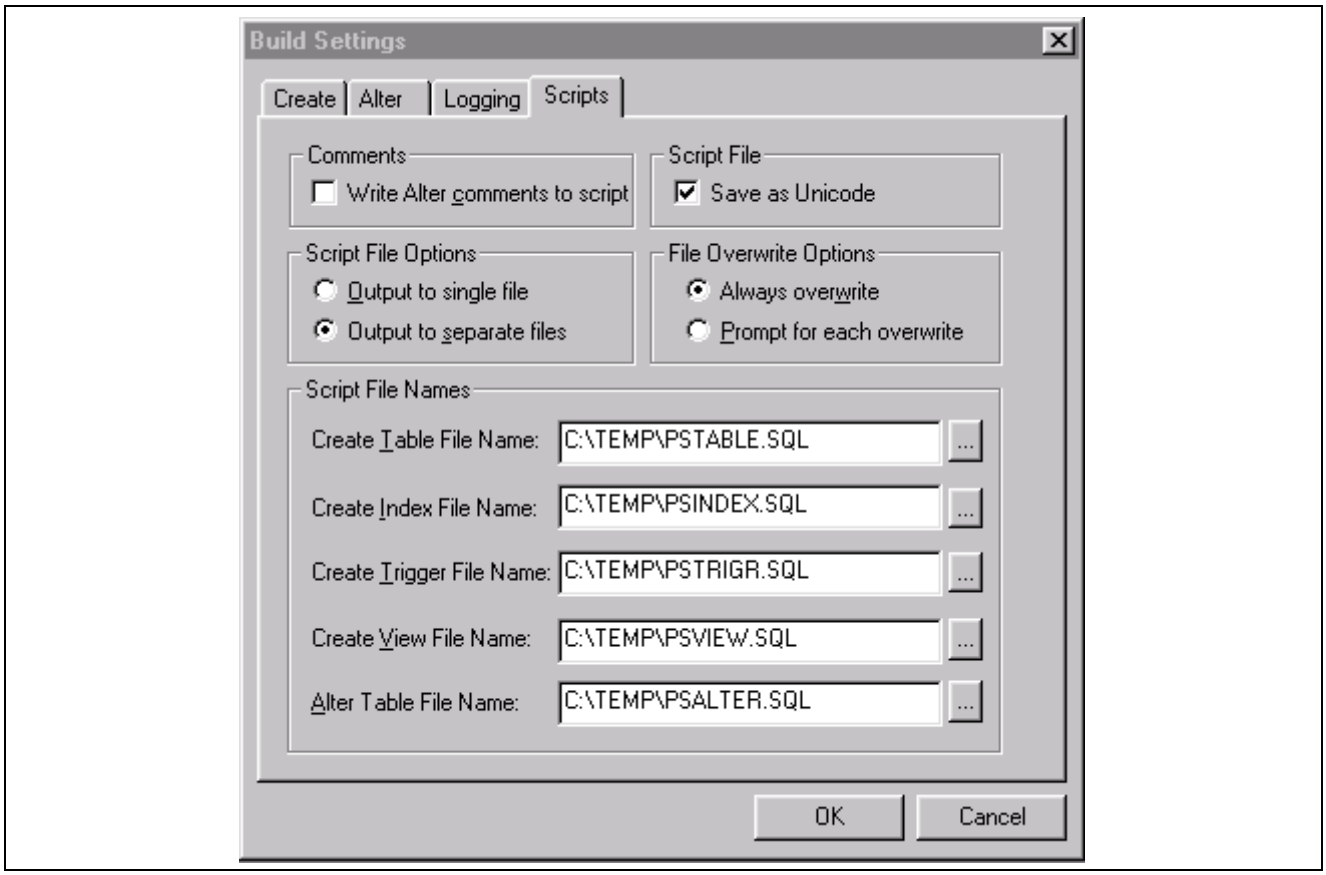
The options available to select in this group box depend on your selection in the Script File Options group box.

Output to single file When you select this option, an edit box appears in the Script File Names group box: All Output File Name. The default name for the generated script is PSBUILD.SQL.

Note. Script files can be quite large. To reduce the size of files so that they are easier to manage, select the Output to separate files option. Also, the system never appends script files; it overwrites them or you can terminate the process if you elected to be prompted before a build script file is overwritten.

Output to separate files If you select this option, the following edit boxes appear—one for each build option:

- Create Table File Name: The default name for this script is PSTABLE.SQL.
- Create Index File Name: The default name for this script is PSINDEX.SQL.
- Create Trigger File Name: The default name for this script is PSTRIGGER.SQL.
- Create View File Name: The default name for this script is PSVIEW.SQL.
- Alter Table File Name: The default name for this script is PSALTER.SQL.



Output to separate files

Confirming a Table Build

If you are running SQL online, complete steps 1 and 3. Step 2 is not required.

To confirm a table build:

1. Review the SQL script that was generated by the Build process.

   Use your native SQL command processor to open the SQL script. The script is located where you specified on the Scripts tab of the Build Settings dialog box.

2. Run the script against your database.
3. Confirm that the tables now exist.

   Use your query tool and SQL Select statements to confirm that the Create Table process created an application table that corresponds to your record definition and updated the system catalog tables. The SQL statement that you use to confirm depends on the table that you just created.

Creating Indexes

This section provides an overview of indexes and discusses how to:

- Configure indexes.

- Add a custom index.
- Edit the DDL.

Understanding Indexes

Indexes are an important part of your physical database, because they affect the efficiency and speed with which your application can store and retrieve data. PeopleSoft application indexes are defined in two ways.

Some indexes are defined for you automatically, based on the key, search key, list box items, and alternate search keys that you specified on your record definition. These indexes are used by the application processor for quick access when you use the online system.

However, it is sometimes necessary to define additional indexes to improve the performance of demanding queries, reports, or batch programs. These additional indexes are defined and modified using the data administration tools in PeopleSoft Application Designer.

Note. You can only create indexes for record definition types that are SQL or temporary tables. You would not create indexes on views, such as a SQL view, because views are never physically created. The Indexes option in the Tools, Data Administration menu is disabled when a view is open.

When you use SQL Create or SQL Alter on a table, the system automatically builds database indexes to the SQL table that are based on the keys and list items that you specify in the record definition. Your database uses indexes to find definitions in the database the same way that you use indexes to find specific information in a book. If an index entry exists for a specific field on a table, the database can search and quickly find what it needs to complete your request; otherwise, it must search through the contents of the entire table.

Indexes enhance system performance by generating key lists that the application processor uses to extract the data that it uses to populate pages and search records. The system automatically creates:

- Standard indexes (key or duplicate order key indexes), if at least one field in the table is a key or duplicate order key.

  The index contains all key and duplicate order key fields. The system automatically names this index with a prefix of *PS_*.

- Alternate search key indexes for each alternate search key.

  The system automatically names this index with a prefix of *PSn,* in which *n* is a number between *0* and *9*.

- Custom indexes, which can be defined with the Edit Index, Edit DLL, and Add Index dialog box in the PeopleSoft Application Designer administration tools.

  The system automatically names this index with a prefix of *Psa,* in which *a* can be any letter between *A* and *M*. Custom indexes are not automatically created.

For most database tables (those with unique keys), the key index defines unique keys for a table, but the system also uses it to access high-level keys and orders by all keys. The alternate search key indexes support the search record and field prompts. The purpose of these different indexes is to enable the system to respond to all system prompts through index-only SQL access, minimizing direct database table access.

Note. If you are using Create Table or Alter, the Create Index option is automatically selected. With the Create Table or Alter options, you can't clear the Create Index option.

The alter process takes care of indexes regardless of the Alter Table Options you select on the Alter tab of the Build Settings dialog box. In the case of "Alter by Table Rename," the indexes are dropped automatically when the temp table is dropped. For the "Alter in Place" option, the index creation process goes through the "Recreate index only if modified" option on the Create tab.

When creating indexes with the Alter method, prior to altering the table, drop the statistics using "DROP STATISTICS" that were created explicitly on columns using "CREATE STATISTICS."

The following record definition modifications require the creation of new indexes:

- Add, delete, or modify keys, duplicate order keys, alternate search keys, or descending keys in the Record Field Properties dialog box.
- Change the order of keys (ascending, as opposed to descending) in the Change Record Indexes dialog box.
- Change the Unique or Clustersettings in the Edit Index dialog box.

Platform Support for Indexes

Most database platforms support indexes with an unlimited number of keys. However, Microsoft SQL Server 2000, DB2/UDB for Linux, UNIX, and Windows, and Informix support only indexes that have a maximum of 16 keys. PeopleSoft supports indexes for these databases by creating functional indexes. If a record definition has more than 16 keys, the Build process automatically alters the table to support functional indexes. The system adds a warning message to the log file indicating this. Sample code for functional indexes for each of these platforms can be found in Appendix A of this PeopleBook.

See Appendix A, "Understanding Functional Indexes," page 513.

The following list offers more detail on functional indexes by database platform:

- Functional indexes for Microsoft SQL Server 2000.

  If an index has more than 16 keys, the key fields are concatenated to a functional key. This key field is then added to the table as the last column called MSSCONCATCOL. A unique index is created for MSSXCONCATCOL as well as an additional index called PSW<record name> that is used as a search index.

- Functional indexes for DB2/UDB for Linux, UNIX, and Windows.

  Similar to the concatenation that occurs with SQL Server, DB2/UDB for Linux, UNIX, and Windows also concatenates the key fields to a functional key. The key is then added to the table as the last column called DBXCONCATCOL. A unique index is created for DBXCONCATCOL as well as an additional index called PSW<record name> that is used as a search index.

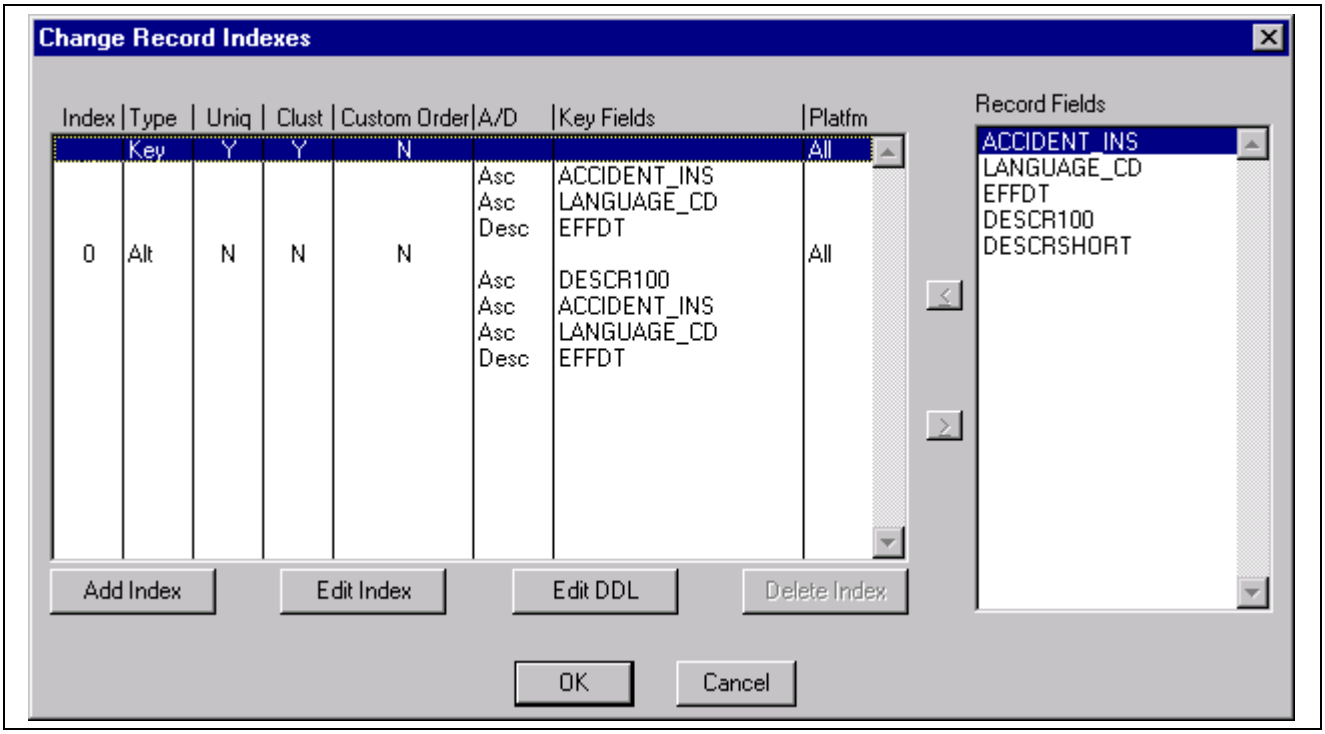
- Functional indexes for Informix.

  For Informix, if there are more than 16 keys in an index, a function is created for every 16 keys. The name for this set of 16 keys is PS_<record name>_SP<the incremented number for each function>. The functions are used to create a unique index. An additional index called PSW<record name> is also created.

Configuring Indexes

For performance tuning, you might want to change the order of your index keys. PeopleSoft Application Designer provides direct control over all of the indexes created by PeopleTools. You can inspect, add, or change all defined indexes or delete custom indexes for any record in the system through the Change Record Indexes dialog box.

Standard indexes are based on the key, duplicate order key, or alternate search key only. However, with the Change Record Indexes dialog box, you can modify those indexes and create additional indexes, which might be required if you do custom processing. Any of the indexes that you entered can be maintained for all database platforms or for a list of specific platforms. All indexes and keys created by PeopleTools are stored in PeopleSoft system tables.



Change Record Indexes dialog box

To edit the index key order:

1. Open the record definition for which you want to make the custom index.
2. Select Tools, Data Administration, Indexes to access the Change Record Indexes dialog box.

   The Custom Order column indicates whether the index keys have been configured. The default selection is *N,* indicating that no configurations have been made.
3. Double-click the *N* or *Y* in the Custom Order column for the index that you want to alter, or click Edit Index.
4. Select the Custom Key Order check box.
5. Click OK.

   The Custom Order entry changes from *N* to *Y.*
6. Drag and drop the field that you want to move into the appropriate order.

   After configuring the key order, to reset the key order of the index to the original order as defined in the record definition, clear the Custom Order entry (Y to N), and click OK. The orders of the key fields reset to the original position in the Change Record Indexes dialog box.
7. Check the key order in the Use Display mode of your record definition.

   The Num (number) column represents the original order of the keys in your record and the Ordr (order) column reflects the key order in the index.
8. Create the indexes:

a. Select Build, Current Project.

b. Select Create Indexes in the Build Options group box.

Make sure that you select the appropriate build settings.

9. Run the Build process to either generate a script or run the SQL online.
10. Confirm the construction of the new index with your native SQL command processor.

Note. Users might also configure indexes for "parent" records that contain one or more subrecords without key fields, such as the subrecord ADDRESS_SBR. However, if the subrecords contain key fields, index key order changes are restricted. The Custom Key Order option is deactivated and cannot be changed from *N* to *Y*. Change the index key order for the parent before inserting the subrecord.

Adding a Custom Index

To add an index:

1. Open the record.
2. Select Tools, Data Administration, Indexes to access the Change Record Indexes dialog box.
3. Click Add Index.

   The Add Index dialog box enables you to determine for which database platforms you want to define the index if you selected the Some option for Platform. The Custom Key Order check box has been selected by the system to ensure that the underlying record definition is not adversely impacted by the change to your index.

   For all user-defined indexes, you must enter a description of the index in the Comments section. It is useful to know the purpose of the index, the transactions and processes that use this index, and other relevant information. This information assists you when you want to remove unused indexes. An error message appears if you do not do so.

Note. You cannot add more than 22 user indexes (A-V). The system disables the Add Index button if the record already contains 22 user indexes.

---

4. Indicate the database platforms for which you want to create the index.
5. Click the OK button to add a row to the Change Record Indexes dialog box and enable the arrow buttons.
6. Move the field under the new index row:
   a. In the Record Fields list box, select the field that you want indexed.
   b. Click the arrow button, or double-click the field.
   c. Repeat this step for each field that you want to add.
7. Click OK.
8. Save the record definition.
9. Select Build, Current Project.
10. Select Create Indexes under Build Options.

    Make sure that you select the appropriate build settings.
11. Run the Build process to either generate a script or run SQL online.
12. Run the generated SQL script if you opted to generate one.

13. Confirm the construction of the new index with your native SQL command processor.

Editing the DDL

In the Change Record Indexes dialog box, you can view the DDL for the index and override DDL parameters that are defined in the DDL model for this index.

To edit the DDL:

1. In the Change Record Indexes dialog box, select the index that you want to edit.
2. Click the Edit DDL button to access the Maintain Index DDL dialog box.

   The upper list box in this dialog box lists the platform and DDL parameter, and the lower list box shows the DDL templates for the various platforms. Your database might have fewer platforms enabled. The sizing set enables different collections of tables to have different model statements and parameters.
3. Select the platform and sizing set.
4. Click View DDL.

   The dialog box that appears shows the index DDL for the platform and sizing set that you selected. Review this DDL statement.
5. Click the Close button when you're finished.
6. Select the parameter that you want to edit in the upper list box.

   The default value is set in the DDL Model Defaults dialog box. You can change this setting by selecting Go, PeopleTools, Utilities, Use, DDL Model Defaults in PeopleSoft Application Designer, or by selecting PeopleTools, Utilities, Use, DDL Model Defaults in the browser.
7. Click the Edit Parm (edit parameter) button to access the Edit Override Parm Value (edit override parameter value) dialog box.
8. Enter the override value for the parameter that you selected.
9. Select OK for both open dialog boxes.

Altering Tables

This chapter provides an overview of the Alter process and discusses how to:

- Determine tables to be altered after a field change.
- Alter a table.
- Specify alter options.
- Confirm your table alter.

Understanding the Alter Process

The Alter process enables you to make changes to your record definitions at any time without losing the application data that is already housed in the table. To ensure that the Alter process produces the appropriate results, be aware of when to alter an existing table and what types of conversions PeopleSoft Application Designer supports. To preserve data that is stored in tables and also reflect a recent change in the table definition, use the alter tables function to make the appropriate changes.

The alter function simplifies the process of modifying database tables when new data fields are added or when existing data fields are modified. It effectively eliminates the need to write SQL statements to perform the same function.

PeopleSoft specifically designed the alter process to automate the task of writing alter scripts and protect the integrity of your database. In essence, it protects your interests by ensuring that you always control data loss. The alter function performs tests that verify whether data will be lost during the conversion on each column to be altered. Data loss normally occurs when reducing the character width of a column, dropping a column that contains data, or converting a number field to a character field that is too small.

The generated statements for this method are sent to a SQL script file—the alter script. After the script has completed, you are responsible for reapplying any SQL table DDL that you applied outside of PeopleTools. Typically, this consists of GRANT and REVOKE statements controlling security.

Note. On Oracle databases, procedural language/Structured Query Language (PL/SQL) is required to use the PeopleSoft Application Designer Build process.

Alter Settings

The Alter tab in the Build Settings dialog box handles the most common types of data conversions, including:

- Increasing the length of character fields.
- Changing a character (CHAR) field to a long character (LONG VARCHAR) field.
- Increasing the size of number or character fields.
- Reducing the decimal positions in number fields.

  If any column of the table has data that will be lost when truncating, the system action is determined by the Change Column Length options.
- Changing integer-only number fields to character fields, where the character field is formatted with leading zeros.

  If any column of the table has a number that does not fit in the new character field, system action is determined by the Change Column Length options. This prevents data from being lost.
- Adding columns to SQL tables.
- Dropping columns from SQL tables.
- Renaming columns in SQL tables.
- Renaming SQL tables.
- Moving tables to a new tablespace.

The following sections describe the types of alter conversions that you can expect to occur during the Build process.

Data Conversions

When altering tables with existing field data, PeopleSoft Application Designer handles conversions as outlined in the following table. A *No* indicates that conversion cannot take place. A number in the cell following a *Yes* indicates that there are restrictions involved with the conversion. Refer to the corresponding numbered note following the table for additional information:

PSFT Old Field Type Format	PeopleSoft New Field Type Format										
	Char	*Oracle–Long Char with Length < 2000*	*Long Char*	*Image*	*Long Char—Raw Binary*	*Number/Signed Number* where n = length and d = decimal			*Date*	*Time*	*DateTime*
						SmallInt *(small integer)	*Integer* **	*Decimal* ***			
Char	Yes (1)	Yes (1)	Yes	No	No	No	No	No	No	No	No
Oracle—Long Char with Length < 2000	Yes (1)	Yes (1)	Yes	No	No	No	No	No	No	No	No
LongChar	Yes (2)	Yes (2)	Yes (8)	No	No	No	No	No	No	No	No
Image	No	No	No	Yes (8)	Yes (8)	No	No	No	No	No	No
Long Char—RawBinary	No	No	No	Yes (8)	Yes (8)	No	No	No	No	No	No
SmallInt *	Yes (5)	Yes (5)	No	No	No	No Action	Yes (4)	Yes (4)	No	No	No
Integer **	Yes (5)	Yes (5)	No	No	No	Yes (4)	No Action	Yes (4)	No	No	No

PSFT Old Field Type Format	PeopleSoft New Field Type Format										
Decimal ***	Yes (7)	Yes (7)	No	No	No	Yes (3)	Yes (3)	Yes (3)	No	No	No
Date	No	No	No	No	No	No	No	No	No Action	No	No
Time	No	No	No	No	No	No	No	No	No	No Action	No
DateTime	No	No	No	No	No	No	No	No	Yes (6)	Yes (6)	No Action

NOTES:

* n < 4, d = 0, n = 5, d = 0 RawBinary	** n > 4, d = 0, (or) n = 10, d = 0 RawBinary	*** n > 9, d > 0

1	If data fits or data truncation is allowed.
2	Not allowed in Oracle.
3	If data fits or data truncation is allowed (for decimals portion only).
4	If data fits. No data truncation can occur, even with the option to allow data truncation.
5	If data fits, except for Informix.
6	If data truncation is allowed by selecting theTruncate data if field too short option on the Alter tab of the Build Settings dialog box.

PSFT Old Field Type Format	PeopleSoft New Field Type Format
7	If data fits, except if data has decimal values *or* for Informix.
8	If image or long character change from Null to Not Null or Not Null to Null, otherwise, no action.
9	Allowed on all platforms except Informix (due to an Informix limitation).

PeopleSoft Proprietary and Confidential

Alter Process Tips

The following lists information to keep in mind as you create and run the alter scripts:

- Temporary tables during alter:

  When you run the Alter process, the script might create a temporary table. Temporary tables are named *PSY%tablename%,* and they are created in the altered table's tablespace—the tablespace currently defined in the record definition.

- Alter process on tables containing logs on Oracle:

  Oracle does not allow an INSERT or SELECT FROM command if the table contains a LONG VARCHAR or LONG RAW. Therefore, PeopleSoft uses an Oracle PL/SQL script to do alters on tables in Oracle that contain any type of LONG data type.

- Alter process on Oracle on records with CHAR fields greater than 1333 bytes but less than 2000 bytes:

  For Oracle, records with CHAR fields of length greater than 1333 characters and less than 2000 characters will appear in the alter SQL script as needing to be altered, even if nothing has changed. On Oracle Unicode databases, PeopleSoft triples the length of a field while creating a table with a VARCHAR2 column in the database to store all three bytes of the Unicode character. On Oracle databases, VARCHAR2 can store up to 4000 bytes which means there is a restriction to store only 1333 characters (with three bytes each).

  For example, if a LONG CHAR field is designed with a length of 1999 characters, PeopleSoft interprets the field as a VARCHAR2, and creates the column with a size of 1333 characters. The field length of that LONG CHAR field will be stored as 1999 in the PSRECFIELD table, but in the database it will be created with a size of 1333. So, each time a record with a LONG CHAR field of 1999 (or any value > 1333), the alter process detects the difference between the 1999 character length in PSRECFIELD and the 1333 character length in the database and generates the alter script. In addition, PeopleSoft also creates a constraint on the VARCHAR2.

- View dependencies:

  PeopleSoft Application Designer does not keep track of view dependencies. When the structure of a table changes, it is a good idea to re-create all views. Many database environments track this information, so you might be able to determine view dependencies by issuing a query directly against the system catalog. However, if you are not the DBA, you might not have the authority to run such a query successfully.

  Also, renaming or dropping a table, view, or column might invalidate view text, dynamic view text, and possibly other stored queries.

  This table shows what happens to views by database platform:

Database Platforms	What Happens to the Dependent Views When a Table Gets Dropped?	Do the Inoperative Views Become Operative When the Table is Re-created?	Comments
Microsoft SQL Server	Become inoperative.	Yes	The dependency reported by sp_depends is incorrect until you recreate the view.
Sybase	Become inoperative.	Yes	The dependency reported by sp_depends is incorrect until you recreate the view.

Database Platforms	What Happens to the Dependent Views When a Table Gets Dropped?	Do the Inoperative Views Become Operative When the Table is Re-created?	Comments
Oracle	Become inoperative.	Yes, but only after the first use of the dependent view.	The VIEW object that had become invalid remains invalid until its first use. The Oracle catalog table for objects marks the view as valid again.
Informix	Get dropped when the table gets dropped.	Not applicable (NA).	Views need to be created because the system drops them along with the table drop.
DB2/UDB for Linux, UNIX, and Windows	Become inoperative.	No	Views need to be re-created to make them operative.
DB2 UDB for OS/390 and z/OS	Get dropped when the table gets dropped.	NA	Views need to be re-created because the system drops them along with the table drop.

- Alter script:

  After you invoke the Alter process, the system uses the default value that is defined in the record definition to populate the column on the altered table. The alter script that is generated contains detailed comments (--) to assist you if you must modify the script manually.

When to Alter Tables

The following record definition changes affect synchronization with the application table and require an alter process:

- Add or delete a field on the record.
- Modify the length of a field.
- Change the required status of a date, time, DateTime, or long field.
- Rename a field.
- Rename a record.

The Alter Table process is similar to the Create Table process, except that it does not drop existing application data tables and the data that they contain.

Note. The Build process automatically alters records with more than 16 keys to support functional indexes. A warning message indicating this is included in the log file for Microsoft SQL Server and DB2/UDB for Linux, UNIX, and Windows. For Informix, the warning message reads: "The record %s has more than 16 keys. Indexes will be re-created to support functional indexes."

Determining Tables to be Altered After a Field Change

To determine tables to be altered after a field change:

1. Create a new project.

2. Open the altered field.
3. Select Edit, Find Definition References.

   The referenced definitions appear in the output window.
4. Select all of the rows that appear in the output window.
5. Right-click the selected rows, and select *Insert Into Project* from the pop-up menu.

Altering a Table

To alter a table:

1. Open the project for which you must perform an alter.
2. From the Build menu, select the appropriate scope of your build.

   The Build dialog box appears.
3. Select Alter Tables in the Build Options group box.

   Selecting the Alter Tables option automatically selects and disables the Create Indexes and Create Trigger (only if triggers are needed) option. In the Build Execute Options group box, only the Build script file option is enabled.
4. Click the Settings button in the Build dialog box to set user-defined defaults.

   Select the appropriate alter, logging, and scripts settings.

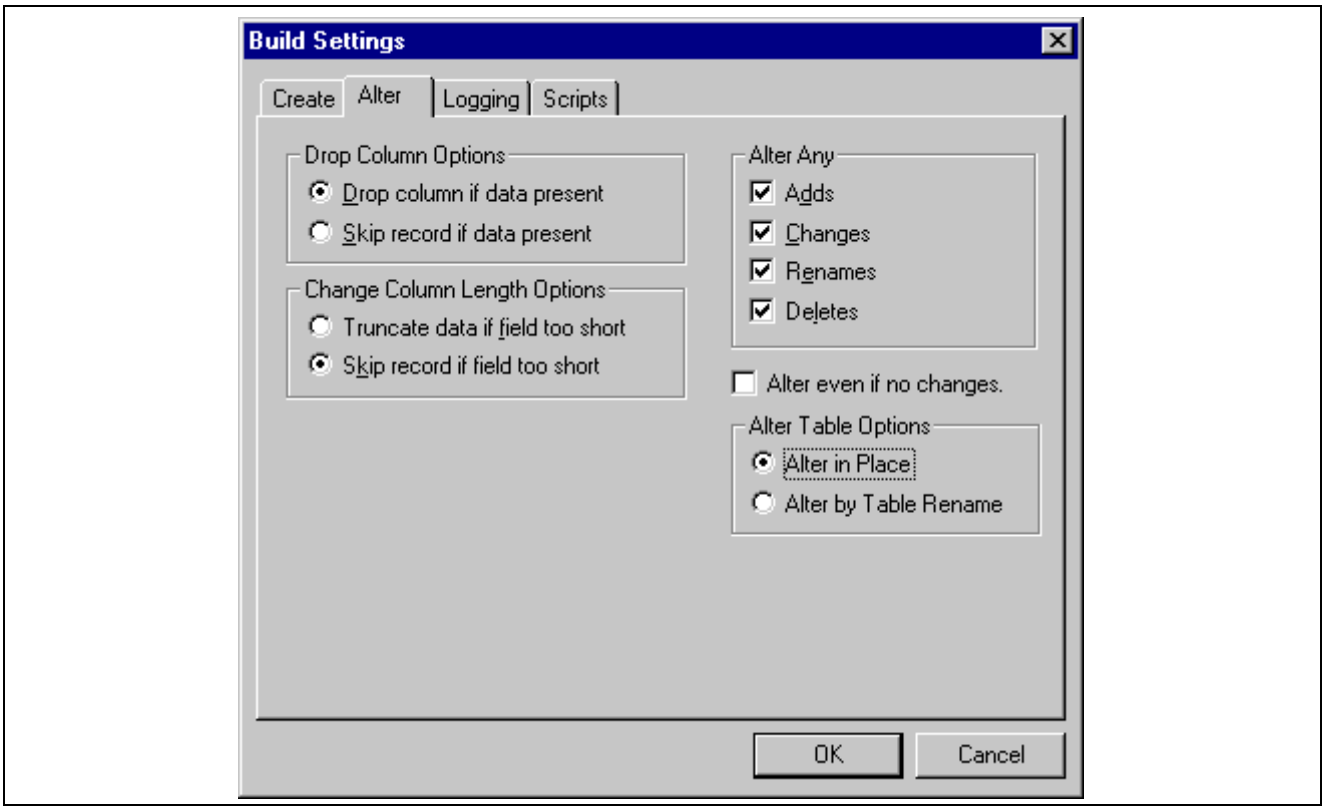
   Note. The alter process takes care of the indexes regardless of the Alter Table Options you select on the Alter tab of the Build Settings dialog box. In the case of "Alter by Table Rename," the indexes are dropped automatically when the temp table is dropped. For the "Alter in Place" option, the index creation process goes through the "Recreate index only if modified" option on the Create tab.

   ---
5. In the Build dialog box, click Build to run the Alter Tables process.

   The length of a build process depends on the number of definitions that require building. Watch the Build Progress dialog box to monitor the Build process. When the process completes, check any errors listed in the log file.

Specifying Alter Options

Access the Build Settings dialog box. Select the Alter tab.



Build Settings dialog box: Alter tab

Drop Column Options

These options are referenced whenever a field is deleted from a PeopleTools record definition where data exists in the database for that column.

Drop column if data present Select to drop the column and data and write a warning to the build log.

Skip record if data present Select to end the alter for that record, and write an error message to the log. Processing continues with the next record.

Note. Whenever you select Drop column if data present, you run the risk of losing data, and you are prompted at runtime to confirm your choice of this option.

Change Column Length Options

Use these options whenever the length of a character column is reduced in PeopleTools and an alter could result in data truncation.

Truncate data if field too short Select to alter the record and write a warning message to the build log. Note that the system does not truncate data for numeric fields because of possible data loss.

Skip record if field too short End the alter for that record and write an error message to the build log. Processing continues with the next record.

Note. Whenever you select Truncate data if field too short, you run the risk of losing data, and you are prompted at runtime to confirm your choice of this option. Also, numeric fields are not truncated to avoid any loss of data.

Alter Any

PeopleTools assumes that you want to perform alters for any modifications made to tables, so, by default, all of the check boxes in the Alter Any group box are selected. Alter Any allows for custom alter processing regarding adds, changes, renames, and deletes. For example, you have the flexibility to add, change, and rename fields, but not to delete any removed columns. When you complete any other custom external conversion processes, you can then enable the delete processing to drop columns that are no longer defined.

Normally, you select all of these options, but during upgrades or operations requiring data conversion steps, you might select a subset of actions. For example:

- Perform alter with Adds and Changes selected.
- Perform data conversion routines to populate the new and changed columns (perhaps from columns that are ultimately to be dropped).
- Perform alter with Rename and Delete selected.

Alter even if no changes

Select this check box to force an alter, even if no changes are made to the tables. This check box is cleared by default. If selected, the Alter by Table Rename option in the Alter Table Options group box is automatically selected, and the Alter in Place option is disabled.

Alter Table Options

When altering tables, the alter process takes care of the indexes regardless of the Alter Table Options you select on the Alter tab of the Build Settings dialog box. In the case of Alter by Table Rename, the indexes are dropped automatically when the temp table is dropped. For the Alter in Place option, the index creation process goes through the Recreated index only if modified option on the Create tab.

- Alter in Place

  Selected by default. For database platforms in which Alter in Place is not supported, alter is automatically done by Alter by Table Rename (even if that option is not selected).

  Database platforms vary in the capabilities for Alter in Place table operations. The following table displays the limitations for each operation by platform:

Database Platforms	Add Column	Change Column (data type, size, precision, scale, and null/not null property change)	Rename Table	Delete Column
Microsoft SQL Server	Yes *	Yes *	Yes *	Yes *
Oracle	Yes *	No	Yes	Yes *
DB2/UDB for OS/390 and z/OS	Yes *	No	No	No
DB2/UDB for Linux, UNIX, and Windows	Yes *	No	No	No
Sybase	No	No	Yes	No
Informix	Yes	Yes	Yes	Yes

* Certain restrictions might apply to this operation. Refer to the documentation delivered with your specific database platform for more information.

- Alter by Table Rename

  Select to create a temporary table (with changes made to the original table or its fields); the data from the original table is imported into the temporary table. The original table is then dropped and the temporary table is renamed to the original table.

  If a table is renamed from the old name to a new name, the indexes that were created on the old table are moved to the new table, but the index names remain in the old table's name. With Alter by Table Rename selected, the indexes of the old table are dropped before being renamed to the new table name and the indexes are re-created after the table is renamed to the new name. This way, the index is created in the new table's name.

Confirming Your Table Alter

To confirm your table alter:

1. Review the SQL script that was generated by the Alter process.

   Use your native SQL command processor to open the SQL script. The script is located where you specified on the Scripts tab of the Build Settings dialog box.

2. Run the script against your database.
3. Use your query tool and SQL Select statements to confirm that the Alter Tables process has created an application table that corresponds to your record definition and has updated the system catalog tables.

Creating Triggers

A database trigger is a type of stored procedure that runs automatically when a user makes a specific data-modification statement (INSERT, UPDATE, or DELETE) on a specified table. Within PeopleTools, triggers are created in tables related to synchronization for mobile applications and for optimization servers. Triggers are not created for all records; they are created only for records where specific properties have been set.

For example, in a mobile component record, set the required properties for that record so that triggers are created during the Build process. Using the Build dialog box, create the trigger by selecting the Create Trigger check box in Build Options. Using the Build Execute options, you can either generate the SQL or run the build online. There are, however, usage and implementation restrictions.

See *Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft Mobile Agent*, "Using Synchronizable Component Interfaces," Understanding the Synchronization ID and Datetime Stamp.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft Optimization Framework, "Designing Analytic Type Definitions," Creating and Building Optimization Records

Creating Views

This section provides an overview of online views and discusses how to:

- Create views.
- Use joins in views.
- Use cross-platform meta-SQL for dynamic views.

Understanding Views

Views in PeopleSoft applications are comparable to views used in traditional RDBMS technology. A view, in essence, is a virtual table. It is created from the results of a query run against one or more tables.

When you create views to use online, you must keep the views synchronized with the database. Like SQL tables, you must have a record definition for online views because the system checks the record definitions for online processing rules. You must build the view before you can use or reference it online.

If you use a view as the basis for a page, you select *existing* information to display on the page. Therefore, when you create the record definition for your view, you can clone an existing record definition, delete any fields that are *not used* in the view, and proceed to define the view. Query views are processed the same way as view text, which is defined as part of the record.

The order in which PeopleTools creates views is based on the build sequence number that you set on the Record Type tab while the record is open. The default build sequence number is *1*. For the dependent views to be created first, the build sequence number should be *0*. This way, all of the *0* views are created first, then the *1s,* and finally the views that are greater than *1*. Although the views are sorted in alphabetical order in the project, they are created based on the build sequence number.

Creating Views

If you're already familiar with creating record definitions and writing SQL queries, creating online views is quite similar.

To create online views:

1. Clone a record definition:
    a. Open an existing record definition.
    b. Select File, Save As.
    c. Specify the name of the view that you want to create.
2. Delete and add the appropriate fields.

    All columns that are selected in your view should have a corresponding field in the record definition.
3. Set the record type to SQL View:
    a. Select the Record Type tab for the record definition.
    b. Select SQL View in the Record Type group box.
4. Click the Click to open SQL Editor button.

    The order in which you list the columns in your SQL SELECT statement should match the order that you specified in the record definition. A SQL statement can be given for each platform.

    See Chapter 6, "Creating Record Definitions," Creating SQL View and Dynamic View Select Statements, page 129.
5. Save the record definition.
6. Select Build, Current Definition to create the view in the database.
7. Select the Create Views check box under Build Options.
8. Click Build.

Using Joins in Views

If you plan to use a join on a regular basis, you can save it as a SQL script, or you can create a view—a single virtual table—using the join as the logical representation of the data. After you create a view, the users never need to know that the data that they're viewing is stored in multiple tables. To users, the relative complexity of your view is transparent. For example:

```
SELECT A.EMPLID,
       A.NAME,
       B.CONTACT_NAME,
       B.RELATIONSHIP
FROM   PS_PERSONAL_DATA A,
       PS_EMERGENCY_CNTCT B
WHERE  A.EMPLID = B.EMPLID;
```

Using Cross-Platform Meta-SQL for Dynamic Views

PeopleTools includes functionality to produce meta-SQL constructs for dynamic views. This means that dynamic SQL views that are created using PeopleSoft Application Designer can be used on any platform that is supported by PeopleSoft. The *PeopleSoft PeopleTools PeopleBook: PeopleCode Developer's Guide* contains a full list of the meta-SQL that is supported in the PeopleSoft Internet Architecture.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference, "Meta-SQL," Meta-SQL Placement Considerations

Administering DDL

Select Data Administration from the Tools menu in PeopleSoft Application Designer to access critical dialog boxes that enable you to define the record location and structure and other guidelines for PeopleTools to extract information from your selected database.

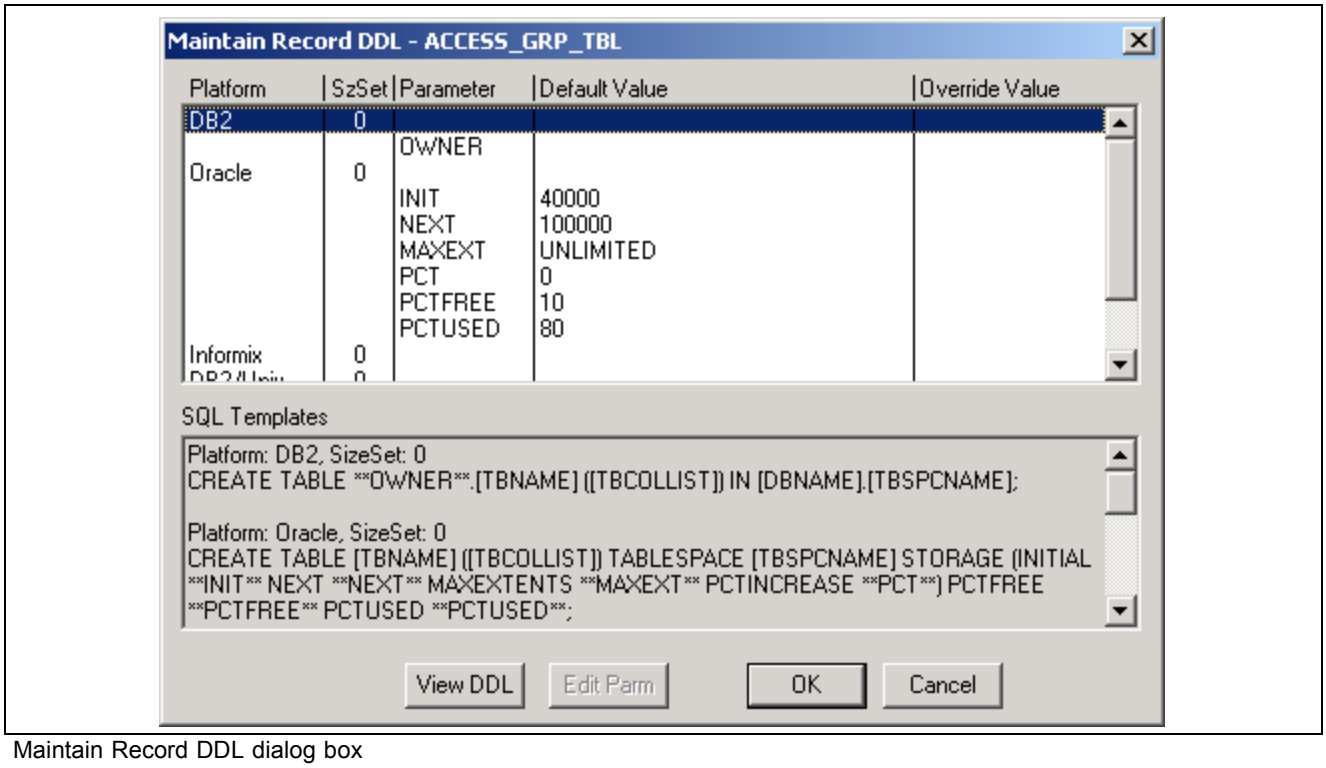
This section discusses how to:

- Use the record DDL.
- Set the tablespace.
- Use physical data storage.

Using the Record DDL

Use the record DDL to define parameters and default values for the tables in your database. PeopleSoft provides templates for each database platform that PeopleSoft supports. The templates contain the typical parameters for each database platform. The mechanics of editing and viewing record, index, and unique index DDL are the same as for space DDL.

Access the Maintain Record DDL dialog box from Tools, Data Administration, Record DDL. The Data Administration menu option is only enabled if a record definition is open.



Maintain Record DDL dialog box

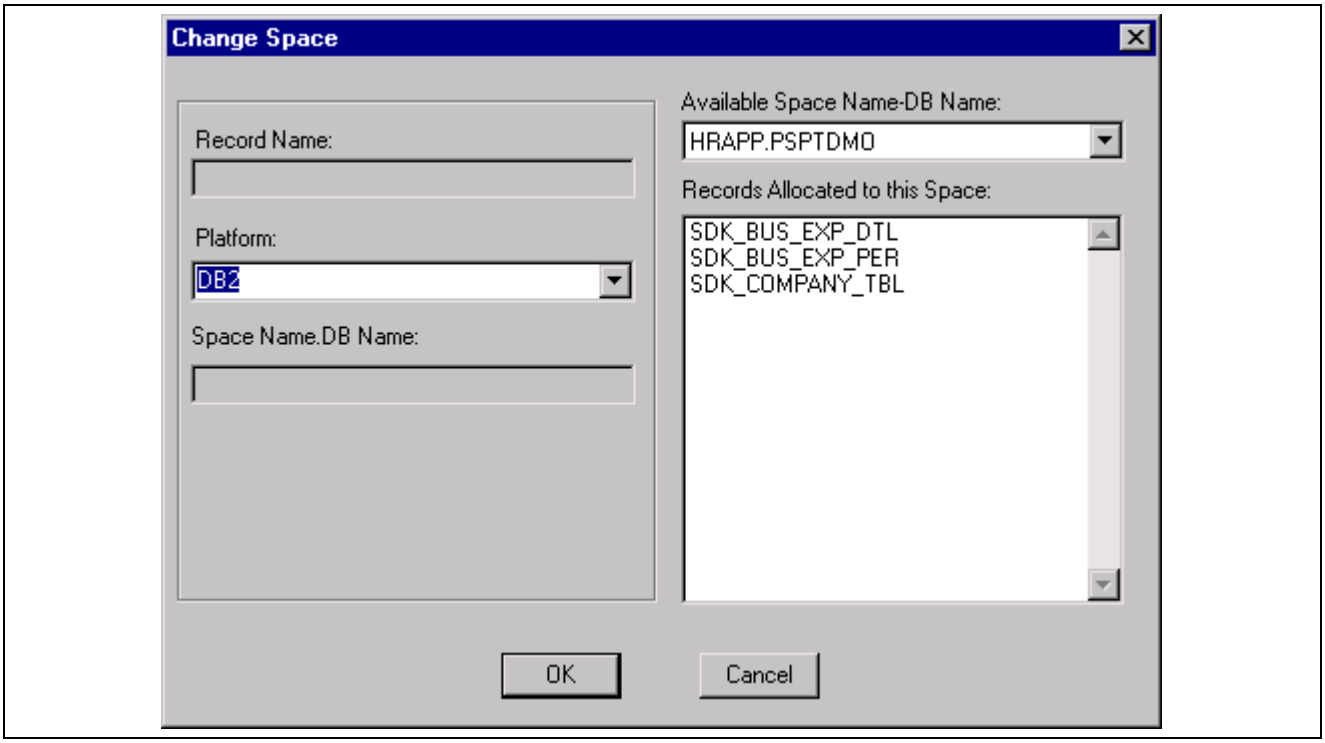
View DDL Select a Platform row in the Maintain Record DDL dialog box to enable the View DDL button. This button opens the DDL Statements dialog box which displays the CREATE TABLE DDL for the current record on each of the database platforms.

Edit Parm (Parameter) Select a Parameter row in the Maintain Record DDL dialog box to enable the Edit Parm button. This button opens the Edit Override Parm Value dialog box where you can enter a new value to override the Default Value listed in the table. The new value is stored in the PSRECDDLPARM override table.

Setting the Tablespace

The Change Space dialog box is an editing tool with which you can select the space name and view the records attributed to the named space in the database.

Access this dialog by selecting Tools, Data Administration, Set Tablespace. This dialog box also appears automatically when you attempt to save a new record definition. For each new record definition that is created in PeopleSoft Application Designer, a tablespace name must be allocated. For the Change Space dialog box to appear upon saving a new record definition, the Platform Compatibility Mode check box under PeopleTools, Utilities, PeopleTools Options must be selected.



Change Space dialog box

Record Name Displays the name of the current record definition. This field is display-only.

Platform Select from the available database platforms to which you can assign the designated space name.

Space Name.DB Name (tablespace name.database name) Displays the available space name that is assigned to the current record. This field is display-only.

Available Space Name-DB Name (available tablespace name-database name) Select the space name and database name to assign to the record.

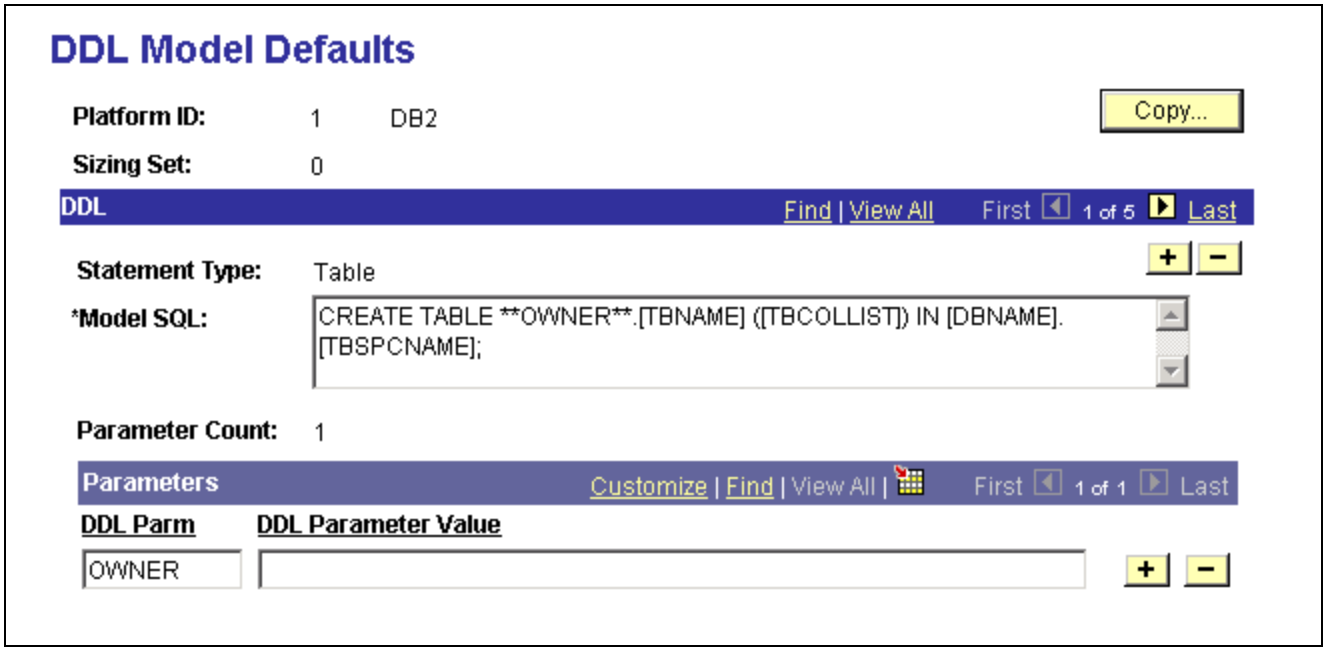
Records Allocated to this Space Displays all of the records that have already been allocated to the space that you selected from the Available Space Name-DB Name drop-down list box. This field is display-only.

See *Enterprise PeopleTools 8.46 PeopleBook: System and Server Administration*, "Using PeopleTools Utilities," Tablespace Utilities and *Enterprise PeopleTools 8.46 PeopleBook: System and Server Administration*, "Using PeopleTools Utilities," Tablespace Management.

Using Physical Data Storage

You have control over the physical storage of your data. The DDL for creating tables, indexes, and tablespaces can be viewed and edited in the browser.

Access the DDL Model Defaults page.



DDL Model Defaults page

To view or edit the DDL parameters for creating tables, indexes, and tablespaces:

1. From the homepage of your application, select PeopleTools, Utilities, Administration, DDL Model Defaults to access the DDL Model Defaults search page.
2. Press ENTER to view platform names.
3. Select a platform name.

   The DDL Model Defaults page appears.

The Model SQL edit box shows the DDL template for the specified platform and sizing set. The items in square brackets are special parameters that are populated when instances of SQL are generated. For example, the preceding example shows an index model statement for ALLBASE. In this example:

- [TBNAME] is the name of the table.

- [TBCOLLIST] is replaced by the columns that are specified in the index definition.

The model statements also contain parameter names enclosed in pairs of asterisks. A parameter name is replaced by a value when instances of the SQL are generated. In the preceding example, there is one parameter, ****FILESET****. When DDL is generated using this model, the FILESET parameter is replaced by FILE, unless it is overridden for the specific record or tablespace. The other text in the model statement is copied to the generated SQL.

See Also

Enterprise PeopleTools 8.46 PeopleBook: System and Server Administration, "Using PeopleTools Utilities," Using Administration Utilities

CHAPTER 8

Designing Pages for Optimal Performance and Accessibility

Developing pages for internet applications requires certain design techniques to optimize performance and offer the greatest accessibility for users. This section discusses how to:

- Improve online performance.
- Design accessible pages.

Improving Online Performance

To improve online performance of internet applications, you must optimize the transmissions to the server. Optimizing transmissions improves overall processing speed and reduces the user's data entry time.

Transactions that are designed using deferred mode reduce traffic to the application server but do not operate interactively.

This section provides an overview of processing modes and discusses how to:

- Refresh a page.
- Trigger server processing.
- Use PeopleCode in deferred mode.
- Use page controls in deferred mode.
- Use error and warning messages.

Understanding Processing Modes

PeopleSoft applications can run in two different processing modes: *interactive* and *deferred.*

Interactive Mode

In interactive mode (formerly called standard), when the user exits a field that has a field-level event (for example, FieldChange, FieldEdit, RowInsert PeopleCode, prompt validation, related display, and so on):

1. A transmission to the application server is performed to run that field-level event.
2. The page is displayed again.

Deferred Mode

Deferred mode enables you to defer many of the conditions that need server processing until running them on the application server is required or requested. For example, when a user exits a field that has a field-level event (like FieldChange or FieldEdit PeopleCode, prompt validation, related display, and so on), that event is not run until the next transmission to the application server. When the next transmission to the server occurs, PeopleTools determines which fields have changed since the last transmission. Logic on the application server runs the appropriate system edits and PeopleCode events (in field layout order).

You can select deferred mode processing at the field, page, and component levels. For a field in the component to run in deferred mode, you must select deferred mode at each of those levels. Deferred processing is the default mode at the field, page, and component levels.

Refreshing a Page

Click the Refresh button on a page to force processing on the application server to determine which fields have changed since the last transmission and to run processing logic that is associated with those changes.

Users can also refresh by pressing the ALT-0 hot key, which keeps the cursor in the same field when the page is displayed again. You can refresh at any time during data entry to enable an expert user to:

- Update related display field values for the data that is already entered.
- Recalculate totals and balances.
- Provide defaults that are based on prior data that was entered on the page.
- Validate the data that has been entered on the page so far.
- Invoke any hide, unhide, gray, or ungray code that is associated with specific fields.

Note. The refresh button does not refresh the page from the database. It does cause a server trip so that any deferred PeopleCode changes can be processed. If there are no deferred changes or the deferred changes do not cause any errors or other changes on the page, clicking Refresh has no effect. It may appear to the user that nothing happened. Fields on derived work records are not updated if the user clicks the Refresh button.

Triggering Server Processing

The following table shows the events that cause the PeopleTools runtime environment to run logic on the application server when operating in deferred or interactive processing mode:

Event	Deferred Processing	Interactive Processing
Entering data in fields with PeopleCode (for example, FieldEdit and FieldChange) associated with them.		X
Entering data in fields that have prompt table edits.		X
Entering data in fields that have related displays.		X

Event	Deferred Processing	Interactive Processing
Inserting a row or series of rows in a grid or scroll area.	X	X
Deleting a row from a grid or scroll area.	X	X
Using the grid or scroll area controls to move forward or back.	X	X
Selecting another page tab.	X	X
Selecting another grid tab.	X	X
Expanding or collapsing a collapsible section.	X	X
Clicking any button or icon on the page.	X	X
Clicking any link on the page.	X	X
Clicking the Refresh toolbar button.	X	X
Using the Refresh hot key.	X	X

Using PeopleCode in Deferred Mode

When designing transactions to run in deferred mode, note the following:

- Code field edits in FieldEdit PeopleCode; it is not necessary to move field edits to SaveEdit PeopleCode.
- Code field change logic in FieldChange PeopleCode.
- Set all fields, including those that have FieldEdit or FieldChange PeopleCode, to deferred processing.
- Do not use gray and hide fields on the same page to achieve a form of progressive disclosure on the page.

  Specifically, do not include hide or unhide and gray or ungray FieldEdit and FieldChange PeopleCode for definitions on the same page, unless it is triggered by a separate push button. Instead, use either page Activate PeopleCode or FieldChange PeopleCode for definitions that are on another page in the component. The page display should be static as the user enters values and moves between fields on the page.

  PeopleSoft recommends that you hide or unhide definitions, or set them to display-only in page Activate PeopleCode before the page is initially displayed based on setup data, configuration options, or personalization settings. Set fields to display-only in PeopleCode by setting the DisplayOnly property in the Field class to true.

- Show all fields as a static form, and perform cross-validation edits to prevent invalid data combinations from being written to the database.
- Cross-validation edits should always assume that the controlling field (for example, a radio button, check box, drop down list box, and so on) is correct when editing for invalid combinations.

  Use SaveEdit to code cross-validation edits. If the transaction requires that the edits be performed before the user can select another folder tab, code the edits in a function that is called from the page Activate PeopleCode for every other visible page in the component. If the transaction is a sequential step-by-step process, add the cross-validation edits to the Next and Previous buttons that navigate the user through the process. Code cross-validation edits at the record level if the cross-validation edits apply to all components and at the component level if they apply to only one component.

Publishing Messages in PeopleCode

Use the SavePostChange event, either from record-field or component PeopleCode, to publish messages online. PeopleTools has special logic in SavePostChange PeopleCode that defers publishing until just before the commit for the transaction. This minimizes the time that the system locks single-threaded PeopleSoft Integration Broker tables.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Developer's Guide, "PeopleCode and the Component Processor," Deferred Processing Mode

Using Page Controls in Deferred Mode

Consider the following when designing transactions to run in deferred mode.

Edit Tables

Fields that have edit tables should be set to deferred. The user can click the Refresh button for immediate validation of the field; otherwise, the prompt validation is deferred until the next required transmission to the application server.

Prompt Tables

Use deferred processing on prompt table edits that use %EditTable to set the prompt keys based on the values of other fields on the page. Deferred processing still results in the appropriate behavior being run. For example, if the user clicks the prompt icon, the system:

1. Determines which fields have changed since the prior server transmission.
2. Runs the appropriate PeopleCode events.
3. Applies the values from the page to the buffer.

   This results in setting the correct values before resolving the %EditTable function, provided that any controlling fields come before the prompt table edit based on the page layout order.
4. Runs the prompt table edit lookup logic for the corresponding field.

Drop-Down List Boxes

Do not use drop-down list boxes when the high-order key values are set on the same page. If you do, it requires the server to transmit the correct drop-down list box values based on the high-order key values. Therefore, set the high-order keys on another page, if possible, or use a prompt lookup instead.

For pages that have an effective-dated scroll area and a drop-down list box based on the PSXLATITEM translate table, the drop-down list box is not refreshed when the effective date is changed on the page. However, the drop-down list box does accurately reflect the new effective date the next time that the page is displayed. Evaluate whether this is a problem for the transaction, based on whether customers typically enter effective-dated XLAT rows for the field and on how often changes to the XLAT values are made. If this is an issue, either replace the drop-down list box with an edit box and a prompt, or use the refresh icon after the effective date field.

Drop-down list boxes are a good design choice because they present users with a small number of selections from which they must select one. They are typically more appropriate than prompts for transactions that are targeted at casual, untrained users. Prompts are more appropriate when a power user is entering the transaction from a paper form or document that contains the necessary codes.

Check Boxes and Radio Buttons

Remove any FieldChange PeopleCode associated with check boxes in a grid that are mutually exclusive (meaning only one row can be checked). Instead, implement cross-validation edits in SavePreChange PeopleCode. When you design cross-validation edits between a radio button or check box and any associated edit box fields, assume that the controlling field (in this case, the radio button or check box) is correct.

Related Displays

When you include related displays on your pages, make sure that they are set to deferred mode and that the standard Refresh button is enabled. Then, users can press the Refresh hot key to display related displays when they want to see them. Self-service transactions should not display the code and corresponding related display, but rather should use descriptive prompts.

Adding Multiple Rows

This feature enables the user to specify the number of blank rows to be added by clicking the InsertRow icon.

The number of blank lines that are specified by the user is included on the page when it is displayed again, so application server processing is no longer required for each row that is added.

Do not use this for effective-dated grids or scroll areas.

Multirow inserts might not apply if the entire row is populated using PeopleCode, especially if the data is copied from prior rows. If a multirow insert does apply, the default value of the ChangeOnInit property can be used. (The default value is True, which means that any PeopleCode updates done in the RowInit or RowInsert events set the IsChanged and IsNew properties to True.)

Once a transaction is saved, empty rows are discarded before the page is displayed again to the user. An empty row means that the user did not access the data and that PeopleCode or record defaults might have been used to initialize the row for the initial display.

PeopleCode Save processing (that is, SaveEdit and SavePreChange PeopleCode) runs for all rows that are in the buffer (including the empty ones). Therefore, SaveEdit and SavePreChange PeopleCode should be coded so that it runs only if the field contains data or if the row properties IsNew and IsChanged are both true.

An alternative method is adding PeopleCode in the first save program in the component to explicitly delete any row based on the IsNew and IsChanged properties. If you choose this method, then rows should be deleted from the bottom of the data buffer to the top (last row first).

To implement multirow insert:

1. Ensure that deferred processing is set.

Open PeopleSoft Application Designer and ensure that deferred mode is set for the component, all pages in the component, and all fields on each page.

2. Access the Page Properties dialog box of the appropriate control.
3. Enable multirow insert.

   For each grid or scroll area where appropriate, select the Allow Multi-row Insert check box under the Use tab in the grid or scroll area property sheet.
4. Add ChangeOnInit PeopleCode.

   Setting the ChangeOnInit property for a rowset to FALSE enables PeopleCode to modify data in the row set during RowInit and RowInsert events without flagging the rows as changed. This ensures that only changes entered by the user cause the affected row to be saved.

Note. Each rowset that is referenced by a grid or scroll area with multirow insert enabled should have the ChangeOnInit property for the rowset to *FALSE*. This includes child, or lower level, rowsets. In addition, this property must be set before any RowInsert or RowInit PeopleCode for the affected row.

Using Error and Warning Messages

When components, pages, and fields are set to deferred mode, FieldEdit PeopleCode errors and warnings are not displayed when the user exits the field, but rather after the next application server transmission. Therefore, users might not receive an error message until they enter all of the data and click the Save button.

For FieldEdit error messages running in deferred mode, the system changes the field to red and positions the cursor to the field in error when it displays the message. This allows the user to associate the error message with a specific field. However, for warning messages, the system does not display fields, nor reposition the cursor. Consequently, create warning messages that clearly describe to which fields they apply. For example, if a page contained a "Date out of range" warning, it would be confusing to users if there were multiple date fields on the page.

Designing Accessible Pages

You want to design an application page that is useful to the user and supports assistive technologies.

This section provides an overview of accessibility issues and discusses how to:

- Use labels.
- Use color to convey meaning.
- Verify titles for grids and scroll areas.
- Add unique labels for buttons and links.
- Deactivate adornment images.
- Maintain logical tab order.
- Use deferred processing.
- Use foreground and background colors.
- Use instructional text.

Understanding Accessibility Issues

PeopleSoft is committed to designing transactions that are accessible to all users. When you create or modify PeopleSoft Internet Architecture pages for your system, consider the needs of all users who might access these pages. Make sure that users with disabilities can navigate quickly and cleanly through your transactions when using screen reader software. Before you design your page, use the following checklist to create a properly designed application page that also addresses important usability issues:

- Do all functional images have labels?

  Do these labels effectively communicate the purpose of the image?
- Do all data entry fields have labels near the entry field?
- Do all grid columns have labels (excluding columns with buttons or links)?
- Do all grids and scroll areas have titles?
- Do all buttons and links have unique labels?
- Do adornment images have labels deactivated?
- Is the tab order correct?
- Is deferred processing activated?

  If not, is field processing kept to a minimum?
- Do foreground and background colors provide sufficient contrast?
- Do your self-service pages have instructional text?
- Did you remove abbreviations used in labels and column headers?
- If your page contains HTML not generated by PeopleTools (such as code in an HTML area) or an applet, first check that the code follows the Section 508 accessibility standards. The applicable standards are in Subpart B*, Technical Standards*, Section 1194.22 *Web-based Intranet and Internet Information and Applications*.

  See http://www.access-board.gov/sec508/508standards.htm

Some of these features are set in design time and can be activated or deactivated by the system administrator and the end user. The system administrator controls the availability of functions to the user from PeopleTools Security. The end user can then activate the options on the My Personalizations page.

See Also

Enterprise PeopleTools 8.46 PeopleBook: Security Administration, “Managing PeopleSoft Personalizations,” Working with the My Personalizations Interface

Enterprise PeopleTools 8.46 PeopleBook: Using PeopleSoft Applications, “Working With Browser-Based Applications,” Using Accessibility Features

Using Labels

Consider the use of labels for functional images, data-entry fields, and grid columns in your application page.

Labels for Functional Images

All functional images need a good label. Functional images are image buttons, image links, and static and dynamic images that convey meaningful information. Images that do not require labels are spacer (or invisible) Graphics Interchange Format (GIF) files and adornments (images that do not serve a functional purpose other than to provide visual interest). A good label is vital for blind users to understand the meaning of an image. Labels also clarify the meaning of images for sighted users, because the labels appear as mouse-over text on some browsers.

Assign labels to images using alternate text, or the ALT HTML tag. You can set alternate text for static images, dynamic images, push buttons and link images, and control buttons in scroll areas and grids. Assign alternate text on the Label tab of the Properties dialog box for the control that you specify. You can use the Message Catalog, custom label text, or the RFT long or RFT short label, if one has already been designated in the record field. There are alternative text entries in the Message Catalog for the following page elements: folder tabs, scroll left and right buttons, hide and show grid tabs, prompt buttons, expand and collapse buttons for grids, group boxes, and scroll areas.

Note. Any alternate text that you select is visible to all users as mouse-over text on some browsers regardless of whether the system administrator makes the accessibility features available to users in PeopleTools Security.

To specify a label for an image push button or link associated with a record field:

1. Open the Page Field Properties dialog box for the control.
2. Select Image as the type.
3. Determine the RFT names:
    a. If the RFT name is descriptive, set the label type to that RFT name.
    b. If the RFT name is not adequate, edit the RFT name or write a message using the Message Catalog.

Note. Image buttons and links not associated with record fields should use messages exclusively.

The steps to specify a label for other types of images are the same as for image buttons and links, with the following differences:

- For dynamic images, you can choose to use RFT names or messages.
- For static images, you can only use messages or static text.

  PeopleSoft recommends using the Message Catalog.

Labels for Data-Entry Fields

All edit boxes, check boxes, radio buttons, and long edit boxes should have labels near the entry field. The label should be the actual label for the field or the label from a hidden field, and so on.

Do not use a second independent field as the label for an edit field. This causes the field that is serving as a label and the edit field to be disassociated by a screen reader, and it is confusing to blind users. It also results in a page that contains a field without a label and a label without a field.

Labels for Grid Columns

All grid columns need a label. The only grid columns that do not have labels include those that contain buttons or links.

Using Color to Convey Meaning

Do not use color as your only way to convey information. Include a redundant clue so that users who are blind or color-blind are aware that there is something special or different about a field or process. A common misuse of the color red is to change the background or text color to indicate an error. Another common mistake is to use an icon that changes color based on status but is otherwise the same. Color-blind users cannot distinguish between certain colors, nor can screen readers. In addition, if a user prints a page on a black and white printer, color-dependent items on the page become indistinguishable.

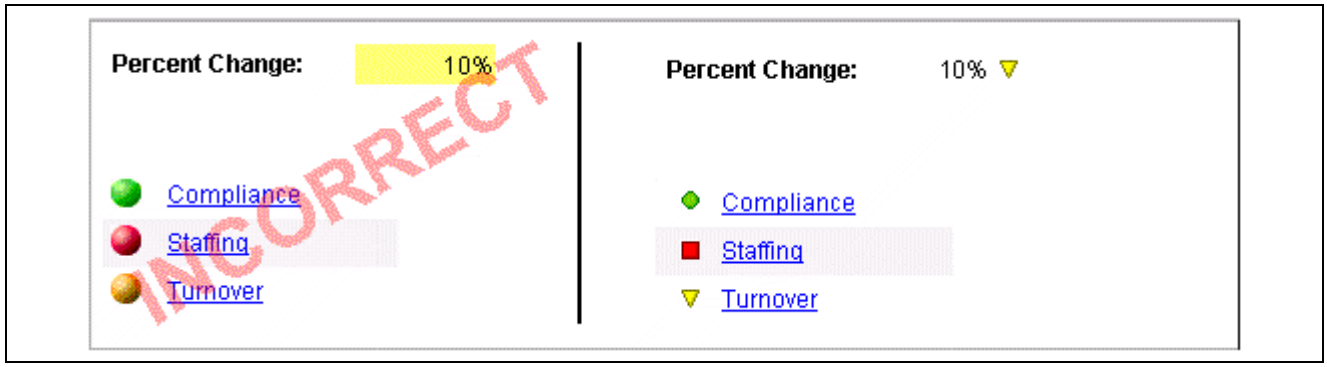
Use the approved set of icons in the table and see the following example on how to show status. All icons are GIFs or JPEGs.

	PS_STATUS_OK_ICN: OK, normal, good
	PS_STATUS_CAUTION_ICN: Warning, caution, at risk
	PS_STATUS_ERROR_ICN: Error, critical
	PS_STATUS_CLOSED_ICN: Completed
	PS_STATUS_CANCELLED_ICN: Cancelled.
	PS_STATUS_TREND_STABLE_ICN: Trend unchanged.
	PS_STATUS_REQUIRED_ICN: Required.

Use a text field that describes the status. For example:

Status: Error

Use icons of different shape *and* color to represent each status. The icons should also have descriptive mouse-over text so that screen readers for blind users can interpret the meaning of the icons.



Using icons of different shapes and colors to denote status

Verifying Titles for Grids and Scroll Areas

All grids and scroll areas need to have meaningful titles. Sometimes titles are not used due to redundancy because the label repeats the name of the page. However, while the grid may be visually close in proximity to a page title, it may not be close when read aloud by a screen reader. This may cause a loss of association between the page and the grid, and the contents of the grid may become ambiguous.

Adding Unique Labels for Push Buttons and Links

Buttons and links need unique names on a page. While you might visually associate a link with an area, the association might not be apparent to a screen reader. Also, screen readers have the ability to list all links on the page. If there are two links with the same label, no distinction can be made to the user.

Deactivating Adornment Images

Adornment images serve no functional purpose other than to provide visual interest. If the images have no information to convey to users and do not serve as navigation, then they should not have a label. Images used as spacers, such as invisible GIFs, should not have labels.

To deactivate the label for an image:

1. Access the Image Properties dialog box.
2. Select the Label tab.
3. Set Label Text Type to *Static Text.*
4. Delete any characters from the Text field, if it is present.

   It is not necessary to enter a space. Leave the Text field blank.

Maintaining Logical Tab Order

Maintaining a logical tab order on your page is critical because blind users cannot see the groupings or field proximity. Tab order is also important for sighted users because it can be confusing if the cursor moves to fields in an order different from how they appear on the screen.

Using Deferred Processing

Every time there is a trip to the server, your current page is refreshed. This "refresh" can make the screen reader lose focus of the field that the user was on, and it will start reading the page from the beginning. This includes navigation links and all other items on the page. It is difficult for users using a screen reader to find their place as well. Using deferred processing enables you to determine when the transmission to the server needs to be made.

Using Foreground and Background Colors

Text and background colors must have sufficient contrast to be viewed by someone with low vision or color-blindness. The PeopleSoft standard corporate style sheet is designed with this in mind. You might consider using the provided style sheets instead of custom ones.

Using Instructional Text

Instructional text provides a brief overview of the page and a summary of the page contents for blind users. By providing instructional text, you save users from having to hear the contents of an entire page read aloud by the screen reader. All self-service pages should contain at least a minimum of one or two lines of instructional text.

When writing instructions, labels, or any other text for transaction pages, follow these general guidelines:

- Know your audience and write to its level of expertise.
- Do not make assumptions based on your expertise.
- Avoid highly specialized technical slang that is unique to an occupational group.

- Understand the task that you are describing.
- Write clearly and concisely.
- Use the fewest words required for clarity.
- Use short sentences; avoid paragraphs.
- Choose precise, imperative verbs.

  For example, use "Complete all fields" instead of "Please fill out all the fields below."
- Do not construct sentences that merge variable information into a sentence, as these sentences are difficult to translate.

  Use "OK to delete John Smith?" instead of "OK to delete dependent John Smith?"
- Correctly reference graphical user interface (GUI) elements.
  - You click buttons, you do not click on a button.
  - You select options, check boxes, and items in list boxes.

    You do not choose them.
  - You press keyboard keys.
  - You clear options and check boxes (not uncheck, unmark, deselect, or other such variation).

    You can cancel a selection as well.
- You delete items (not remove them).
- Use written English, not verbal English.

  (The English that you speak is not necessarily the English that you write.)
- Avoid contractions:

Poor	Better
Won’t	Will not
Didn’t	Did not
Shouldn’t	Should not
Can’t	Cannot

- Use short, simple, nonthreatening words:

Poor	Better
Abort	Cancel, Stop
Execute	Complete, Done
Implement	Do, Use, Put Into

Poor	Better
Invalid	Not Correct, Not Good, Not Valid
Terminate	End, Exit

- Avoid hyphenation.
- Eliminate unnecessary words:

Poor	Better
in order to	to
so that	so
in regards to	regarding

Text for Labels

When writing labels, use the following guidelines:

- Write short, concise, yet descriptive labels.
- Do not capitalize all letters in the words included in your label; use sentence case.
- Use abbreviations only when there is limited space.
- Follow field labels with a colon (:).
- Do not use repetitive words.

  Use "Copy the overall definition for the following: Rules, Rates, Offerings" instead of "Copy the overall definition for the following: Rules definition, Rates definition, and Offerings definition."

Note. When using ampersands (&) in field labels (and hyperlinks) consider that PeopleSoft determines if a field has an access key based on whether or not the field label contains an ampersand (&). If the field label contains any ampersands, the last ampersand in the label along with the text following the last ampersand is used to create the text for the HTML and the system removes the last ampersand.

If the label contains a single ampersand (&), and the following character is *not* a blank space or another ampersand, the character following the ampersand will be used as an access key. Use a double ampersand (&&) so that a single ’&’ appears in the label as well as enabling the character immediately following the second ampersand as the access key.

For example, ’&TEST’ appears on the page as ’TEST’ with the ’T’ activated as an access key. ’&&TEST appears on the page as ’&TEST’ with the ’T’ activated as an access key.

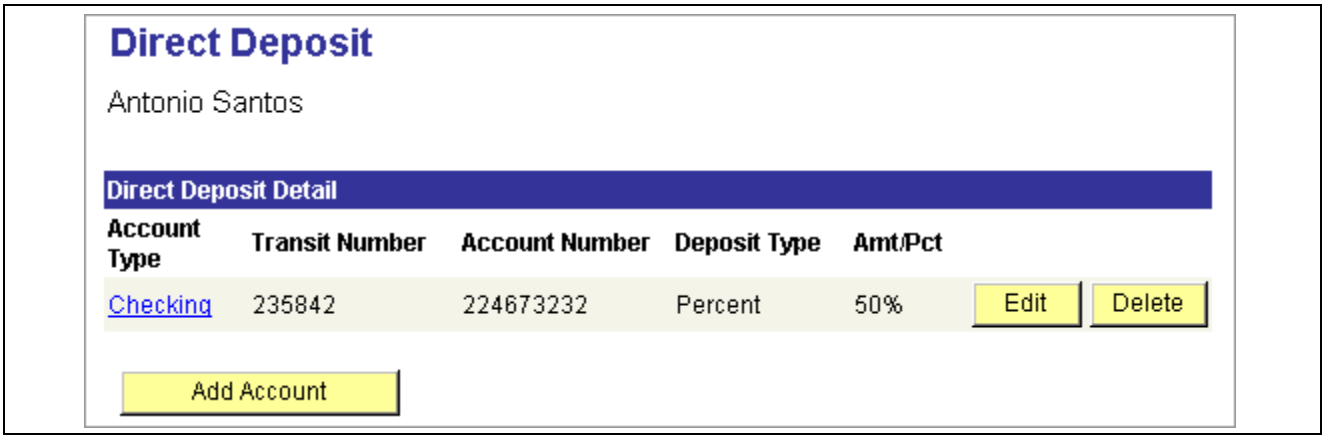
Text for Titles

When writing text for titles, use the following guidelines:

- Write titles that are short and descriptive.

- Use verbs (for example, Create Expense Report).
- When writing titles that will appear in the grid or scroll area navigation bars, do not repeat the transaction title or the page title.

  Instead, use a similar but more descriptive phrase or a slightly longer description. For example, the title in the blue bar repeats the page title but adds more description:



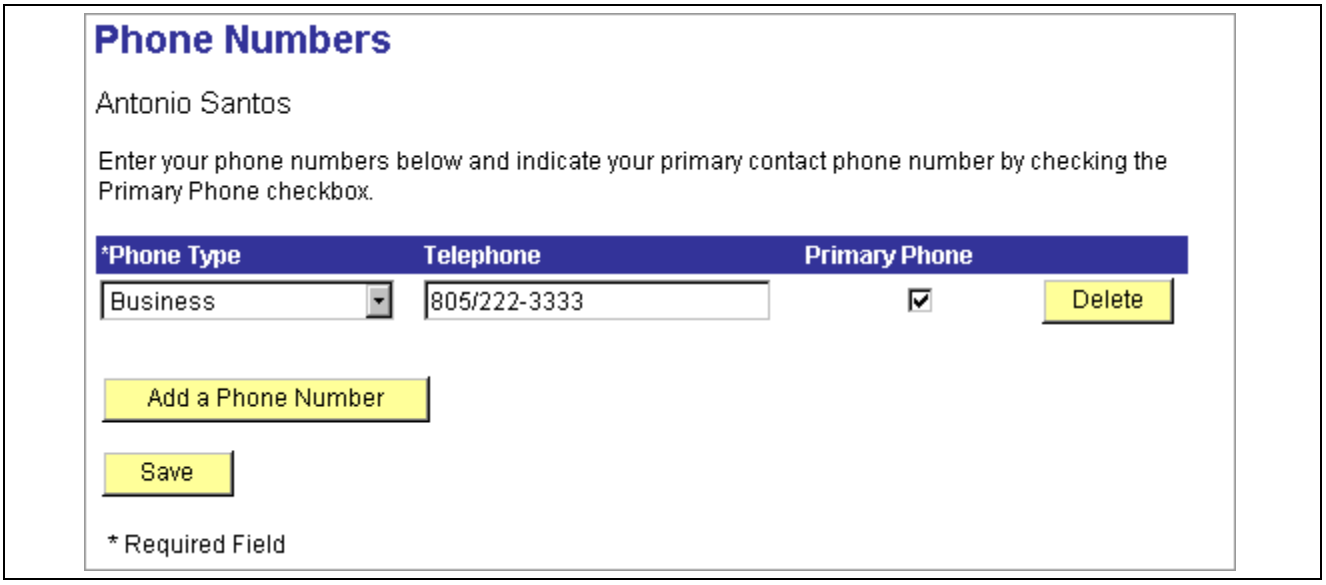
Grid navigation bar title text

General Guidelines for Instructional Text

When writing instructions, use the following guidelines:

- Do not use quotations around reference words.
- To reference a word, capitalize the first letter of the word.

  In the following example, see the instructional text with a reference to an object (Primary Phone check box):



Instructional text example

- Use short sentences; avoid paragraphs.

Use "The listed competencies are based on your job. Complete the information where applicable. To enter additional competencies, click Add. When completed, click Save" instead of "The following competencies listed have been populated based on your job. Please complete the information below (where applicable) for your perceived proficiency, your interest in developing this competency further, year acquired, year last used, and years of experience. If you need to add additional competencies, please click the Add button below."

- Use active voice.

  Use "Enter the part numbers" instead of "The part numbers should be entered."

Page Instructional Text

Page instructional text provides users with instructions on how to complete a task on the page. Use this text when pages have unique requirements or are particularly complex. When writing page instructional text, follow these guidelines:

- Place instructional text after level 0 identifying data.
- Set the style of the instructional text to PAPAGEINSTRUCTIONS.
- Derive instructional text from the Message Catalog.

  Use a unique message set for each product.
- Use Static Text to provide instructional text for a page.
- When you need to create a dynamic phrase, embed bind variables in a message catalog entry.

Additional Instructional Text

Additional instructional text is used within a page and it helps users understand a specific section or field on the page. Additional text can also be used as a footnote at the bottom of a section or page. Use this text when a page or sections of the page have unique requirements or are particularly complex.

CHAPTER 9

Using Page Controls

This chapter provides an overview of page controls and discusses how to use:

- Charts.
- Frames.
- Group boxes.
- Horizontal rules.
- Images.
- Static text.
- Check boxes.
- Drop-down list boxes.
- Edit boxes and long edit boxes.
- Radio buttons.
- Subpages.
- Grids.
- HTML areas.
- Push buttons or links.
- Scroll areas and bars.
- Secondary pages.

Understanding Page Controls

There are three categories of controls that you use in page design and development. You determine which types of controls that you want to add to your page definition by considering how you want to organize information on a page as well as how your users will enter data.

This section discusses:

- Aesthetic controls.
- Data entry controls.
- Function and data processing controls.

Aesthetic Controls

Use aesthetic controls to help organize, display, or emphasize information on the page. In most cases, aesthetic controls are not associated with a particular record field that is defined in a record definition and maintained in the database. With the exception of the image control, these controls never update data in the database. Aesthetic controls include:

Chart Draws a frame that serves as a placeholder for a chart that you construct using the GetChart field type in PeopleCode. Using the chart control, you draw a box in which the chart appears to the user at runtime. Associate the chart control with a record field in a record definition.

Frame Draws a display-only box of variable size to visually group a set of controls on a page. You can drag a frame around almost any control. You can isolate controls, such as HTML areas, from other controls on the page and then hide the frame. Frames generate HTML tables for viewing in the browser.

Group Box Draws a display-only box of variable size with a text label to visually group and identify related controls, such as radio buttons. Like a frame, you can resize a group box to any length or width. However, with a group box you can assign a visible label. Like frames, group boxes generate HTML tables for viewing in the browser.

Horizontal Rule Draws a horizontal line to separate parts of a page. Use the horizontal rule control as a visual break between controls.

Image Draws a frame that you can associate with a variable image from a record field in the database. The record field stores a graphic, such as a scanned image of an employee or a picture of an asset, in the format that you defined in the record definition. Because an image can change at runtime and is associated with a record and field definition, it is considered a data entry control and an aesthetic control.

The field that you associate with your image can be either a standard Image type field or an ImageReference type field, where images might be associated with it depending on user input. The ImageReference field type is a pointer to an image definition, which enables you to display images dynamically. An example of this is referencing a red, yellow, or green light image definition on a page, depending on the context when the page runs.

See Chapter 4, “Creating Field Definitions,” Specifying Image Field Attributes, page 67.

See Chapter 4, “Creating Field Definitions,” Specifying ImageReference Field Attributes, page 67.

Static Image Draws a frame that you can associate with an image definition. It can help organize or identify information that is displayed on a page. A static image is different from an image because it does not change at runtime, and it is not associated with a record field, but instead with a predefined image definition.

For example, you might select a static image, such as the yellow Clear button, from the image catalog and place it on top of a push button control so that the user knows to click that button to clear the contents of the page.

See Chapter 15, “Creating Image Definitions,” Using the Catalog of Image Definitions, page 370.

Static Text Adds a static text item—a display-only alphanumeric field with a maximum length of 60 characters to describe a page, control, or group of controls.

You might use text for a static note, an extension of a control label, and occasionally a control label itself. Try to avoid using text items because they make it more difficult to translate pages to other languages. Instead you can reference message catalog text to facilitate translation and other maintenance issues. Other methods of displaying text on a page are display-only edit boxes, field labels, or display-only long edit boxes.

Data Entry Controls

Use data entry controls to offer different ways to enter and maintain information. These types of controls are always associated with a record field that is defined in a record definition and maintained in the database.

Note. The PeopleSoft Application Designer allows you add up to 405 fields on a page. When you have reached this limit, typical system behavior includes being unable to select, move, or edit the page fields with an order number exceeding the 405–field limit. While this limit has no affect on the page during runtime, it has the potential to disrupt productivity during design time. If you find a page nearing the 405-field limit, PeopleSoft recommends using subpages to decrease the number of fields on a single page.

See Chapter 9, "Using Page Controls," Using Subpages, page 201.

Check Box Adds a small square box that operates as a toggle switch—on and off—for data controls that can have one of two values (yes or no, or 1 or 0).

During data entry, when the page is saved, the enabled or disabled value (whichever represents the current state of the check box) is written to the database. If values are specified in the page definition, the fields are left blank in the database, but you can still select or clear the check box on the page. You won't know that the database fields are blank until you run a query or report on the field.

Drop-Down List Box Adds a drop-down list box from which you select a single value from a list of valid values. Use drop-down list boxes to enable data selection from a list of three or more possible choices. In its closed state, the control displays the current value for the control. The user opens the list to change the value.

Drop-down list boxes are a good design choice when presenting users with a small number of selections from which they must select one value. However, when designing for grids and scroll areas, prompts give you better performance.

Edit Box Adds an edit box, which is used for data entry. Edit boxes are also used for displaying fields and translatable text. Use an edit box for text data entry—for example, a record field that is defined as character, number, signed number, or date. Also use edit boxes for displaying fields and translatable text.

Long Edit Box Adds a long edit box, which is a variable-length, alphanumeric control that is used for entering long, textual items, such as comments. The length of the control is determined by its contents, rather than the physical size of the box on the page.

Use long edit boxes to display long, translatable text. Each long edit box has a built-in scroll bar to enable users to enter and display more data than can be

shown at one time on the page. The scroll bar on the long edit box is used only to scroll through the text in the long edit box.

Unlike edit boxes, which are limited to the field size that is defined in your record definition, long edit boxes can contain a relatively unlimited number of characters, up to a theoretical maximum of 64KB. This space, however, is shared by a number of other programming elements, so the true size might be closer to 15−25KB, depending on the location of the field in your application and the state of the application. Typically, long edit boxes are used for comments or descriptions.

Radio Button Adds a small, round button that represents one value for a control with multiple defined values. Add radio buttons in groups. Only one radio button in a group can be selected at one time, like station buttons on a radio—hence the name. Use radio buttons to enable selection of one out of two possible choices. If you have three or more choices, PeopleSoft recommends using a drop-down list box.

Subpage Adds a predefined, presized group of controls, such as address controls, that are defined on a separate subpage definition. During design time, you add only the subpage control to represent all of the controls in the subpage. You maintain those controls in only one place—the subpage definition. At runtime, you see all of the controls that are defined in the subpage on the page.

Function and Data Processing Controls

Use function and data processing controls to provide a mechanism for running commands and to maintain levels of information on a page.

Grid Adds a grid that looks and behaves like a spreadsheet that is embedded in a page. It has column headings and cells and uses push buttons, links, and tabs to navigate through the data. It is similar to a scroll area on a page. Each row in the grid corresponds to a set of controls in a scroll occurrence. Navigation links and push buttons replace the actual visual scroll bar, and add and delete push buttons enable a user to insert and delete rows. Use instead of a single-level scroll area or scroll bar to manage multirow sets of data.

HTML Area Adds an area where you can write your own HTML. With other controls, the PeopleSoft system automatically generates the HTML code. The HTML code is then inserted into the dynamically generated code at runtime.

See Chapter 9, “Using Page Controls,” Using HTML Areas, page 221.

Tree The dynamic tree control is a deprecated feature. Use PeopleCode with the HTML area to create a hierarchical tree.

See *Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference*, “PeopleCode Built-in Functions,” GenerateTree.

Push Button/Hyperlink Adds a push button or link that represents an internal or external link, PeopleCode command, process through PeopleSoft Process Scheduler, prompt action, scroll action, secondary page, or toolbar action. You can specify whether the control appears as a traditional push button or as a link (highlighted, underlined text).

Scroll Area

Provides an easy way for you to group or repeat multiple fields of data in a defined area. Like a grid, users can easily navigate through the rows using links and buttons in a navigation bar, and they can add or delete rows using push buttons. These features are automatically placed in the navigation bar. The navigation bar also provides several other settings, such as a Find feature that enables the user to search all fields and rows for specific data and a View All option so that the user can see all rows of data at once.

The fields in the scroll area can be placed randomly, one on top of the other, or side by side. Unlike a grid, you are not limited to the type of controls that you can place in your scroll area. You can even place a grid inside a scroll area.

Scroll Bar

Like the scroll area, scroll bars also contain push buttons and links for navigation, but not in the form of navigation bars. Developers must manually position all navigation items.

Like grids and scroll areas, the actual scroll control that you see in PeopleSoft Application Designer when working with scroll bars in page definitions does not appear at runtime. Instead, the scroll bar control has scroll action buttons to replace the visual rendering of the scroll bar as push buttons and links on the web.

Secondary Page

Adds an invisible control that associates a secondary page with the primary page. You then associate the secondary page with a command push button or link or a pop-up menu. Secondary pages gather or display supplemental information that is related to the data in a primary page but less frequently referenced or updated. Secondary pages are displayed using the DoModal PeopleCode function.

See Chapter 9, "Using Page Controls," Using Secondary Pages, page 240.

See *Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference*, "PeopleCode Built-in Functions," DoModal.

Using Charts

Use the Chart Properties dialog box to:

- Associate your chart with a record definition and record field.
- Assign a page field name.
- Set label attributes.
- Set the chart as a page anchor.

On the Label tab, add an information-only name for your chart. This label does not appear at runtime, but does appear on the control order list on the Order tab of the page definition and any page definition report that you print. Assigning a label is helpful if you have multiple charts on your page.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference, "PeopleCode Built-in Functions," GetChart

Using Frames

Use the frame control to visually group a set of controls on a page.

To change frame labels and display options:

1. Double-click a frame to open the Frame Properties dialog box.
2. On the Label tab, enter a brief text description of the function of the controls in the frame.

   The default frame label is *Frame.* Any label that you attach to a frame is for information only—it doesn't appear on your page, but it does appear on the page definition printout and in the control order list. Use labels to differentiate among multiple frames on your page.

   For example, if you're enclosing address controls, you might use the label *Address Frame.*
3. Select the style for the frame.

   You can control the line color and thickness and background color of a frame by specifying a style.

   See Chapter 14, "Creating Style Sheet Definitions," page 339.
4. Select the Hide Border check box to hide the border of the frame.

   Use this option to use the style to shade only the background of the framed area or to apply other styles. If you select Hide Border, it overrides the border options that are specified in a style.

   A frame with a hidden border might also be used to facilitate HTML generation. When a frame is inserted in a page section, the system generates that section as a table in HTML. This is useful to ensure the correct layout. However, in some browsers, adding more HTML tables can result in performance degradation.

   See Chapter 8, "Designing Pages for Optimal Performance and Accessibility," Improving Online Performance, page 173.
5. Select the Adjust Layout for Hidden Fields check box to enable automatic vertical adjustments to the frame size when hidden fields are present.

   If visible fields are not present to the right or left of the hidden field in a frame, the frame collapses to surround the remaining fields.
6. If the field is associated with multicurrency processing, select the Multi-Currency Field option on the Use tab in the Frame Properties dialog box.

   This causes the field to appear at runtime only if the Multi-Currency option on the PeopleTools Options page is selected.

Using Group Boxes

This section discusses how to:

- Insert and move a group box.
- Set group box properties.

Inserting and Moving a Group Box

To insert and move a group box:

1. Select Insert, Group Box.
2. Position the mouse where you want the initial location of the group box and click.
3. Move the group box to the appropriate location by clicking and dragging.
4. Adjust the group box size and shape using the "handles" on the edge of the group box.
5. Remove cursor focus from the group box by clicking anywhere outside of the group box on your page workspace.

Setting Group Box Properties

Associate your group box with a record definition and record field to easily distinguish it from other group boxes on your page in the Order tab.

To link group boxes to record definitions:

1. Open the Group Box Properties dialog box.
2. On the Record tab, select record and field names.

   Linking a record field with your group box enables you to control hiding and unhiding of the group box.

Changing the Group Box Label

The label of your group box should reflect how the fields are related. However, if for visual reasons, the group box surrounds a variety of disparate controls, you might change the label, rather than associate it with one record definition and field.

To change the group box label:

1. Open the Group Box Properties dialog box.
2. Select the Label tab.

   If you are organizing a group of radio buttons with translate values, you can label your group box by associating it with the record definition and field and selecting either the long or short name as the label. If neither the long or short name is appropriate, create a text label.
3. In the Display Options region of the Label tab, select the body style for the group box border.

   You can control the color, line thickness, and background of the body section of a group box by specifying a style.

   See Chapter 14, “Creating Style Sheet Definitions,” page 339.
4. Select the Hide Border check box to hide the border.

   This overrides border options that are specified in a style.
5. Select Adjust Layout for Hidden Fields.

   If there are hidden fields, the group box adjusts its borders to accommodate them if this feature is selected.

   Note. For the group box to adjust automatically, the hidden fields inside the group box must be surrounded by open space or have other hidden fields to the right or left.
6. Set the remaining group box label properties.

   See Chapter 10, “Creating Page Definitions,” Setting Label Properties, page 269.

Setting Group Box Use Properties

Access the Group Box Properties dialog box. Select the Use tab.

Multi-Currency Field Select if the field is associated with multicurrency processing. If the Multi-Currency option on the PeopleTools Options page is selected, the field displays at runtime only.

Hide all Fields when Group Box Hidden Select to hide all visible and hidden fields when the group box is hidden. Hide a group box by associating it with a record or field and invoking the PeopleCode field class Visible property.

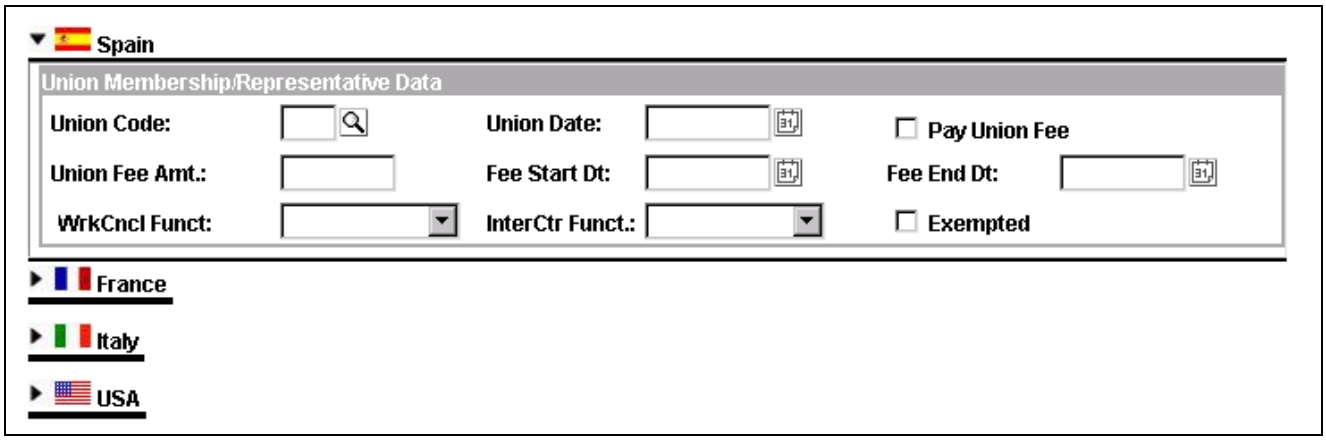
See *Enterprise PeopleTools 8.46 PeopleBook: PeopleCode API Reference*, "Field Class," Visible.

Collapsible Data Area Select to collapse the group box into a small image that the user must click to expand. This enables the Default Initial View to Expanded State check box and enables you to select label images for both the expanded and collapsed states, typically small triangles.

Each time that a user opens or closes a collapsible section, a transmission to the application server is required. Therefore, the initial state of whether the collapsible section is open or closed is important. You should carefully evaluate the performance and usability aspects of using collapsible sections versus designing a long page that displays all of the data using deferred processing mode instead.

Example of Collapsible Group Boxes

In the following example, the first group box, Spain, is expanded while the group boxes for France, Italy, and USA are collapsed.



Collapsible group boxes

Using Horizontal Rules

This section discusses how to:

- Draw a horizontal rule.
- Set horizontal rule properties.

Drawing a Horizontal Rule

To draw a horizontal rule:

1. Select Insert, Horizontal Rule.
2. Draw a horizontal line to the appropriate length on the page.

Setting Horizontal Rule Properties

This section discusses how to apply informational labels to a horizontal rule and configure how the horizontal rule is used on a page.

Setting Horizontal Rule Label Properties

To set horizontal rule label properties:

1. Open the Horizontal Rule Properties dialog box.
2. On the Label tab, enter an information-only label to differentiate the line from other frames and lines on your field order list.
3. Select the style for the line.

   You can control the color and line thickness of a horizontal rule by specifying a style.

   See Chapter 14, "Creating Style Sheet Definitions," page 339.

Setting Horizontal Rule Use Properties

Access the Horizontal Rule Properties dialog box. Select the Use tab.

Multi-Currency Field See Chapter 10, "Creating Page Definitions," Setting Use Properties, page 272.

Set to Level 0 Manipulate the occurs level of your controls on the page while still preserving the physical tab order at runtime. If you adjust the sequence of fields on the Order tab of the page definition, the tab order for the user at runtime is adjusted to that new order.

See Chapter 10, "Creating Page Definitions," Level-Based Controls, page 246.

Use this setting to specify a scroll level organization that differs from the order of page fields on the Order tab. For example, you might want to create a page that contains multiple collapsing group boxes with each containing level-based controls. By placing a horizontal rule between each of the collapsing sections and selecting Set to Level 0, you return the occurs level to 0 so that you can add additional levels without having to alter the order of controls on the Order tab. In doing so, you can maintain a consistent tab order.

Using Images

This section discusses how to:

- Adjust static image size and shape.
- Set static image properties.

- Set image properties.

Understanding Static Images

A static image is different from an image because it:

- Does not change at runtime.
- Is not associated with a record field.

Static images are associated with a predefined image definition. For example, you might select a static image, such as a yellow Clear button, from the image catalog and place it on top of a push button control so that the user knows to click that button to clear the contents of the page.

Adjusting Static Image Size and Shape

You can adjust the size of a static image by dragging the "handles" on the edge of the image box , or you can adjust the size in the Static Image Properties dialog box on the Label tab by changing the width and height in pixels.

Setting Static Image Properties

To associate a static image with an image definition:

1. Open the Static Image Properties dialog box.
2. On the Label tab, select the label type.
3. If you select *Text,* enter a label to identify your static image.

   The label does not appear on your page at runtime. Use it to track your images in your scroll order list box and on page definition reports.
4. Select an image ID using one of the following methods:
   - Select a predefined image definition from the Image ID drop-down list box.
   - Click the Browse button next to Image ID to preview the list of available images.

     The Select Image dialog box appears with a list of the image components available. To the right of the list is a preview of the selected image.

     Note. If an image definition is stored as a .GIF file, with no alternate format selected, it does not appear on the Layout tab of the page definition . A warning dialog box appears, telling you to convert the image. If you are not concerned about viewing the image during the design process, you can ignore the message because the image will appear as intended on your page in the browser at runtime.
5. Click OK to return to the Static Image Properties dialog box.

   The image that you selected appears in the image area with its width and height displayed in pixels.
6. Set the format and size attributes for the image.

   Scale Select to scale the image to the size of the frame that you set using the control selection handles or by the width and height that you enter. The scaling occurs when you view the page in a browser.

   Size Select to display the image as is, regardless of the control size on the page.
7. Click OK.

You can now position the static image anywhere on the page.

Note. You can define your own static images, such as your company logo, by creating a new image definition. After you create the image definition, you can then add your logo to a page using a static image control.

See Chapter 15, "Creating Image Definitions," page 363.

Setting Image Properties

To associate a record definition with an image:

1. Open the Image Properties dialog box.
2. On the Record tab, select the record and field names with which this image field is associated.
3. Set the image format and size attributes.

Scale	Select to scale the image to the size of the frame that you set using the control selection handles or by the width and height that you enter. The scaling occurs when you view the page in a browser.
Size	Select to display the image as is, regardless of the control size on the page.

4. Specify the alignment of your image.
5. Select a style for the image.

Setting Image Label Properties

Be sure to assign an informational label to your image. This is especially important if your application works with screen reader software.

To document an image control with an informational label:

1. Enter a text description in the Alt tag for image region.
2. Select one of the following settings from the Type drop-down list box:

None	Select if you do not want a label. The Text field becomes unavailable for entry.
Text	Select to enter a custom label. This is the default setting.
Message Catalog	Select to use a preset message from the message catalog. The Message Set and Msg Number (message number) fields become available for entry.
RFT Long (record field table long) and ***RFT Short*** (record field table short)	Select to use a preset label from the record field set on the Record tab. The Label ID drop-down list box becomes available for entry.

Setting Image Use Properties

The Use tab of the Image Properties dialog is the same as for that of an edit box.

See Chapter 10, "Creating Page Definitions," Setting Use Properties, page 272.

Using Static Text

Access the Static Text Properties dialog box.

Label Text

Text If you select Text, you can use either uppercase or lowercase characters. The text label is limited to 60 characters in length. You can also split your text item into multiple lines. To do this, position the cursor in the Text field where you want the split to occur and click the Insert Line Feed button. A thick vertical bar character appears in the Text field, and when you close the dialog box, your text item is split into multiple lines.

Message Catalog If you select Message Catalog, enter the appropriate message set and number. As with a text label, you are limited to message catalog text of 60 characters.

Style

You can control the color, font, size, and other characteristics of the text by specifying a style.

See Chapter 14, "Creating Style Sheet Definitions," page 339.

Alignment

Set the horizontal alignment of your text control, as determined by the left-hand edge of the field. You can align controls to the left-of-center, centered, or to the right-of-center.

Use Tab

If a text item is associated with multicurrency processing, select the Multi-Currency Field option. This causes the text item to appear at runtime only if the Multi-Currency option on the PeopleTools Options page is selected.

Using Check Boxes

When you insert a check box on a page, it appears with a default label, *Dummy Name,* until you specify a record definition name and field name, or a text label.

Setting Check Box Properties

Define the check box control by assigning the appropriate properties.

Setting Check Box Record Properties

To link check boxes with associated record definitions:

1. Open the Check Box Properties dialog box.
2. On the Record tab, select the record and field names from the drop-down list boxes.
3. Enter the enabled and disabled values for the check box.

For example, if the enabled value of the check box is *Y* for *yes,* and the check box is selected when the user saves the row, the *Y* value is written to the database. If the disabled value of the check box is *N* for *no,* and the check box is cleared when the user saves, the *N* value is written to the database.

The enabled and disabled values that you enter validate against the Translate table. If a value isn't found, the system displays a warning message but allows the value to remain. You might find this useful when prototyping pages before defining record definitions.

Setting Check Box Label and Use Properties

After you link the check box to a record definition and field, set the label properties. Otherwise, the default check box label is the field long name. Set how the check box will be used on the Use tab.

See Also

Chapter 10, "Creating Page Definitions," Setting Page Field Properties for Controls, page 264

Chapter 10, "Creating Page Definitions," Setting Use Properties, page 272

Using Drop-Down List Boxes

This section discusses how to:

- Set drop-down list box record properties.
- Set drop-down list box label and use properties.

Setting Drop-Down List Box Record Properties

To set drop-down list box record properties:

1. Open the Drop-Down List Box Properties dialog box.
2. On the Record tab, associate the drop-down list box with a record and field.
3. Select a style.

   Set the font and color attributes of your drop-down list box *data.*

   See Chapter 14, "Creating Style Sheet Definitions," page 339.
4. Select a displayed text option:
   - *Xlat Short*.
   - *Xlat Long*.
   - *Prompt Table Field*.
5. If you selected Prompt Table Field, enter the field name in the Prompt Table Field area.
6. Set the field size for the drop-down list box.

Setting Drop-Down List Box Label and Use Properties

You can set the label and use properties for a drop-down list box.

See Also

Chapter 10, “Creating Page Definitions,” Setting Label Properties, page 269

Chapter 10, “Creating Page Definitions,” Setting Use Properties, page 272

Using Edit Boxes and Long Edit Boxes

When you insert edit boxes and long edit boxes on a page, they appear with the default label, *Dummy Name,* until you specify a record and field for them or until you specify a text type field label. There is more space than required between your edit box label and the control. PeopleSoft provides 20 percent extra space for the edit box label for translation purposes.

You control source data, labels, and how the edit box is used in the respective edit box and long edit box properties dialog boxes in PeopleSoft Application Designer. The settings for these two controls are mostly the same.

Display-Only Edit Boxes

Some edit boxes should be display-only. You might want a page field to govern what is displayed in another control. In some cases, you might want the page control to be invisible because it is required by PeopleCode, but is not a field that is accessible by a user.

If you designate the long edit box as display-only, select the Expand Field When Display Only check box to hide the scroll and automatically expand the size of the edit box as necessary.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode API Reference, “Field Class,” DisplayOnly

Chapter 10, “Creating Page Definitions,” Setting Use Properties, page 272

Using Radio Buttons

This section provides an overview of radio buttons and discusses how to:

- Set radio button record properties.
- Set radio button label properties.
- Set radio button use properties.

Understanding Radio Buttons

When you insert a radio button on a page, it appears with the default label, *Dummy Name,* until you specify a record definition name, field, and value for the radio button. Like edit box labels, radio button labels have a dotted box around the 20 percent of extra space that is required for translation purposes in addition to the box around the radio button label itself.

For radio buttons to function as a single group, they must be associated with the same record field and they must be adjacent fields on the Order tab of the page definition. To save time, add all radio buttons in a set, one after the other. After you add the first radio button, the system remembers the record definition name and field name for all subsequent radio buttons—you must enter only the database value for each. Then, place a group box around all of your radio buttons to keep them together and labeled as in this example:

Radio buttons

Setting Radio Button Record Properties

To link a record with radio buttons:

1. Open the Radio Button Properties dialog box.
2. On the Record tab, select the record and field name.

   The system retrieves the default label text if you enter the record or field.
3. Enter the database translate value for this radio button.

   In the preceding radio button example, *N* is for *Normal.* If you select the drop-down list box for the value, you see the translate value and the long name that was assigned to the field. When the user selects this radio button, it indicates a *Normal* value.

Setting Radio Button Label Properties

To set the label of a radio button:

1. Open the Radio Button Properties dialog box.
2. On the Label tab, select the type of label if it is other than the default of *XLAT Long.*
3. Select the location of the label for your radio button: to the left or right.

   See Chapter 10, “Creating Page Definitions,” Setting Label Properties, page 269.

Setting Radio Button Use Properties

You might want to change the way that a radio button is used on a page. For example, you might want the selected value of a radio button to control what appears in another control.

See Chapter 10, “Creating Page Definitions,” Setting Use Properties, page 272.

Using Subpages

This section provides an overview of subpages and discusses how to:

- Define a subpage.

- Insert a subpage on a page.
- Specify informational subpage labels.

Understanding Subpages

Subpages are a powerful means of factoring out commonly used page functionality in your application. Rather than duplicating the same set of page fields on two or more pages, you can create a single subpage that contains those page fields and add it to any page. This makes it much easier to maintain the functionality that these page fields represent.

Subpages are even more effective when used with corresponding subrecords. In order to support the use of subrecords with subpages, the system uses a record name substitution mechanism for subpage-type page fields. Each subpage has a "from" record, determined dynamically by the page definition in PeopleSoft Application Designer and by the PeopleSoft Pure Internet Architecture. The "from" record is a record associated with one of the page fields in the subpage. Which page field depends upon the page field ordering, the types of page fields on the subpage, and whether it's record is a subrecord. The subpage itself must be fully expanded in order to make this determination. (This is important to keep in mind when working with subpages that contain other subpages.)

The "to" record is specified by you in the SubPage Record Name Substitution group box in the Insert Subpage dialog box that displays after you insert the subpage into a page (and on the Subpage tab of the Subpage Properties dialog). At runtime, when a subpage-type page field is expanded, each page field that is associated with the dynamically determined "from" record is instead associated with the "to" record you specify. This means, for example, that a subpage can be populated with page fields that are associated with a subrecord so that the subrecord is determined to be the "from" record. Then when that subpage is used as a subpage-type page field, you can specify the "to" record as one of the records that contains that subrecord. This enables you to associate a single set of page fields (through the subpage) with a variety of different records (each containing the subrecord).

Defining a Subpage

Creating a subpage is just like creating a brand new page definition. The difference is that you define it as a subpage rather than a standard page in the Page Properties dialog box.

To define a subpage:

1. Select File, New, Page.
2. Select File, Definition Properties to access the Page Properties dialog box.

   Use this dialog box to define the type, size, and layout of the page.
3. Select *SubPage* in the Page Type drop-down list box.
4. Select the size of the page.

   See Chapter 10, "Creating Page Definitions," Changing Page Use Information, page 294.
5. Select Adjust Layout for Hidden Fields if necessary.
6. Select Allow Deferred Processing if appropriate.

   See Chapter 8, "Designing Pages for Optimal Performance and Accessibility," Understanding Processing Modes, page 173.

Inserting a Subpage Into a Page

After you create the subpage definition, insert a subpage control on your primary page and associate it with the subpage definition.

To insert a subpage into a page:

1. Open the page on which you want to insert the subpage.
2. Select Insert, SubPage.

   The Insert Subpage dialog box appears.
3. Select a subpage definition.

   Specify the name of the subpage that you want to insert into the open page definition.
4. Select a record definition in the SubPage Record Name Substitution group box.

   The subpage writes its fields to a generic record. Specify the application-specific record name to which you want the information in the subpage written.

   See Chapter 9, "Using Page Controls," Using Subpages, page 201.

   Note. All of the fields in a subpage must be associated with fields of a subrecord in the specified record definition.
5. Click OK.

   The subpage appears on the page. Its size reflects the size of the page control group, and it is identified by the subpage definition name. During design time, the fields within the subpage are not visible. At runtime, pages containing subpages are dynamically expanded. Be sure to leave a few pixels of space between the left edge of the main page and the subpage page field to ensure sufficient padding at runtime.

When saving a page with multiple subpages, be aware that you may receive a warning message if duplicate fields are present.

Inserting a Subpage Into a Grid

You can insert a subpage into a grid as you would any other column.

See Chapter 9, "Using Page Controls," Inserting and Manipulating Grid Columns, page 206.

Specifying Informational Subpage Labels

Document the purpose of the subpage by changing the informational label of the subpage. The default subpage label is *Subpage.* Any label that you attach to a subpage is for information only—it doesn't appear on the page, but it does appear on the page definition printout and in the control order list. Use labels to differentiate among multiple subpages on a page.

To change informational subpage labels:

1. Open the Subpage Properties dialog box.

   Note that the Subpage tab displays the information that you entered on the Insert Subpage dialog box.
2. On the Label tab, enter your informational text label.
3. Enter the page field name in the General tab.
4. (Optional) Select Enable as Page Anchor if you want the subpage to serve as a jump destination on the page.

5. Click OK.

Using Grids

This section provides overviews of grids and discusses how to:

- Insert and resize grid controls.
- Insert and manipulate grid columns.
- Set column properties.
- Create a tabbed grid.
- Freeze grid columns.
- Use multiple grids on a page.
- Enable grid personalization.
- Set grid general properties.
- Set grid label properties.
- Set grid use properties.

Note. A specific type of grid called an analytic grid can be used exclusively for applications built for the PeopleSoft Analytic Calculation Engine.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft Analytic Calculation Engine, "Creating Analytic Grids"

Understanding Grid Control Scope

You can insert these page controls into a grid:

- Check boxes.
- Drop-down list boxes.
- Edit boxes.
- Long edit boxes.
- Push buttons or links.
- Images.
- HTML areas.
- Secondary pages.
- Subpages.
- Tab separators.

Note. When designing grids, use prompts in place of drop-down list boxes for better performance.

Understanding Grid Properties

The default grid displays:

- A data navigation bar at the top of the table that enables the user to page through additional rows of data.
- Delete and Add buttons at the end of each row that enable the user to insert and delete rows in the grid.

  The inserted row appears under the current row. These buttons appear automatically as determined by the grid properties (display-only, no row insert, and no row delete).
- An occurs count of *1*.

  You can set the grid to be any size at design time and then set the occurs count to control the maximum number of rows to display at runtime.

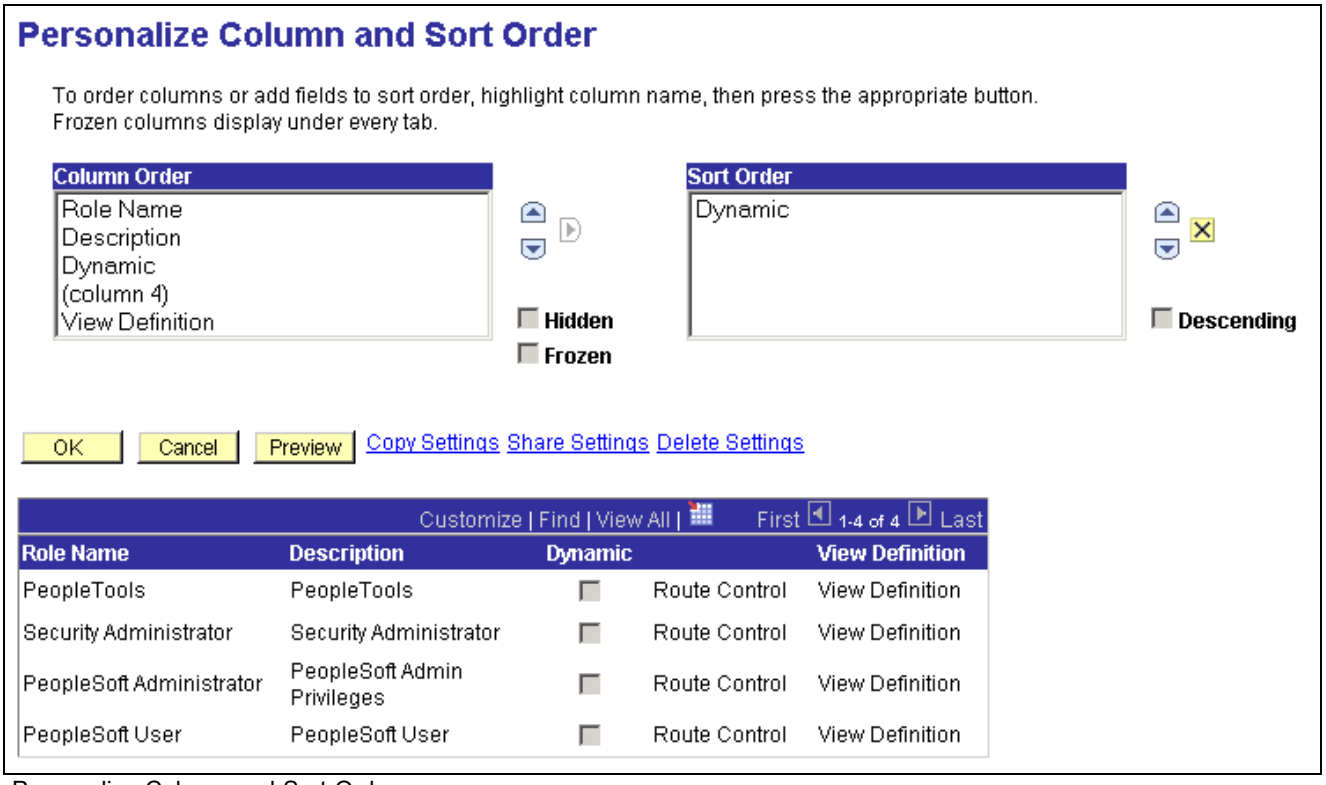
There are three areas on a grid to which you can apply labels or image buttons to help the user navigate through the data in the grid. Set properties for these areas:

- Header
- Body
- Footer

Understanding Grid Customization

PeopleSoft Application Designer enables the user to customize a grid at runtime. This feature is enabled by default as a Customize link on the Personalize tab of the Header Navigation Bar Properties dialog box.

Note. If you do not display the grid header bar, the Customize option is not available to the user unless you enable it for the footer area.



Personalize Column and Sort Order page

When the user clicks the Customize link for a grid on a transaction page, the system opens the Personalize Column and Sort Order page, where custom parameters can be set for that grid. This page contains a sample grid that displays a few rows of real data from the buffer in display-only format. If there is no data in the buffer for that grid, only the column headings appear. Tabs in the grid are active so that the user can view all sample data.

From this customization page, users can control the column and sort order, as well as copy other users' grid settings or choose to share their settings with other users once they save their changes.

The Column Order grid displays the columns in their current order, including tab separators. The list of fields is driven by the page definition but excludes columns that are hidden by PeopleCode. The user can hide columns and change their sort order. Users can also freeze grid columns. Columns that you freeze at design time automatically appear to the user as already frozen. However, the user has the option of overriding this setting.

The Sort Order grid enables the user to control the ascending and descending sort of each column, with the exception of tab separators, images, push buttons, links, and HTML areas. Users can sort hidden fields, however. The default setting is ascending for each column.

After making changes, the user can accept, preview, restore defaults, or cancel selections. If the user saves the new settings by selecting OK, the system stores the new settings as persistent values for that user based on a key structure. Therefore, each time the user accesses this grid, the system uses all personalization options that were set previously. The user can restore all default settings by selecting the Delete Settings link to remove all stored personalization settings from the database.

The user can override the persistent sort order directly on the transaction page by clicking the linked field label to affect the sort. Clicking the link repeatedly toggles between ascending and descending sort order for that column. This type of sorting directly in the transaction page is *not* persistent.

Note. You can continue to implement the SortScrolls PeopleCode command, but the user can override the defined sort with this feature.

Inserting and Resizing Grid Controls

To insert a grid on a page:

1. Select Insert, Grid.
2. To adjust the grid width, drag the horizontal or vertical control handles.

   The horizontal grid width should be roughly equivalent to the columns that you insert into the grid. Otherwise, your grid might appear wider than necessary at runtime.

Inserting and Manipulating Grid Columns

This section discusses how to:

- Insert grid columns.
- Delete grid columns.
- Move grid columns on the Layout tab.
- Move grid columns on the Order tab.
- Resize grid columns.

Inserting Grid Columns

To insert a grid column:

1. Use one of these methods to insert a column:
   - Select a page control from the Insert menu or the page control toolbar and click the grid.
   - Drag a page field from inside the current page or from another page.
   - Copy and paste a page field or record field.
   - Drag a definition (such as a record field, a page field, or an entire record definition) from the project workspace.

     The new location of the definition or control is determined by the location of the upper left-hand corner of the drag rectangle, or by the mouse cursor if no drag rectangle appears. PeopleSoft Application Designer automatically places the first column on the left-hand side of the grid.
2. Click your mouse or release the field in the gray area of the grid.

   Place new columns to the right of existing columns by clicking or releasing the control in the gray area of the grid where no columns are present. To place a column between two grid columns, release the new column in the first of the two columns.

When inserting subpages into your grid as a column, be aware that:

- You can insert subpages by dragging them from the project workspace or by cutting and pasting from the page to the grid.
- Only one column displays in the grid in PeopleSoft Application Designer representing all fields in the subpage.

  At runtime, all fields display in the order they appear on the Order tab of the subpage.
- You cannot insert subpages that contain fields that are not allowed in grids such as static text or radio buttons.

  The system generates an error indicating the invalid field type. Similarly, if at a later point an invalid field type is added to a subpage already in a grid, the system generates a runtime error when the user accesses the page containing the subpage.
- The subpage you insert can contain fields that are associated with subrecord record fields.

  The same record name substitution mechanism that applies to subpages inserted onto a page applies to those inserted as grid columns. The system replaces the name of the subrecord as part of the expansion process and it is never seen at runtime.

  See Chapter 9, “Using Page Controls,” Understanding Subpages, page 202.

Deleting Grid Columns

To delete a grid column:

1. Select a column by right-clicking the column heading.

   Be sure that you select only the column and not the grid as a whole; otherwise, you might delete the entire grid instead of just the column. The grid is selected when control boxes appear around the edges of the grid. The column is selected when it turns black.
2. Select Delete from the pop-up menu.

Moving Grid Columns on the Layout Tab

To move grid columns on the Layout tab:

1. Select a column by clicking the column heading.
2. Drag the column to its new location.

3. Release the mouse button over the column that is to the left of the new location.

Moving Grid Columns on the Order Tab

To move grid columns on the Order tab:

1. Select the column row by clicking the row number.

   The grid and grid columns are clearly distinguished from other page fields on your page. The grid is identified by the Type column. All columns in the grid are directly below in a lighter green. Nongrid page field rows are white.

2. Drag the row to the new position in the grid.

   A red line indicates the new position of the column before you release it. You cannot move a column outside of the grid when working on the Order tab. Similarly, you cannot move an existing page field from elsewhere on the page into the grid. Both of these operations can be performed on the Layout tab.

Resizing Grid Columns

You can resize grid columns in PeopleSoft Application Designer by dragging the right border of the column heading.

Setting Column Properties

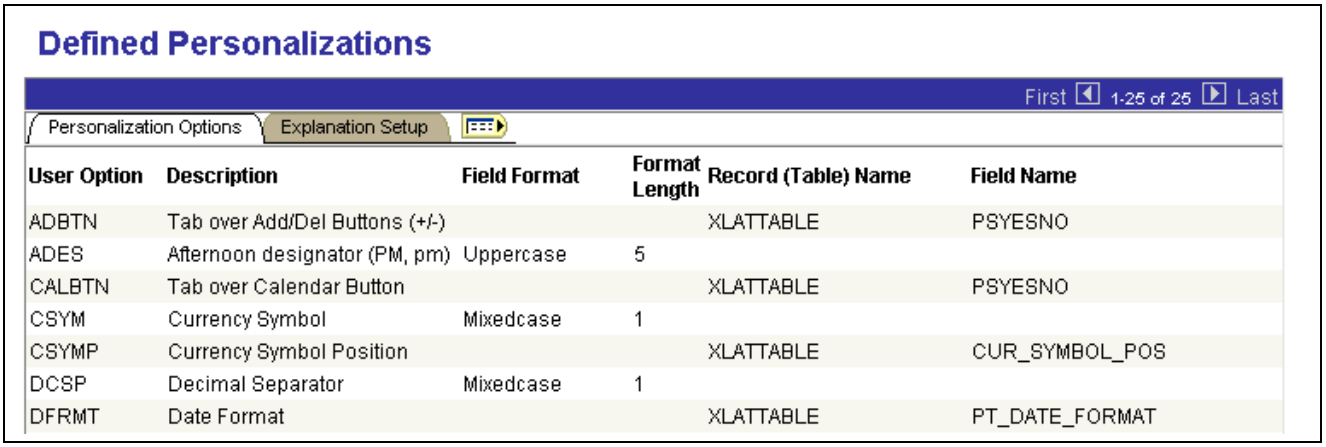
After you insert the page control or field into your grid, you can set the properties for that field as you would set properties for any other page control. Access the field properties by double-clicking the column heading.

Column headings and their alignment are derived from the label text that you select on the Label tab of the page field properties dialog box. The alignment of column contents is derived from the alignment settings on the Record tab of the page field properties dialog box. If alignment settings aren't available on the Record tab, then the system uses the Label alignment settings. For column headings, use the following guidelines for label alignment. Do not use colons in column labels.

Type of Field	Label Alignment
Push button	Center Align
Link	Left Align
Character	Left Align
Numeric	Right Align
Check box	Center Align
Field data	Auto (automatic)

Creating a Tabbed Grid

PeopleSoft recommends using a tabbed grid design if your grid contains many columns running off of the right side of the page. Do this by adding tab separator controls to your grid.



User Option	Description	Field Format	Format Length	Record (Table) Name	Field Name
ADBTN	Tab over Add/Del Buttons (+/-)			XLATTABLE	PSYESNO
ADES	Afternoon designator (PM, pm)	Uppercase	5		
CALBTN	Tab over Calendar Button			XLATTABLE	PSYESNO
CSYM	Currency Symbol	Mixedcase	1		
CSYMP	Currency Symbol Position			XLATTABLE	CUR_SYMBOL_POS
DCSP	Decimal Separator	Mixedcase	1		
DFRMT	Date Format			XLATTABLE	PT_DATE_FORMAT

Tabbed grid

You can give users the option of expanding all of the columns to the right so that they are visible when using the browser's horizontal scroll bar. This is particularly useful to power users who do a great deal of intensive data entry. The Enable View All Columns check box on the Use tab in the Grid Properties dialog box controls this feature and is selected by default. The Expand All button appears to the right of the grid tabs, as shown in the preceding screen shot. After the grid is expanded, the Show Tabs button appears to enable the user to collapse the grid so that the tabs appear again.

Note. Each time the user moves to a new tab results in a transmission to the web server to display the next page.

To create a tabbed grid:

1. Insert a grid control on the page.
2. Insert the columns to appear on the first tab.
3. Insert a tab separator control after the last column.
4. Set the tab separator properties.
    a. Double-click the tab separator to access the Tab Separator Properties dialog box.
    b. Specify the label properties on the Label tab.
    c. Specify the general properties on the General tab.
5. Insert the next set of columns to appear on the second tab.

    Alternatively, you can place all of the columns in your grid first and then insert the tab separator between the two columns that you want separated.
6. Repeat steps 3 and 4 if necessary.
7. Set the tab separator properties by double-clicking the column heading of the tab separator.
    a. On the Label tab, specify the label type.

    Select *None, Text,* or *Message Catalog.* If you select *Text,* enter the label text and select the label alignment. The label text that you select appears on the tab in the grid.
    b. On the General tab, determine whether you want to enable the tab separator as a page anchor.

    If so, select the Enable as Page Anchor check box and enter a page field name.

Freezing Grid Columns

You can freeze the first column or the first several columns in a tabbed grid so that they appear on subsequent tabs. To freeze more than one column, select the freeze option for each column that you want to appear on the following tab.

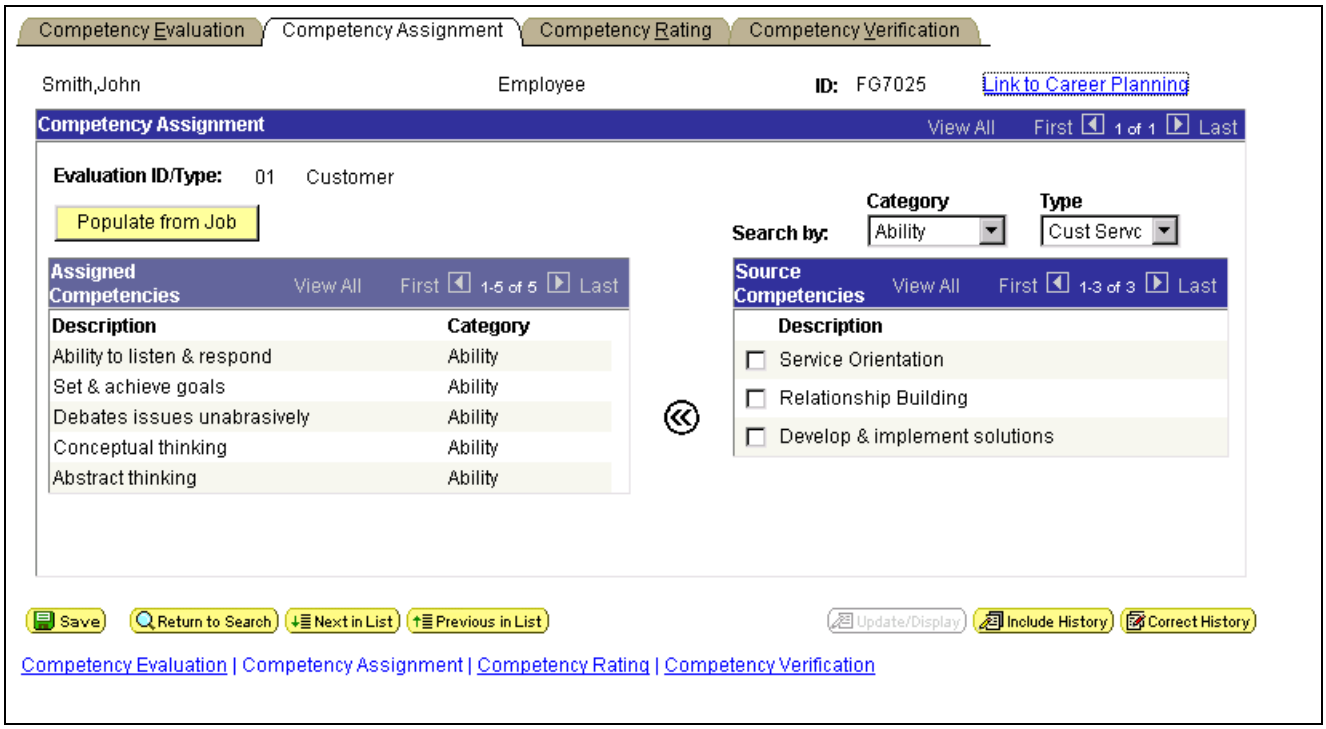
Freezing grid columns impacts the horizontal scrolling ability of the grid at design time. If you freeze a grid column that is not visible inside the boundaries of the grid at design time, you are not able to view all columns in your grid. Lengthen the width of your grid to accommodate all columns.

Freeze a grid column by selecting the Freeze Grid Column check box on the Use tab of the properties dialog box for that column. Note that the effects of selecting this attribute are visible only at runtime.

Using Multiple Grids on a Page

You can place as many grids on a page as you want, provided that they are at the same occurs level. They can be one above the other or they can be side-by-side, such as those in the following example. This is helpful when you must transfer data from one grid to another without switching between pages.

In the following example, the user can transfer data from the Source Competencies grid on the right to the Assigned Competencies grid on the left by using the double left arrow button. The push button is associated with a PeopleCode program, enabling it to transfer the data between the two grids.



Grids side-by-side on a page

As you can with other level-based controls, you can nest a grid in a scroll area or scroll bar. However, you cannot nest a grid in another grid.

Enabling Grid Personalization

To disable grid personalization:

1. Open the Grid Properties dialog box.

2. Select the Label tab.
3. Click the Properties button for the header navigation bar.

   This opens the Header Navigation Bar Properties dialog box.
4. Select the Personalize tab.
5. Select the Invisible check box.
6. Click the OK button.

To enable grid personalization in the navigation footer:

1. Open the Grid Properties dialog box.
2. Select the Label tab.
3. Select the Display Navigation Bar check box in the Footer Area group box.
4. Click the Properties button for the footer navigation bar.

   This opens the Footer Navigation Bar Properties dialog box.
5. Select the Personalize tab.
6. Clear the Invisible check box.
7. Click the OK button.

Setting Grid General Properties

Access the Grid Properties dialog box.

Main Record Select the record that contains most of the fields that you want to use in the grid. Fields that you display in the grid that are not from the main record should be display-only or related fields, which you can set on the Use tab of the properties dialog box for that column.

Page Field Name Enter a name for the grid. The default is the main record for the grid, however, you can rename the grid as long as it is a *unique* name for the page or component. This name is used by the PeopleCode GetGrid function to create a grid definition.

See *Enterprise PeopleTools 8.46 PeopleBook: PeopleCode API Reference*, "File Class" and *Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference*, "PeopleCode Built-in Functions," GetGrid.

Occurs Level Enter a 1, 2, or 3 to represent at which level the grid resides on the page. Having an occurs level for the grid enables you to designate the hierarchical parent-child relationship. Entering *1* specifies that the grid is at the first level. Entering *2* specifies that a grid is at the second level and is a child of, or nested in, the first level of data, and so on up to *3*. A grid can be nested in another level-based control, but it cannot be nested in another grid.

See Chapter 10, "Creating Page Definitions," Level-Based Controls, page 246.

Occurs Count Enter the number of rows to display initially at runtime.

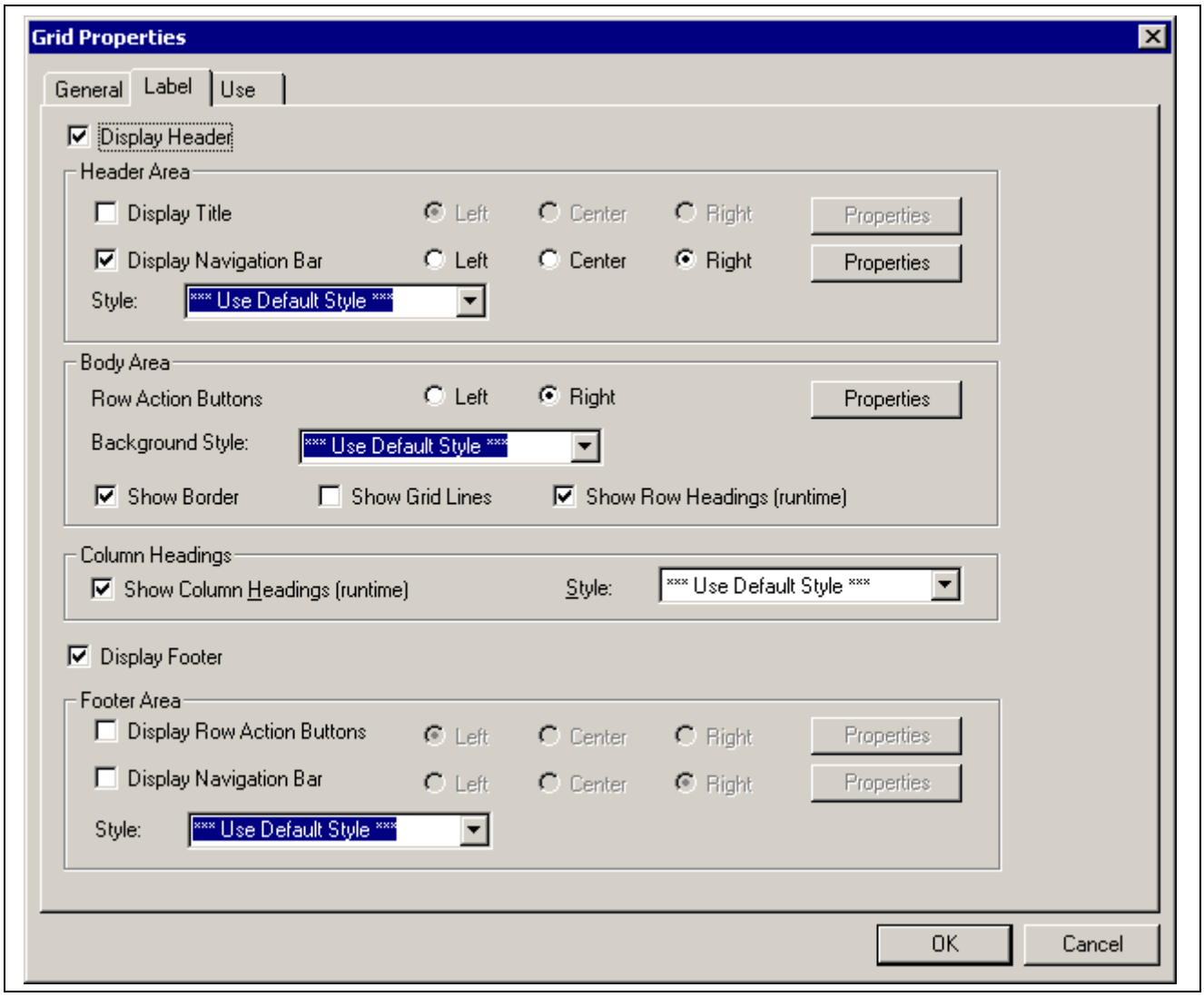
See Chapter 10, "Creating Page Definitions," Multiple Occurrences of Data, page 250.

Unlimited Occurs Count Select instead of setting an occurs count if you want the system to display all rows of data in the buffer for this grid. Navigation links do not appear at runtime and the size of the grid depends on the number of rows in the buffer.

Enable as Page Anchor Select to apply an anchor tag to serve as a jump destination on the page.

Setting Grid Label Properties

Access the Grid Properties dialog box. Select the Label tab.



Grid Properties dialog box: Label tab

The Grid Properties, Label tab provides four main grid setting areas in which you can define settings:

- Header Area.
- Body Area.
- Column Headings.
- Footer Area.

Setting Header Area Properties

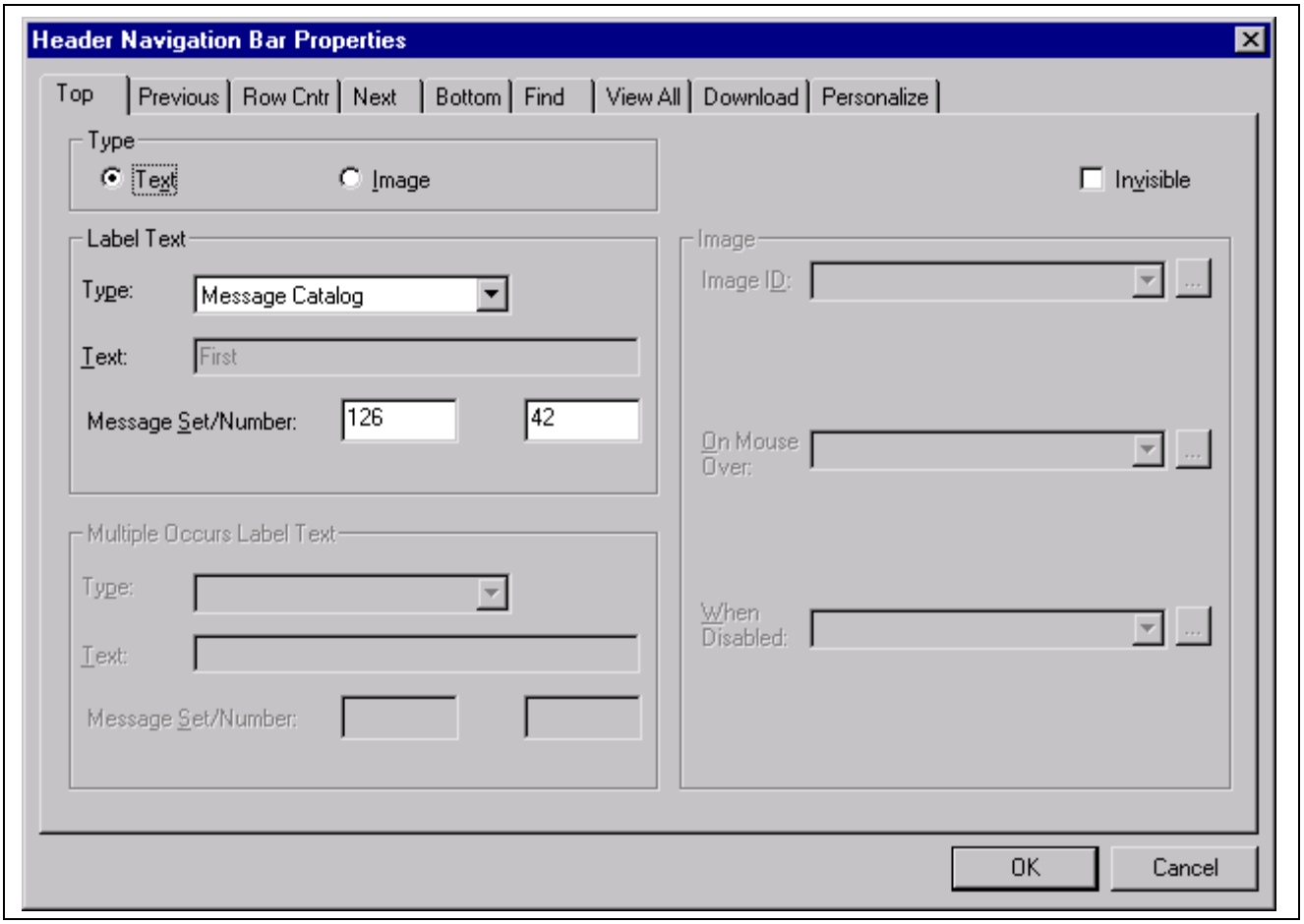
Display the title of the grid and a navigation bar, where users can access controls for viewing the previous, next, top, or bottom row. You also control the settings for the Find, Personalize, Download, and View All features.

Display Header is selected by default. You can then configure the specific properties for each setting in the header area. In the previous example, the grid title appears in the navigation bar. You can select the alignment of each header element and the style in which they appear to the user. To disable the header, clear the Display Header check box.

To display a title for your grid:

1. Select the Display Title check box.
2. Click the Properties button in that row to open the Title Properties dialog box.
3. Select the type of label text that you want to display for your grid title: *Static* or *Message Catalog.*

   If you select *Static,* enter the exact title to appear in the navigation bar. If you select *Message Catalog,* enter the message set and number of the message to appear as the title.



Header Navigation Bar Properties dialog box

You can choose to display all header bar options, except the row counter, as either text links or image buttons in the header of the grid.

Top Controls the attributes for how a user returns focus to the top of the grid or the first row of data in the grid. *Text* is the default setting, using *First* from the message catalog. You can also enter static text.

Previous Controls how a user can move to a previous row in the grid. *Image* is the default setting, with the Show Previous Row button as the default image.

Row Cntr (row counter) Tracks the number of rows in the grid and in which row the cursor holds focus. *Text* is the default setting with, for example, *1-6 of 6* appearing in the navigation bar if there are six rows in the grid.

Note. The row count that appears is controlled by the occurs count that you set on the General tab in the Grid Properties dialog box (unless the user displays all). Using the previous example, if the occurs count is set to *5,* then the row counter is *1-5 of 6.*

Next Brings focus to the next row in the grid. *Image* is the default setting with the Show Next Row button appearing to the right of the row counter.

Bottom Controls the attributes for how a user moves focus to the last row of the grid. *Text* is the default setting, using *Last* from the message catalog. You can also enter static text.

Find Displays a link that enables the user to search any field in the grid or scroll area. You can select either text or an image to represent the find feature. The Find feature searches for matches in edit boxes, display-only fields, disabled fields, dynamic links, and text in long edit boxes. It does not find column headings, field labels, text values in icons, static links, and hidden fields, nor does it search outside the grid.

View All Enables the user to view all rows of data at once. *Text* is the default setting using *View All* as the message catalog entry.

Download Available for grids only. Displays a download image button in the header or footer bar that enables users to download all active, unhidden rows to a Microsoft Excel spreadsheet, regardless of how many rows are visible on the screen. The default for this setting in the header area is *Invisible.* For the footer area of a grid, the download button appears by default when you select the Display Navigation Bar check box in the Footer Area group box of the Label tab in the Grid Properties dialog box.

Note. Microsoft Excel may display Unicode comma-delimited data differently because Microsoft Excel may be expecting a tab-delimited file. If display abnormalities occur, you have two options.

In Microsoft Excel, after highlighting the first column, you can select Data, Text to Columns and select the options required to set Microsoft Excel to expect a comma-delimited file.

Or, in PeopleSoft Application Designer change the file layout from comma-delimited to tab-delimited. Keep in mind that changing the file layout properties in PeopleSoft Application Designer could cause the data to change such that other applications may no longer recognize the data. Also, changing the file layout properties may impact more than one application, if that file layout is shared.

Customize	Available for grids only. Displays a Customize link in the header bar that enables the user to access all grid customization options. See Chapter 9, "Using Page Controls," Enabling Grid Personalization, page 210.

To define the navigation bar properties:

1. Select the Properties button next to Display Navigation Bar.

   The Header Navigation Bar Properties dialog box contains seven tabs, each pertaining to different settings on the navigation bar. Each of these tabs has the same settings. For each setting, you can decide to display it as text or an image. All settings, with the exception of the Download link, are set to display by default.

2. (Optional) Select the Invisible check box in the upper right-hand corner on each tab to choose not to have that attribute appear to the user.

View All

The View All feature provides a threshold to enable the user to view the data in manageable pieces. If the database returns a number of rows for the grid or scroll area that is greater than the threshold, the View All link displays "View <threshold value>." This feature also modifies the occurs count and the values for the number of non-displayed rows left to scroll through.

The Next and Previous buttons retrieve rows according to the size of the threshold. If the database returns a total number of rows for the grid or scroll area that is less than the View All threshold, then the View All link on the navigation bar remains and functions as is.

The following example uses the View All threshold, occurs count, and total rows in database values:

- View All threshold = 100
- Occurs count = 7
- Total rows in database = 104

These values result in the following for the user:

Viewing 7 Rows

When the user selects View 100, the view value changes to reflect the original occurs count set for the grid. The value for the number of non-displayed rows changes to 100 to match the View All threshold, and the View 100 display changes to View 7:

Viewing 100 Rows

If the Occurs Count, which you define in the properties for grid and scroll areas, is set to a number greater than or equal to the view all threshold, the threshold takes precedence. The View All display changes to View <threshold value> and the link is unavailable. If you select Unlimited Occurs Count, the grid or scroll area displays all rows in the buffer.

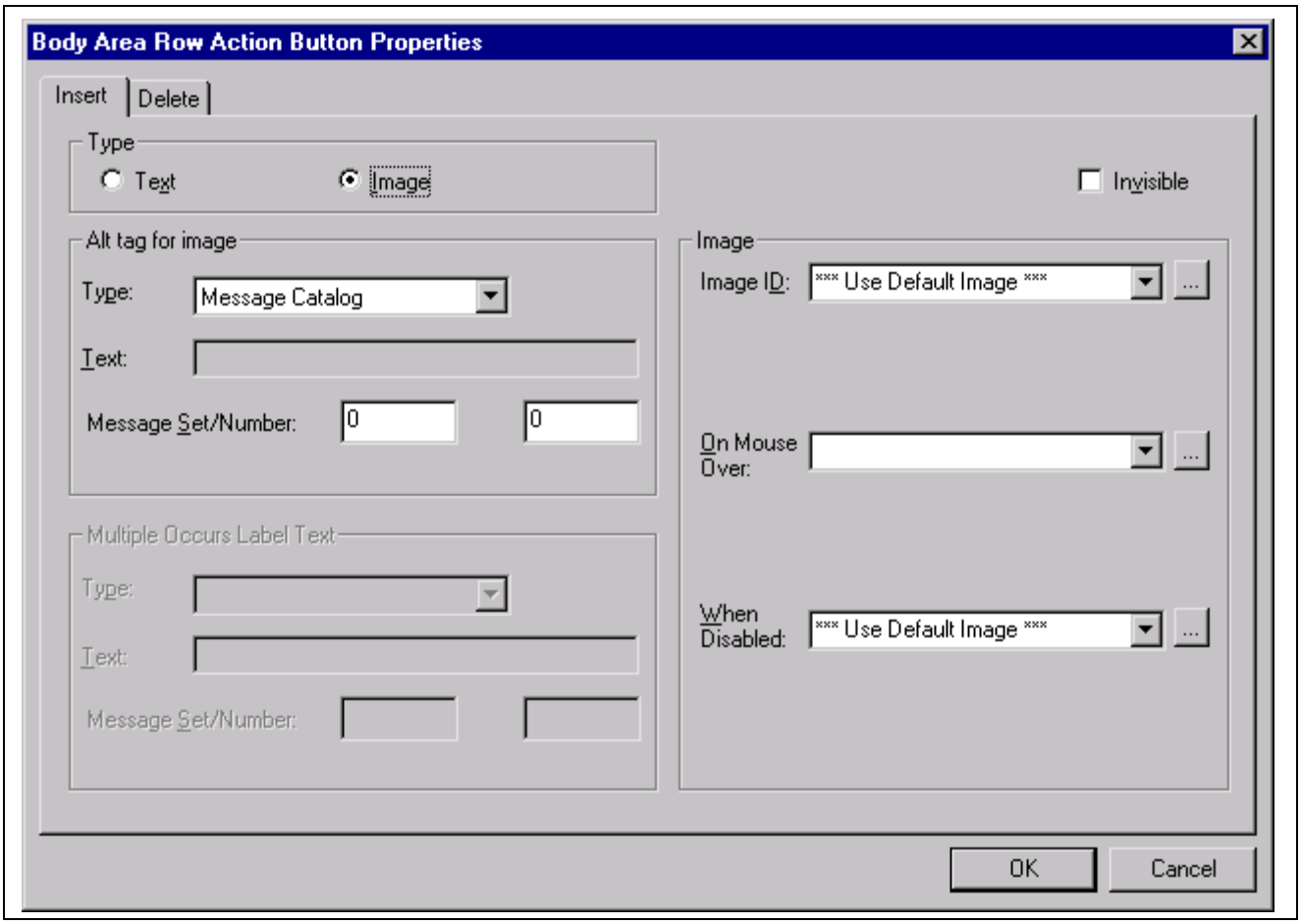
Setting Body Area Properties

Access the Grid Properties dialog box. Select the Label tab. In the Body Area group box, configure the row action buttons and set display properties for the body of your grid.

Row Action Buttons	Select to display Insert and Delete buttons on each grid row at runtime. The action buttons can appear on the left or right side of the grid. Click the Properties button to open the Body Area Row Action Button Properties dialog box, which controls the display of these features. You can choose alternate images to represent Insert and Delete or message catalog text. You can also turn off either or both the Insert or Delete options by selecting the Invisible check box at the top right corner of the properties dialog.
Background Style	Select a background style to display for the grid as a whole. The style selected here applies to all areas of the grid that are not covered by other elements.
Show Border	Select to display a standard border around your grid. The default is selected.
Show Grid Lines	Select to show grid lines on the grid. The default is to *not* display grid lines (cleared).
Show Row Headings (runtime)	Select to number rows at runtime. This option is selected by default.

Note. The row headings column still appears at design-time even if Show Row Headings (runtime) is not selected. This enables you to more easily select the grid if necessary.

Click the Properties button in the Body Area group box of the Grid Properties, Label tab to open the Body Area Row Action Button Properties dialog box. It contains two tabs: Insert and Delete. The default settings for these buttons are to display the Insert and the Delete buttons. Alternatively, you can select static or message catalog text, or you can make these items invisible so that they do not appear.



Body Area Row Action Button Properties dialog box

Setting Column Heading Properties

Access the Grid Properties dialog box. Select the Label tab.

You can set the grid to display column headings, and you can select the style in which to display them. Select a predefined column heading style from the drop-down list box or use the default. Changing styles alters the foreground, background, and font in the column headings, making it different from the data rows. The default for Show Column Headings is selected.

Setting Footer Area Properties

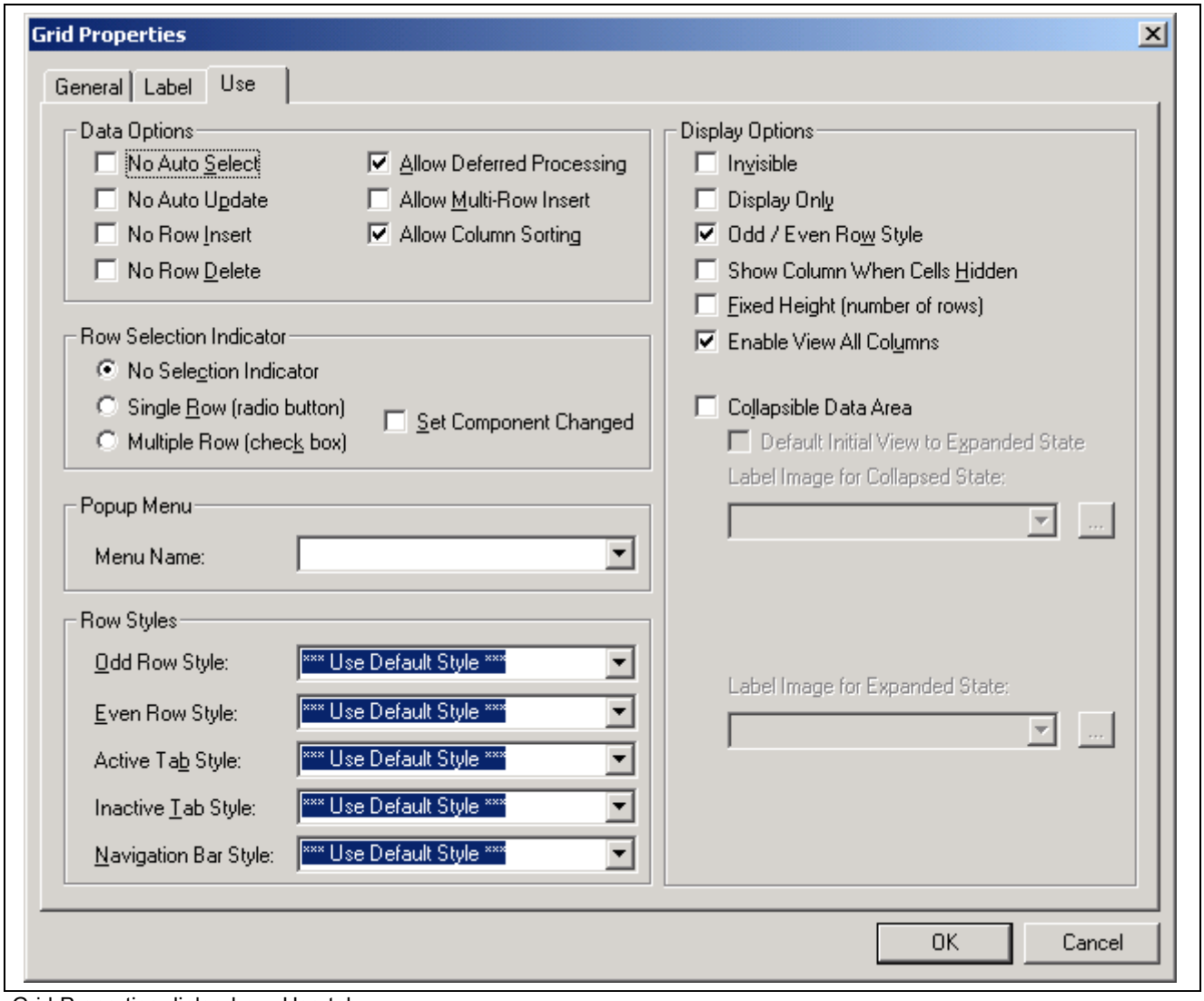
Access the Grid Properties dialog box. Select the Label tab.

In the footer of your grid, you can display row action buttons and a navigation bar. To enable either of these features, select the appropriate check box, Display Row Action Buttons or Display Navigation Bar, and click the Properties button to configure the settings. Clicking the Properties button opens a separate dialog box: Footer Row Action Button Properties or Footer Navigation Bar Properties respectively.

The row action buttons are the same for the footer area as those described for the body area. The navigation bar property options are the same as those described for the header area. However, all other navigation bar settings for the footer are invisible by default.

Setting Grid Use Properties

On the Use tab in the Grid Properties dialog box, you control data entry, row style, and display options, as well as whether your grid has a pop-up menu in the navigation bar at runtime. Both the grid and scroll area share many of the same attributes. Refer to the proceeding term tables for information about these shared settings.



Grid Properties dialog box: Use tab

Data Options

No Auto Select Suppresses the system from retrieving data from the database automatically. Select to populate the grid or scroll area with data using the ScrollSelect PeopleCode functions.

See *Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference*, "PeopleCode Built-in Functions," RowScrollSelectNew.

No Auto Update Suppresses the system from automatically updating data based on the existing key list. Select when the grid or scroll contains "work" field controls that should affect only a page and not the underlying database.

No Row Insert	Suppresses the Add button in the body area so that the user cannot insert rows. If this option is selected, PeopleSoft Application Designer automatically selects and disables the Invisible check box on the Insert tab of the properties dialog box for the body area.
No Row Delete	Suppresses the Delete button in the body area so that the user cannot delete rows. If this option is selected, PeopleSoft Application Designer automatically selects and disables the Invisible check box on the Delete tab of the properties dialog box for the body area.
Allow Deferred Processing	Set by default, this option ensures that the grid or scroll area processes in deferred mode. This setting overrides any individual field-level settings in your level-based control.
Allow Multi-Row Insert	Enables the user to add multiple blank rows at once to a grid after a page is displayed. This feature is available only in Add and Update modes. When the user clicks the Add Multiple Blank Rows button, a JavaScript prompt appears so that the user can specify the number of rows to insert between 1 and 99.
Allow Column Sorting	Enables the end user to perform nonpersistent sorts in a grid at runtime by clicking the column headings. The default is selected to allow column sorting automatically.

Using the Multirow Insert Option

Each time that a user adds a row to a grid or scroll area requires a transmission to the application server. With the multirow insert option, this transmission occurs only once when the user wants to add multiple blank rows. This can significantly enhance the user's experience when doing data entry and also meets the developer's goal of limiting page processing.

At design time in PeopleSoft Application Designer, the default for this feature is disabled. If the No Row Insert check box is selected, the Allow Multi-Row Insert check box is cleared and disabled. Where the multirow insert button appears, in the row or in the footer, depends on how you define the grid or scroll area properties on the Label tab.

You can set any occurs count for your grid. When the end user inserts *n* rows, the occurs count for the grid or scroll area is temporarily increased to *n + 1* (if necessary), showing one row of context plus the new rows. If you select an unlimited occurs count for the grid, this temporary adjustment is not necessary.

Note. This feature should not be enabled for grids and scroll areas with effective-dated rows.

At runtime, the system administrator controls the display and the default of this setting, as well as whether the end user has the option of overriding the default. The system administrator can disable multirow insert by clearing the Enable Option for Multiple Row Insert on the Administer Personalizations page in Security. If the option is not disabled by the system administrator, the user can disable this setting on the Personalization page by selecting PeopleTools, Security, Use, My Profile. Here, the user can override the default of *Yes* by entering *No* in the Override Value edit box. When the user disables this feature, the multirow Add button is replaced with the standard Add button in all grids and scroll areas.

When the user saves the page, normal save processing runs, including save-edits on all rows. New, unchanged rows are *not* saved. *After* save processing, new, unchanged (and hence unsaved) rows are *deleted* from the buffer. The only exception is when there is only one row and it is new and unchanged. This row remains in the buffer, even though it has not been saved, because there must always be one row in any rowset.

For the end user pressing ALT+7 works the same with the multirow Add button as it does with the standard Add button.

Row Selection Indicator

These options enable the user to select one or more rows in the grid and scroll area. At runtime, indicators appear to the left of row numbers for grids and in the upper left corner for scroll areas. A transmission to the server triggers the selection of the row or rows that the user designates.

No Selection Indicator This is the default selection. Prevents the user from selecting rows in the PeopleSoft Pure Internet Architecture.

Single Row (radio button) Enables the user to select a single row in a grid or scroll area. Inserts a radio button to the left of each row that the user can select.

Multiple Row (check box) Enables the user to select multiple rows in a grid or scroll area. Inserts a check box to the left of each row that the user can select. Users can select as many rows as needed.

Set Component Changed Enables the user to receive a save warning if a change is made to a row selection indicator in the grid. PeopleSoft Pure Internet Architecture runtime uses this option to set the PPR_CHANGED flag. This option is cleared by default.

This property ensures that if there are *any* changes to the grid, the data is saved to the database.

If you disable this property, this means that any row insert, row delete, or field change on the rowset using PeopleCode would not cause the system to treat the component data as changed.

Note. For the row selection options, PeopleCode can change the selected property, which affects which boxes are selected when the page is regenerated.

Popup Menu

Select a preset pop-up menu from the drop-down list box. The pop-up menu button appears in the left-hand corner of the navigation header at runtime.

See Chapter 12, “Creating Menu Definitions,” Creating Pop-up Menus, page 327.

Row Styles

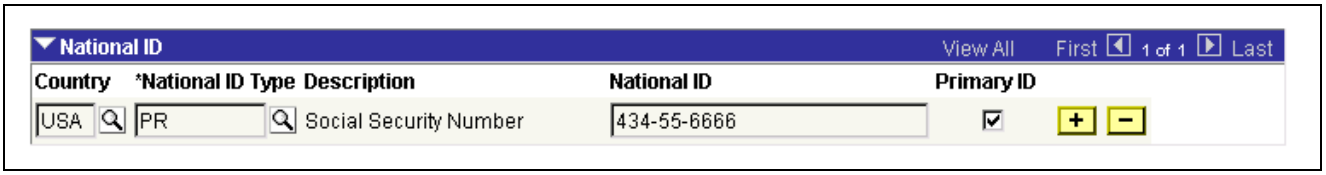
You can control the color, font, and other characteristics of a row, active tab, inactive tab, and navigation bar by specifying a style in the drop-down list box for each of the row style options.

Display Options

Invisible Select to make the grid or scroll area and its associated fields and records invisible. Invisible is used for work grids or scrolls where you want the underlying processing to be transparent to users. Typically, you associate invisible work grids and scrolls with PeopleCode Scroll functions that enable you to further control application processing.

Display Only In some cases, you might design grids that enable users to view but not change information. Select this check box if you do not want the user to enter data into the fields in any of the rows.

Odd/Even Row Style	Selected by default, this attribute displays the grid with contrasting colors by row. The Odd Row Style and Even Row Style drop-down list box options appear instead of the single Row Style option in the Row Styles group box.
Show Column When Cells Hidden	Select if you want the columns to appear even if all of the cells in a column are hidden. Columns do not collapse.
Fixed Height (number of rows)	Select to set the grid to a height corresponding to the number of rows in the occurs count attribute. The grid remains fixed at that height even if the actual number of data rows varies from that number. If the fixed height property is not used, the size of the grid dynamically changes based on the occurs count and the number of data rows retrieved.
Enable View All Columns	Displays an expand all button to the right of a tabbed grid, enabling the user to view all columns of the grid by scrolling to the right using the browser's horizontal scroll bar instead of selecting the grid tabs. The show grid tab button appears when columns are expanded to enable the user to view the tabs again.
Collapsible Data Area	Select to collapse the data area for your grid or scroll area into a header bar with a small image that the user must click to activate or expand it. This enables the Default Initial View to Expanded State check box. You can then select the label image to represent the collapsed and expanded states.



Expanded grid

Collapsed grid

Using HTML Areas

This section provides an overview of HTML area controls and discusses how to:

- Insert an HTML area.
- Populate an HTML area.
- Change an HTML area label.

Understanding HTML Area Controls

You can insert an HTML area control on any PeopleSoft page. It can be inserted at any level on a page and can even be placed in a grid control. This control is rectangular and can be resized easily.

Populate the HTML area control in one of these ways:

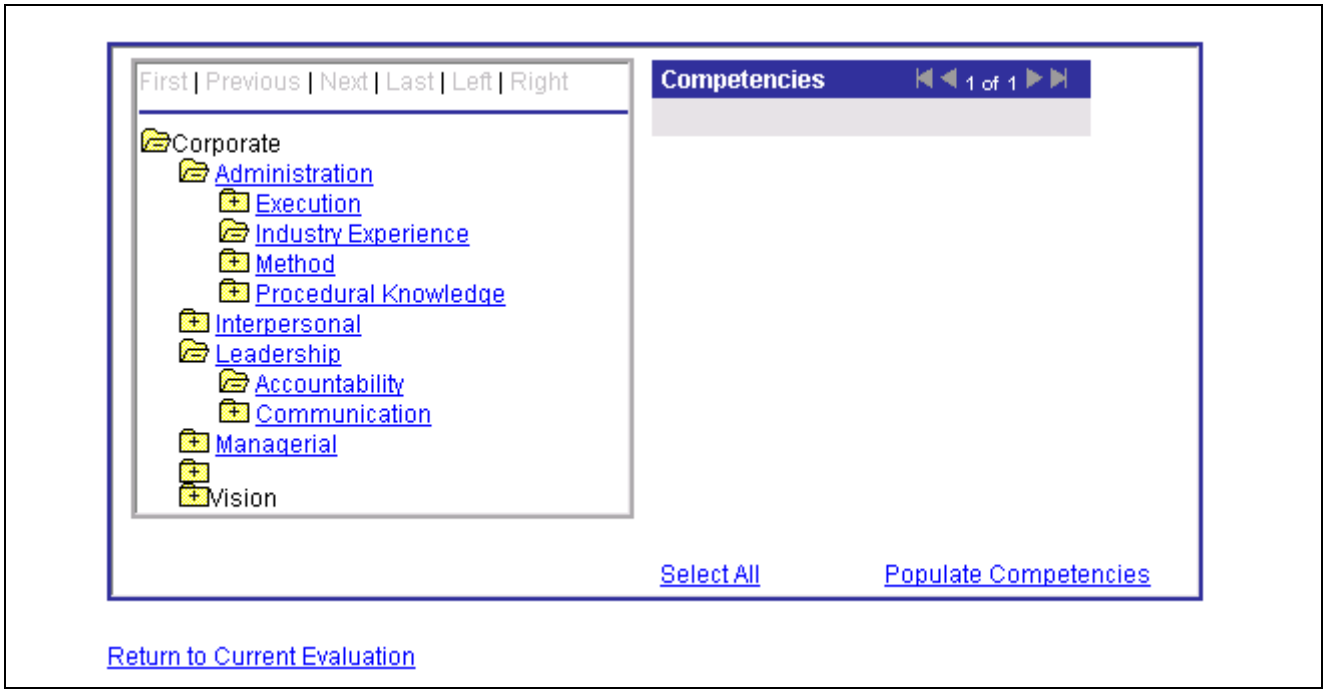
- Statically, in the page field property sheet.
- Dynamically, by associating the control with a record field or HTML definition.

If the control is linked to a record field, the value of the record field is displayed in the HTML area. Use PeopleCode to associate the HTML area control with a predefined HTML definition.

Note. Data stored in an HTML Area cannot be downloaded to Excel. Downloading data to Microsoft Excel only applies to grids.

Generating Trees in HTML Areas

You can use the GenerateTree PeopleCode function with HTML areas. This example shows the tree that is created by the GenerateTree PeopleCode function next to a grid in a frame:



Tree in an HTML area

Populating an HTML Area

You can populate an HTML area either statically, using the HTML Area Properties dialog box, or dynamically, by associating the control with a record field. Because the HTML that you write is included in the HTML that is dynamically generated by the system at runtime, consider the following:

- The HTML that you include can affect the layout of the page.

  Being true to the design-time sizing of the HTML area is the best way to ensure that you do not affect the layout of the other page field controls. Adding an invisible frame around the HTML area control can help ensure that you don't affect other page fields.

- You can use only certain types of HTML tags. These tags are *not* supported by the HTML area control:
  - <body>
  - <frame>
  - <frameset>
  - <form>
  - <head>
  - <html>

- <meta>
- <title>

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Developer's Guide, "Understanding HTML Trees and the GenerateHTML Function," Using the GenerateTree Function

Inserting an HTML Area

To insert an HTML area on a page:

1. Select Insert, HTML Area.
2. Draw the HTML area on your page.
3. Move the HTML area control by dragging it with the mouse or by pressing the arrow keys.

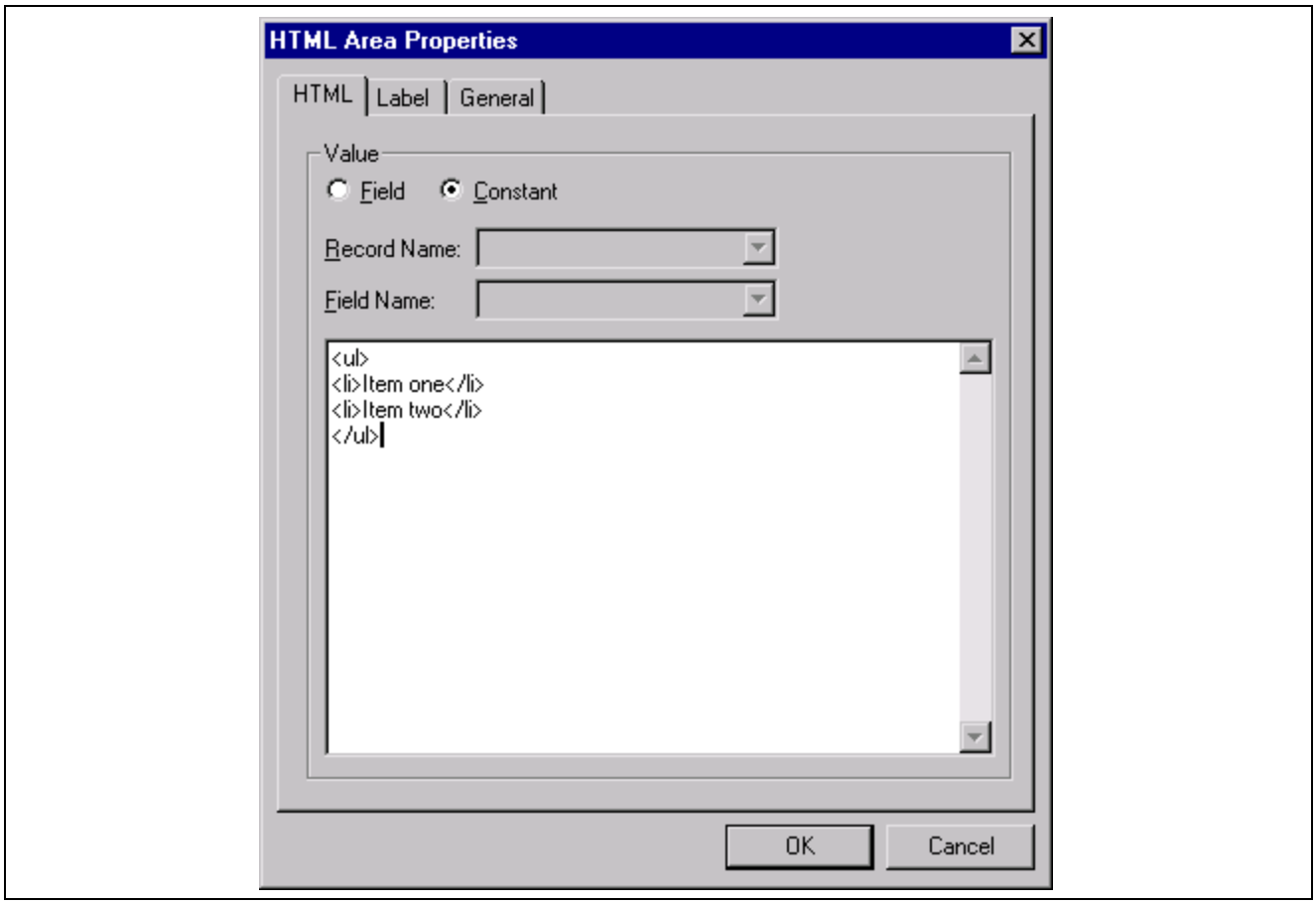
Populating an HTML Area

This section discusses how to:

- Populate an HTML area statically.
- Populate an HTML area dynamically.

Populating an HTML Area Statically

Use the HTML Area Properties dialog box to populate an HTML area.



HTML Area Properties dialog box with constant text

To populate an HTML area statically:

1. Access the HTML Area Properties dialog box.
2. On the HTML tab, select Constant as the value type.
3. In the long edit box, enter the HTML code that you want to display in the HTML area.

Populating an HTML Area Dynamically

To populate an HTML area dynamically:

1. Access the HTML Area Properties dialog box.
2. On the HTML tab, select Field as the value type.
3. Specify the record and field to which you want to associate the HTML area control.

   The value of the record field generates the HTML code that is included at runtime in the HTML area.

Note. When you associate an HTML area control with a field, make sure that the field is long enough to contain the data that you want to pass to it. For example, if you associate an HTML area control with a field that is only 10 characters long, only the first 10 characters of your text are displayed. PeopleSoft recommends using long character fields for record fields that are associated with an HTML area control.

Changing an HTML Area Label

Assign a distinct label to your HTML area to distinguish it from other HTML area controls on the Order tab of the page.

To change an HTML area label:

1. Access the HTML Area Properties dialog box.
2. Select the Label tab.
3. Enter a brief text description of the HTML area.

   This label does not display at runtime; however, it appears on the Order tab of the page definition.

Using Push Buttons and Links

This section provides an overview of push buttons and links and discusses how to:

- Insert a push button or link.
- Specify destination types.
- Specify a label for the push button or link.

Understanding Push Buttons and Links

PeopleSoft Pure Internet Architecture supports these features for this control:

- Selecting link style.
- Selecting these types of push buttons and links:
  - External link.
  - Internal link.
  - Prompt action.
  - Scroll action.
  - Toolbar action.
- Selecting these image options:
  - On mouse over.
  - When disabled.

Inserting a Push Button or Link

After you add a push button or link control to your page you can define the attributes by opening the Push Button/Hyperlink Properties dialog box.

To insert a push button or link:

1. Select Insert, Push Button/Hyperlink.
2. Click where you want the upper, left-hand corner of the control to begin.

A push button of *small image* size appears.

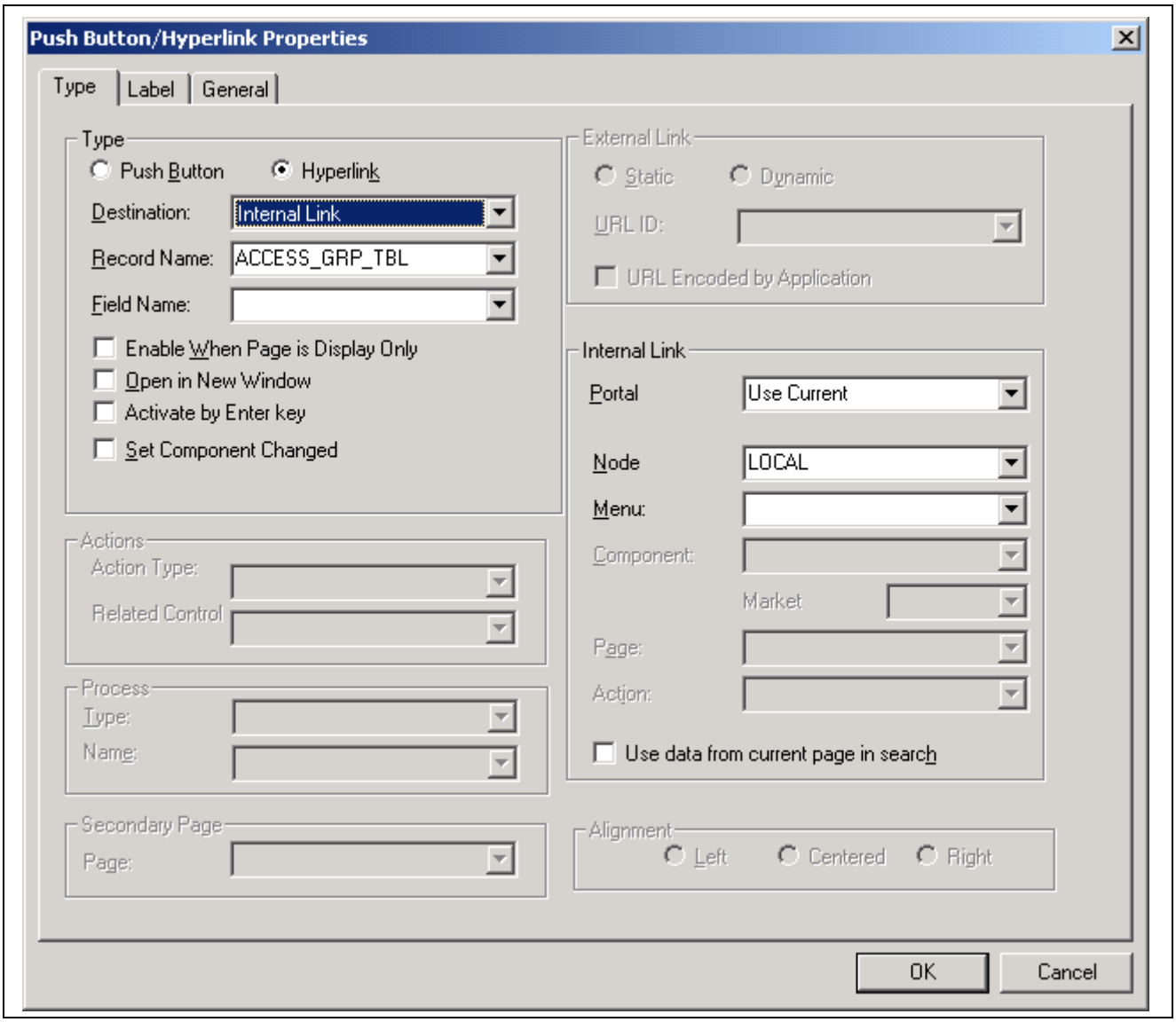
3. Double-click the push button to access the Push Button/Hyperlink Properties dialog box.
4. On the Type tab, select whether the control appears as a push button or link.
5. Select a destination type from the Destination drop-down list box.

   See Chapter 9, "Using Page Controls," Specifying Destination Types, page 226.
6. Select the record and field names with which you want to associate the push button or link.
7. Select any of the remaining Type options:

Enable When Page is Display Only	Select to make the push button or link available to users who have display-only access to this page. Display-only access is set per user and user class in Security.
Open in New Window	Select to have the page that is displayed by the URL to appear in a new window, as opposed to replacing the existing window.
Activate by Enter Key	Select to activate the push button or link when the user presses the ENTER key. You can have more than one push button or link with this feature set per page, as long as only one of these fields is enabled at runtime. Otherwise, only one push button or link with this attribute enabled is allowed per page. This feature is available for all control types except external links. When using Activate by Enter Key in a scroll area or grid with an occurs count greater than one, the ENTER key triggers the first row only. Note that on a secondary page with the standard OK and Cancel buttons enabled, the ENTER key activates the OK button rather than a custom button or link.
Set Component Changed	Select to enable the ComponentChanged built-in PeopleCode function when the user selects the push button or link. This issues a save warning if the user attempts to leave the page. This setting is cleared by default. See *Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference*, "PeopleCode Built-in Functions," ComponentChanged.

Specifying Destination Types

Access the Push Button/Hyperlink Properties dialog box.



Push Button/Hyperlink Properties dialog box: Type tab

Type

Each destination type that you select enables a different region on the Type tab, enabling you to further define your push button or link. Select one of these values from the Destination drop-down list box:

External Link Accesses a uniform resource locator (URL). You can select a value from the URL table or use the value of a record field to define the destination.

Selecting this option enables the External Link group box. You can choose to have the URL encoded or not by selecting the Encoded by Application check box.

This applies an external link to your page in the form of a push button or link that accesses a new page, taking the user to the external website that you designate. To return to the primary page, the user closes the new page. When setting the record and field name consider these points:

- If you specify a dynamic external link, you must enter a record name and field name.

  The system uses the value of the record and field specified as the value of the link.

- Whether the external link is static or dynamic, you can use the specified record and field names to control the page field in PeopleCode when you want to, for example, hide the link dynamically with PeopleCode.

- The "tool tip," or mouse over text, that appears with the link at runtime comes from the RFT long label assigned to the record field.

  However, the RFT long label displays only if it is different from the assigned display value of the link and it is not null. If the link is displayed as an image button, the tool tip is derived from the label text if there is any. Otherwise, the RFT long label is used.

Internal Link Accesses a PeopleSoft page. Parameters include the menu path to the page and a check box to specify whether data from the current page should be used in the search dialog box.

Selecting this option enables the Internal Link group box.

This adds an internal link in the form of a push button or link that you can use to access another component or page from within the system or another PeopleSoft database or node. You can even specify the type of action mode to open in for that page. To control the push button or link in PeopleCode, enter the record and names.

Like the external link, if you associate a record and field name with this link, the tool tip that appears at runtime draws from the RFT long label for the record field. However, the RFT long label only displays if it is different from the assigned display value of the link.

Instant Messaging Action Select to add an instant messaging button to the page. Associate the button with a record field that contains entries in the form of <user>@network (such as John@Yahoo). For this purpose we provide the MCFIMNETWORKS table. The MCFIMDOMAIN field is the source for the instant messaging network providers. This table contains only three network providers: AOL, Yahoo, and SameTime Connect. You should never enter additional networks not already in this table.

See *Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft MultiChannel Framework*, “Configuring Instant Messaging”.

Page Anchor Enables the user to jump to the anchor tag that you designate for a page field on the General tab of the properties dialog box for that field.

This enables the user to jump from one destination (the link that you assign as the page anchor) to another (the field that you enable as the page anchor) in your page. When you select this option, the page fields that you previously set as page anchors on the General tab of the properties dialog box appear in the Related Control drop-down list box in the Actions group box. You can place as many page anchor buttons or links on the page as necessary.

PeopleCode Command Associates with a field in a record, so when the user clicks the push button or link, the system runs any FieldChange PeopleCode that is associated with that

field. Enter the record and field names. The field should have PeopleCode in the FieldChange event.

Process

Runs processes that you set up previously with PeopleSoft Process Scheduler. Associate process push buttons with a specific process definition; the process is run each time that a user clicks the button.

Selecting this value enables the Process group box, where you can specify the type and name of the process that you want to run.

See *Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft Process Scheduler*, "Submitting and Scheduling Process Requests".

Prompt Action

Displays a prompt dialog box for a specific control field. Adds a custom prompt button or link next to a field on the page in place of the standard prompt that is associated with that field. For example, you might want the prompt to read *Find an Airport Code.*

Selecting this value enables the Actions group box. In the Related Control drop-down list box, select the field that you want to associate with the prompt. The action type, *Prompt,* is set automatically. Set the text label properties for the link on the Label tab.

Scroll Action

Represents certain actions that a user can perform on a grid, scroll area, and scroll bar, such as bottom, top, insert row, and so on.

Use to provide action buttons for the grid, scroll area, or scroll bar in areas outside of that control, such as at the bottom of the page or outside the borders of the control.

Selecting this value enables the Actions group box, where you can specify the action type and related control. The Action Type field enables you to select the action to be performed in the specific level. The level is specified in the Related Control field. Specify one of the following scroll actions: *Bottom, Next, Previous, Row Delete, Row Insert,* and *Top.*

For example, if you want a user to be able to move through a page at runtime, set the action type to *Next* or *Previous* and specify which scroll area you want those actions to control.

Secondary Page

Access an existing secondary page. After you have designed a secondary page, you must associate it with a control on the primary page. The secondary page push button or link is the starting point for the user for that secondary page. Selecting this option enables the Secondary Page group box, where you can select the name of the secondary page that you want to associate with the push button or link.

Toolbar Action

Represents the various toolbar actions to the user. A user can perform several actions on a page, such as save, display the next page in a group, correction mode, and so on. These normally reside on the toolbar at the bottom of each PeopleSoft Pure Internet Architecture page. Use this type of push button or link for placing save, next in list, or other toolbar functions on the page.

Selecting this value enables the Actions group box, where you can specify the action type: *Add, Correction, Next in List, Next in Worklist, Next Page, Notify, Previous in List, Previous in Worklist, Previous Page, Refresh, Return to List, Save, Update/Display, Update/Display All,* or *View Worklist.*

External Link

In this group box, select Dynamic or Static, and enter the URL ID, if necessary. Select a value from the URL Maintenance table of a record field to define the destination. For example, a derived record field might be used to set the destination value dynamically at runtime. The value of the derived record field is placed in the HREF tag of the HTML.

See *Enterprise PeopleTools 8.46 PeopleBook: System and Server Administration*, "Using PeopleTools Utilities," URL Maintenance.

Internal Link

Portal Select the portal to which you want the internal link to point. *Use Current* is the default. Valid values include all of the values in the PORTAL_NAME column of the PSPRDMDEFN table.

Node Select the PeopleSoft database to which you want the internal link to point. *Local* stands for the node which is marked as the default only. So if the content reference you need is registered with a non-default local node, make sure you choose the exact same value from this drop-down list box.

Valid values include all of the values in the MSGNODENAME column of the PSMSGNODEDEFN table. If you select a node other than *Local,* the Use data from current page in search check box is cleared.

The node that you select should match the node for the destination component in the Registration Wizard or on the Content Ref Administration page. Select PeopleTools, Portal, Structure and Content. Click the Edit link to access the Content Ref Administration page.

Menu Select the menu name in which the destination page is contained.

Component Select the component in which the destination page is contained. These values depend on the menu that you select.

Market Select the market of the destination component.

See Chapter 11, "Creating Component Definitions," Specifying Market-Specific Components, page 309.

Page Select the page on which you want the user to land. These values depend on the component that you select.

Action Select the action mode in which you want the page to begin.

Use data from current page in search Select if you want data from the current page to be used in the search dialog box. This option ensures that the new page inherits the proper keys from the context of the current page. The process is almost identical to the Transfer() PeopleCode function, and it performs a similar function.

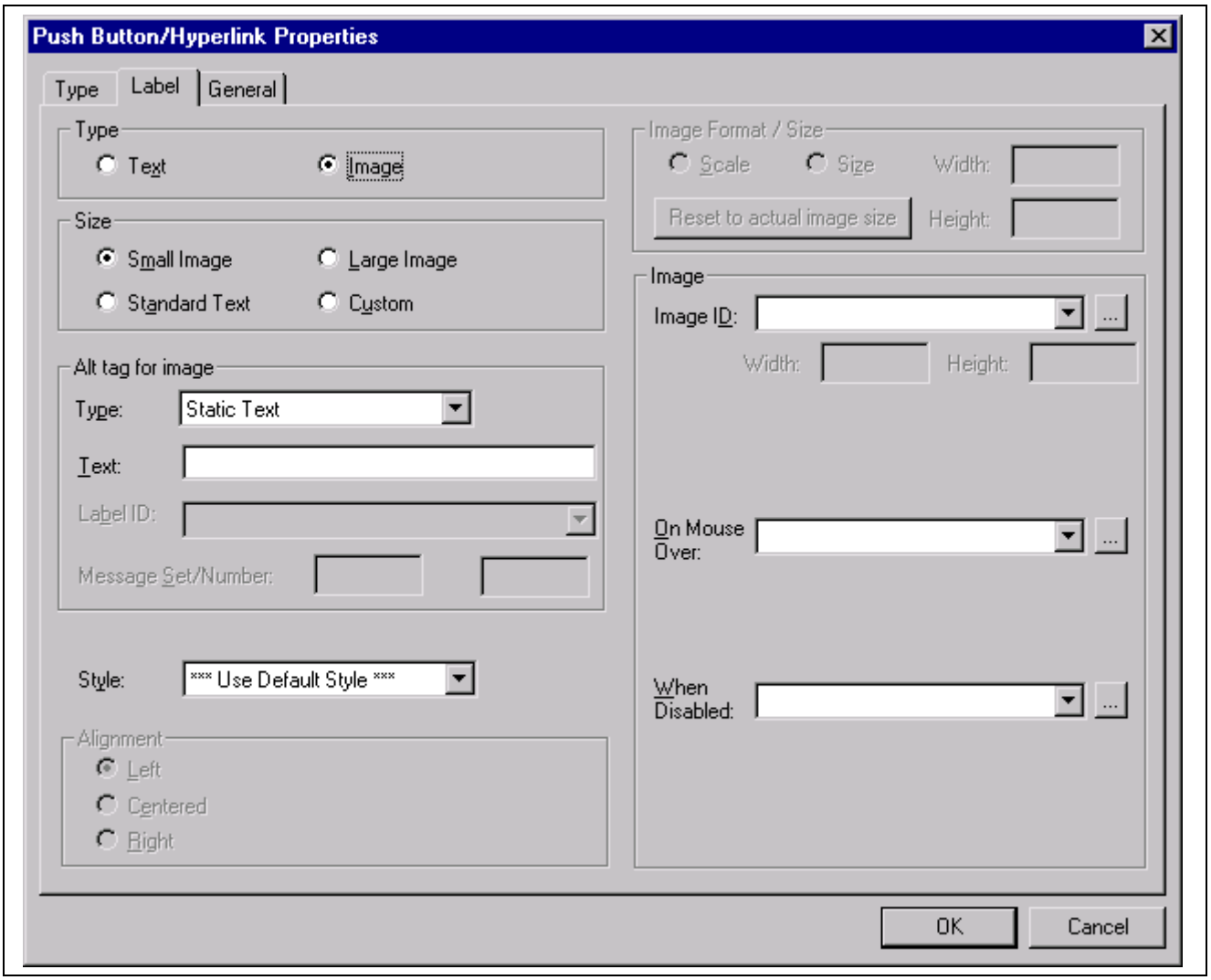
If this check box is selected, the system discards the existing keylist. A new keylist is built from the current component buffer using the field's context (when there is a choice between rows in a scroll area). This keylist is then used to start the new component.

If this option is cleared, the system uses the existing keylist in the normal manner.

Specifying a Label for the Push Button or Link

This section discusses how to:

- Specify a text label.
- Specify an image label.



Push Button/Hyperlink Properties dialog box: Label tab

Specifying a Text Label for the Push Button or Link

To specify a text label for a push button or link:

1. Access the Push Button/Hyperlink Properties dialog box.
2. Select the Label tab.
3. In the Type group box select Text.
4. Select the size.

   There are three standard push button sizes, depending on what kind of text or image you want to display on the button face.

Small Image	Creates toolbar-sized buttons that handle small 16 × 16 pixel images.
Large Image	Handles 32 × 32 pixel images.
Standard Text	Matches the Microsoft standard dimensions for text push buttons.
Custom	Select if none of these sizes meets your needs. When you click OK, the push button displays selection handles that you can use to resize it.

5. Specify the type of label text.

   Depending on the destination type that you selected, the values in the Type drop-down list box differ.

Message Catalog	Select to reference a message that exists in the message catalog. Enter the message set and number. Message catalog items are all translatable.
RFT Short(record field table short)	Select to label the push button with the short name for the field from a record definition. RFT is an abbreviation of record field table, which stores attributes for fields in a record definition. Use this option only if you specified a record definition and field name on the Type tab in the Push Button/Hyperlink Properties dialog box. The RFT short name appears on the push button when you click OK and return to the page. Select the label ID if you do not want to use the default label if more than one label has been set for the record field.
RFT Long(record field table long)	Select to label the push button with the long name for the field. Use this option only if you specified a record definition and field name on the Type tab in the Push Button/Hyperlink Properties dialog box. The RFT long name appears on the push button when you click OK and return to the page. Select a different label ID if you do not want the default label if more than one label has been set for the record field. The system uses the RFT long label as the tool tip at runtime for links if it is different from the assigned display value of the link and it is not null. If more than one label is stored for the record field you can select an alternate tool tip from the Label ID drop-down list box.
Static Text	Select to enter the text to appear on the label.
URL Description	Select if you selected *External Link* as the destination on the Type tab. Select the style from the drop-down list box. See Chapter 14, “Creating Style Sheet Definitions,” page 339.

6. Select the alignment.

   This option is only available if you selected Hyperlink for the type on the Type tab. Push button text is automatically centered for controls that appear as push buttons.

Note. Some browsers do not support custom push buttons.

See "Troubleshooting Browser Limitations" on Customer Connection.

Specifying an Image Label for a Push Button or Link

To specify an image label for your push button or link:

1. Access the Push Button/Hyperlink Properties dialog box.
2. Select the Label tab.

3. Select Image for the type.
4. Specify the size.

   If you select Custom, the Image/Format Size group box becomes available.

Scale	Select to adjust the width and height as percentages.
Size	Select to set the image size by altering the width and height in pixels.
Reset to actual image size	Resizes the image according to its natural size. That is, the images size is not manipulated by custom width or heith values.

5. Specify the image ID.

   Select one of the predefined image definitions or click the Browse button to view push button images.

   See Chapter 15, "Creating Image Definitions," Understanding Image Definitions, page 364.
6. (Optional) Select the image to appear on a mouse over.

   For example, you might want to highlight an image so that users can easily see which option they're selecting.
7. (Optional) Select an image to appear when the button is disabled.

Using Scroll Areas and Scroll Bars

This section provides an overview of scroll areas and bars and discusses how to:

- Set scroll area general attributes.
- Set scroll area label properties.
- Set scroll area use properties.
- Specify scroll bar label properties.
- Specify scroll bar use properties.
- Control scrollable data.
- Convert scroll bars to grids.

Understanding Scroll Areas and Scroll Bars

Scroll areas, rather than scroll bars, are the preferred control for representing multiple rows of data from a table, because they are easier to use during design time and offer a wider array of features. The final product at runtime appears more contained because the default setting places a border around the data.

- The navigation tools that you select for a scroll area are automatically positioned on the navigation bar or footer bar.

  With scroll bars, you must place these buttons and links on the page manually.
- Scroll areas provide the option of showing or hiding a border around the data.
- Scroll areas provide the option of a View All button and a Find feature.
- Scroll areas enable you to determine the text or image that appears for the action items in the navigation bars.

- Scroll areas provide a row separator when you select multiple occurrences of data.

Scrolls, Record Relationships, and Page Processing

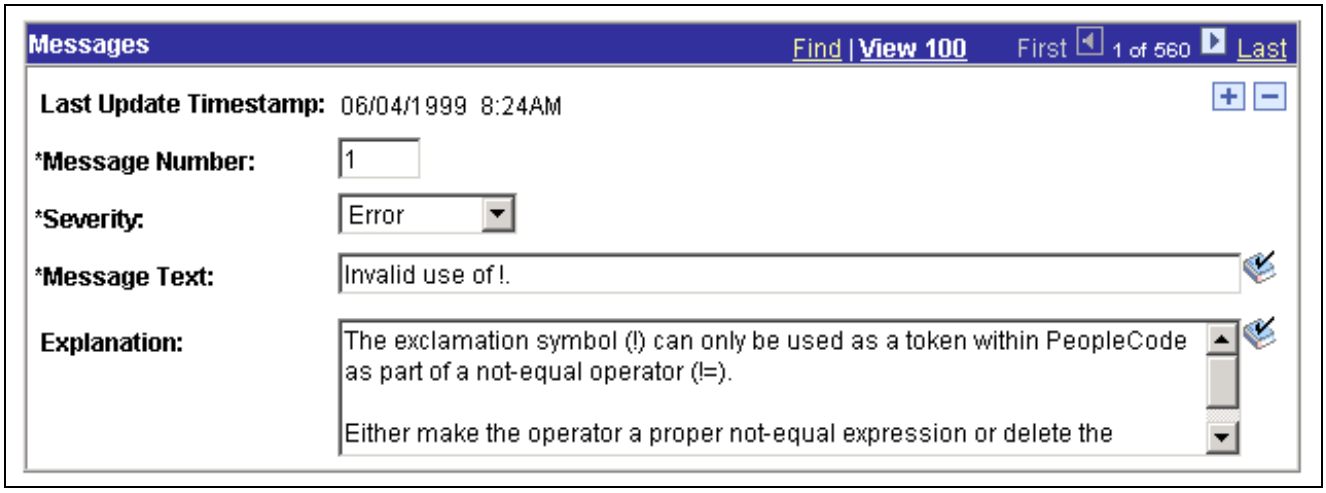
A page must reflect the underlying table structures so that the system knows where to store data in the database. When you have more than one underlying record definition on a page, the role of scroll areas and scroll bars in page processing is important. Scroll controls define parent and child record definition relationships on a page.

You assign an occurs level to each scroll control on the page to indicate the relationship between the record definitions and the controls and to determine how the data is processed. The primary record on a page at level 0 has no scroll area or occurs level associated with it. If the page contains a record that is subordinate to the primary table, it has a scroll area with an occurs level of 1. A table that is subordinate to the level 2 record has a scroll area with an occurs level of 2. PeopleTools does not support nesting beyond three levels.

PeopleSoft Application Designer automatically nests the scroll area after you set the occurs levels sequentially. Each field that you place on the page after each scroll area is automatically placed inside the scroll area preceding it until the next level-based control is placed on the page.

Scroll Areas

A scroll area looks like a group box with various controls. The title bar in a scroll area, however, can also serve as a navigation bar. The navigation bar gives the user various options for viewing the data. The plus and minus buttons in the body of the scroll enable the user to add and delete rows of data.



Example of a scroll area

See Also

Chapter 10, “Creating Page Definitions,” Level-Based Controls, page 246

Setting Scroll Area General Attributes

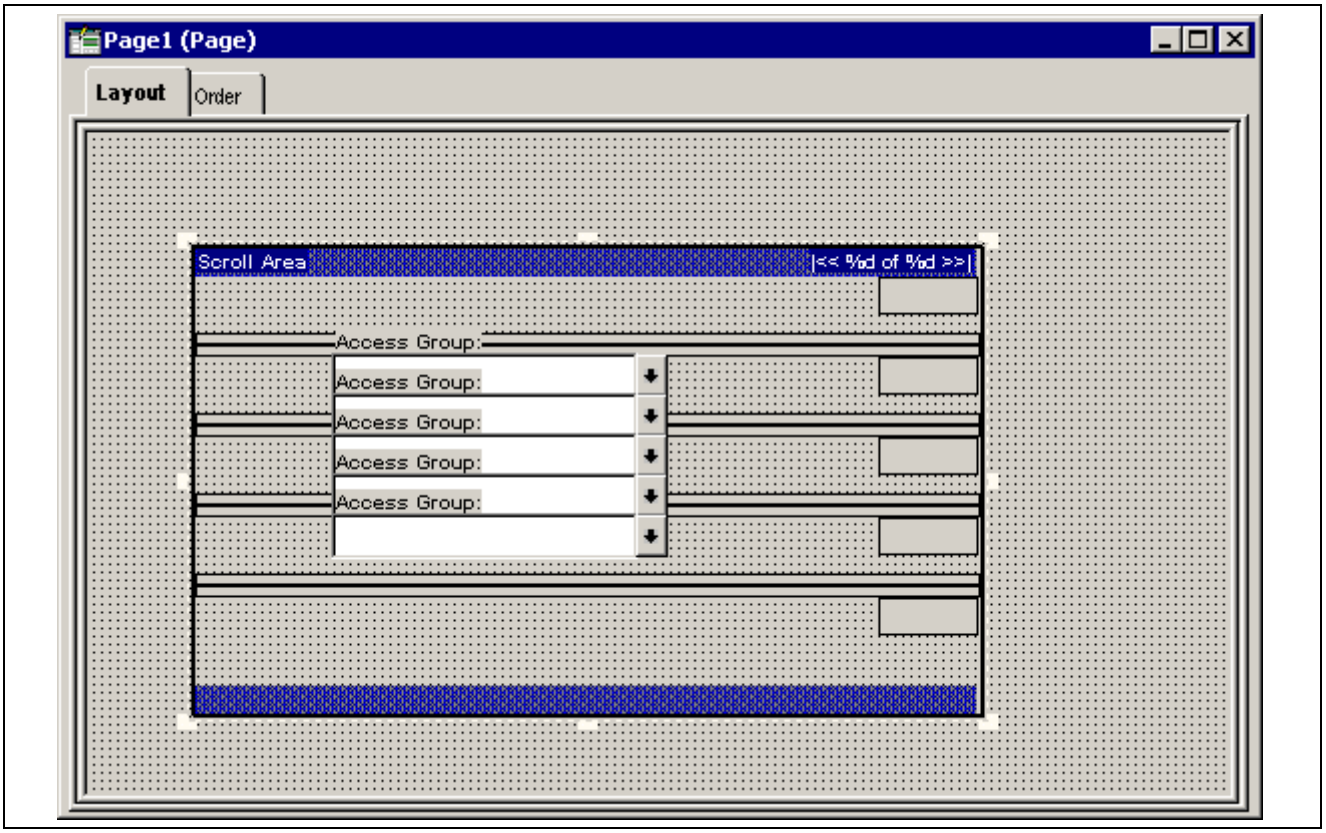
Assign the general attributes of the scroll area. These settings are the same for the scroll area as they are for the grid control.

See Chapter 9, “Using Page Controls,” Setting Grid General Properties, page 211.

Manipulating Fields After the Occurs Count is Set

If you set the occurs count to a number that is greater than one, you must reposition the fields in the scroll area. If you changed the occurs count after placing fields in the scroll area, they might appear one on top of the other, very close together. Unless you indicate otherwise (in the body area of the Label tab), row separator lines might appear to distinguish one row from the next.

In the following example, the occurs count was set to *5* after placing one field, Access Group, in the scroll area. You must reposition the fields and potentially the labels so that they are evenly spaced in the row separator lines.



Multiple occurs count in a scroll area

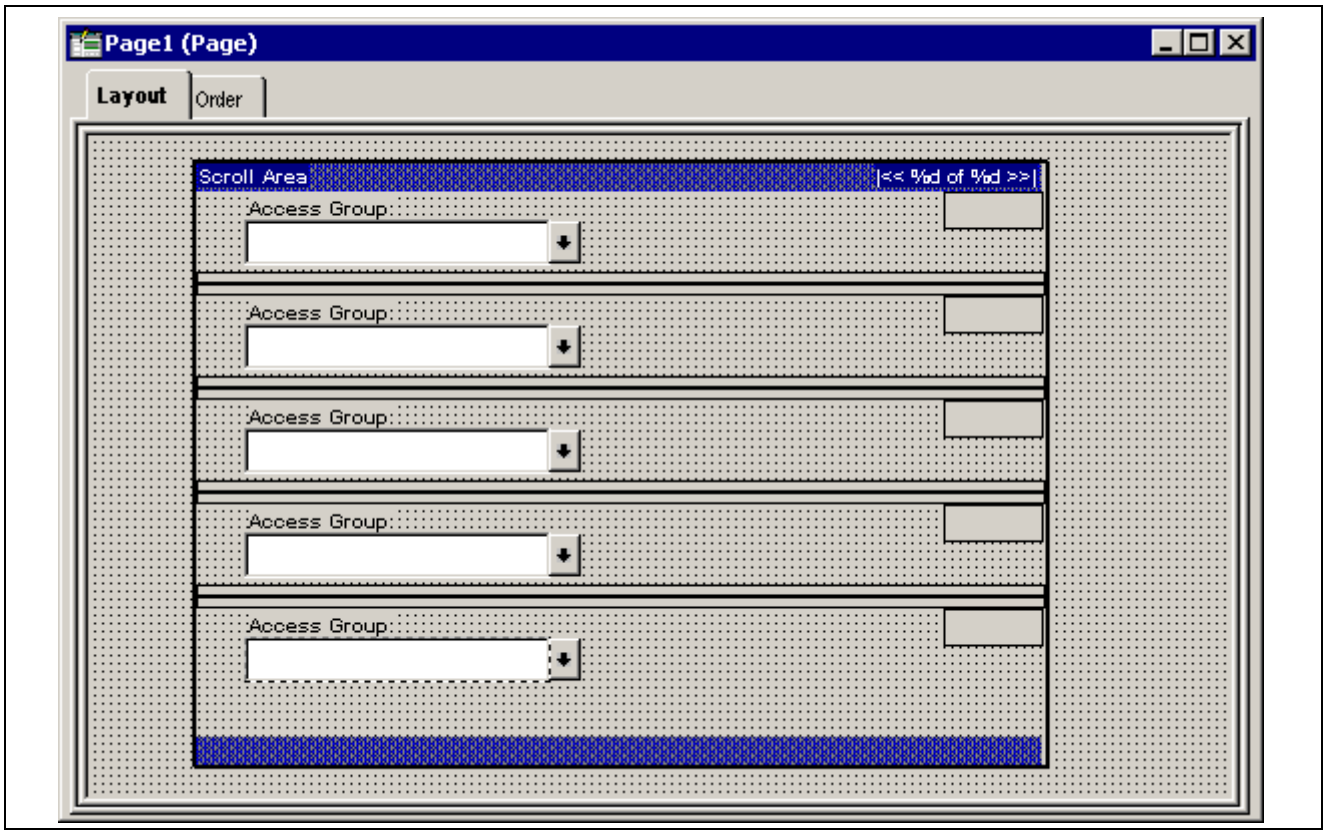
Before you do so, it is helpful to know a few rules about how you can move these fields in relationship to one another. For example, you do not need to move each individual field to its proper destination. For this example, we call the first field in the column of fields, or the original field that you placed in the scroll area, the *head* field. The fields following the head field are other occurrences.

- The head field controls the horizontal movement of all other occurrences that are below it.
- You cannot move the other occurrences horizontally.
- To evenly space the occurrences vertically, drag the last occurrence in the column to the appropriate position between the bottom edge of the scroll area and the last row separator.

  All occurrences above it reposition themselves equidistant from the others.
- The add and delete push buttons (represented by the gray boxes on the right side of the scroll area) cannot be moved horizontally on the page.

  You can move them only vertically in the same manner as the fields.

After you move the lowest field, the scroll area should appear as follows:



Fields moved to accommodate multiple occurs count

Setting Scroll Area Label Properties

There are three places on a scroll area where you can apply links or push buttons to help the user navigate through multiple rows of data in the scroll area. These options and the associated settings are the same as those for grids. This section references the setting definitions for grid controls that are described earlier in this chapter.

Header Area Properties

You can display the title of the scroll area and a navigation bar where users can access links for viewing the previous, next, top or bottom row. The Find and View All features appear by default in the navigation bar of the scroll area.

Body Area Properties

You can:

- Display Insert and Delete action buttons on each row of data.
- Control the display of the scroll area border.
- Add a row separator when more than one row is showing at a time.
- Adjust the layout of the scroll area when hidden fields are present.

Specifying Footer Area Properties

If you choose to display a footer row for the scroll area, you can add:

- Insert and Delete row action buttons.
- A navigation bar, where users can access controls for viewing the previous, next, top or bottom row.
- A Find and View All option.

See Also

Chapter 9, “Using Page Controls,” Setting Grid Label Properties, page 212

Setting Scroll Area Use Properties

You can select several options to determine how you use the scroll area. As with the label properties, the settings on the Use tab of the Scroll Area Properties dialog box are the same as those on the Use tab of the Grid Properties dialog box, except that the scroll area contains fewer attributes than a grid.

See Also

Chapter 9, “Using Page Controls,” Setting Grid Use Properties, page 218

Setting Scroll Bar Label Properties

To help identify scroll bars on the page definition, document the purpose of each scroll bar with an informational field label.

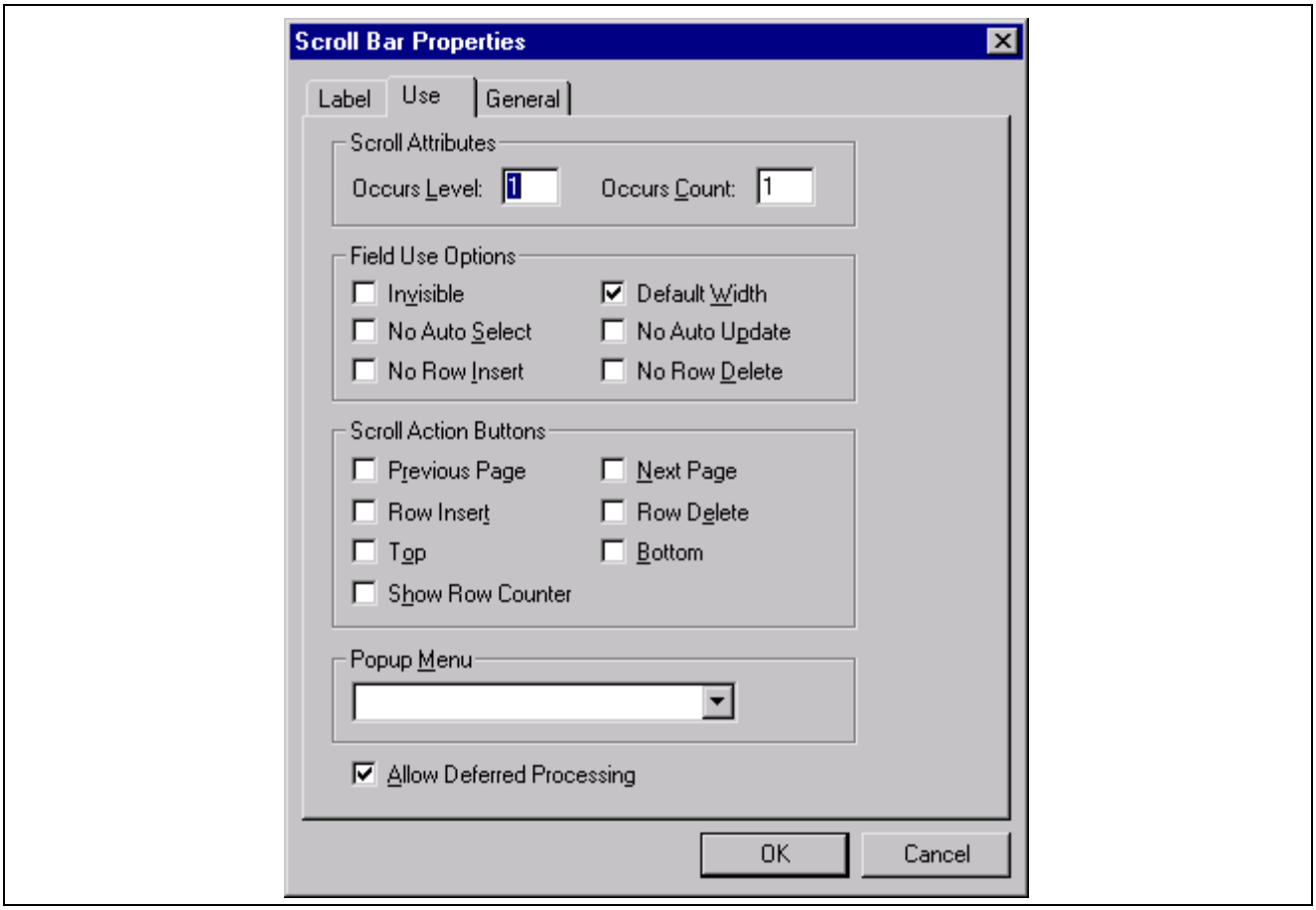
To specify a scroll bar label:

1. Access the Scroll Bar Properties dialog box.
2. Select the Label tab.
3. Enter the text label in the Text field.

   This label is for your information only—it doesn’t appear on the page. This label is useful for reordering page controls in the order list if you include a meaningful identifier in the label, such as the primary record definition for the scroll bar. For example, you might want to label it *ABSENCE_HIST_SCROLL*.

Setting Scroll Bar Use Properties

You set the scroll action buttons on the Use tab of the Scroll Bar Properties dialog box:



Specifying scroll bar Use

Access the Scroll Bar Properties dialog box. Select the Use tab.

Scroll Attributes

Occurs Level Having an occurs level for the scroll bar enables you to designate the hierarchical parent and child relationship. Entering *1* specifies that the scroll bar is at the first level. Entering *2* specifies that a scroll is at the second level and is a child of, or nested in, the first level of data, and so on up to *3*. A scroll can be nested in another scroll or scroll area, but it cannot be nested in a grid.

See Chapter 10, "Creating Page Definitions," Level-Based Controls, page 246.

Occurs Count Enter the number of rows to appear at one time in the grid at runtime.

See Chapter 10, "Creating Page Definitions," Level-Based Controls, page 246.

Note. Always reorder your controls, if necessary, before you enter an occurs count.

Field Use Options

Invisible Select to make the scroll bar invisible.

Default Width This does not apply because the scroll bar does not appear on the page at runtime.

No Auto Select	Select to prevent the system from retrieving data automatically from the database. Select to populate the scroll bar with data using the ScrollSelect PeopleCode functions.
No Auto Update	Select to prevent the system from updating data automatically based on the existing key list. Select when the scroll bar contains work field controls that should affect only a page and not the underlying database.
No Row Insert	Select to prevent the row insert function so that the user cannot insert new rows.
No Row Delete	Select to prevent the delete function so that the user cannot delete rows.

Scroll Action Buttons

If you select a Scroll Action Button option, it appears on the page next to the scroll bar in PeopleSoft Application Designer. You must manually move it to the appropriate location on the page definition.

Previous Page	Select to display a link that enables the user to move to the previous row or set of rows in the scroll buffer.
Row Insert	Select to display a button that enables the user to add a row.
Top	Select to display a link that enables the user to go to the first row of the scroll.
Show Row Counter	Select to display a counter to show users what rows they are viewing and the total number of rows in the scroll bar, for example: <1 of 3>.
Next Page	Select to display a link that enables the user to move to the next row or set of rows in the scroll buffer.
Row Delete	Select to display a button that enables the user to delete a row.
Bottom	Select to display a link that enables the user to go to the last row of the scroll bar.

When working with the row counter when designing pages in PeopleSoft Application Designer (not at runtime in a browser), consider the following:

- If the header area navigation bar is set to invisible, the system displays no header area navigation bar row counter button. Likewise, if the footer area navigation bar is set to invisible, the system displays no footer area navigation bar row counter button. If the row counter button of the header area navigation bar is set to invisible, the system displays no header area navigation bar row counter button.
- If the row counter button of the footer area navigation bar is set to invisible, no footer area navigation bar row counter button is displayed. Otherwise, if not set to invisible, the row counter button will be displayed as "|<< your_label >>|" where your_label is the specified text.
- If the text of the label is an empty string or the label refers to the message catalog with a message set of 0 and a message number of 0, then "your label" appears as an empty string and the label will be rendered as "|<< >>|".

Controlling Scrollable Data

You can control scrollable data using the PeopleCode Data Buffer Access Classes.

See *Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Developer's Guide*, "Accessing the Data Buffer".

Converting Scroll Bars to Grids

You can convert a single-level scroll bar to a grid control. PeopleSoft Application Designer provides a utility to automate this task. The Convert Scroll to Grid function:

- Designates the size and position of the grid as set to the area covered by the left-most label to the scroll bar.
- Issues warnings before deleting controls that are not supported by the grid.
- Converts radio buttons to drop-down list boxes.
- Sets label alignment of check boxes to center.

The conversion utility provides warnings for scroll bars that can't be converted to grids due to grid control limitations. The conversion utility validates to the following limitations:

- No more than one grid can exist on a page.
- The scroll bar to be converted must not have any nested scroll areas or bars under it.
- The grid control must be the last control on the page.
- Radio buttons are not supported in grids and must be replaced with drop-down list boxes.

To convert a scroll to a grid:

1. Select the scroll bar.
2. Right-click and select Convert Scroll To Grid from the pop-up menu.

   This menu option is available only for scroll bars that can be converted. This utility searches for all page fields that are defined in the field order after the selected scroll bar control, up until the next scroll bar or scroll area control. It does the following for each field:

   - Confirms that the scroll control type can be displayed in a grid control.
   - Creates a grid column of the appropriate type.
   - Populates in the attributes.
3. Click OK to display the new grid.

If any of the page fields cannot be displayed in a grid or if other problems are found, the utility displays an error message explaining why the scroll bar cannot be converted to a grid. If no problems are found, the Grid Properties dialog box appears, listing all of the fields that will be converted to columns. You can change any grid or field properties at this time.

Using Secondary Pages

This section provides an overview of secondary pages and discusses how to:

- Define secondary pages.
- Insert a secondary page control.

Understanding Secondary Pages

While a secondary page is just another page to the user at runtime, they look and behave differently than the primary pages. For example:

- You can view a secondary page from its primary page only.
- A secondary page should have OK and Cancel buttons so that the user can dismiss the page (accepting or canceling input) and return to the primary page.

  To offer the user alternative buttons to dismiss the page, disable the default OK and Cancel buttons in the Page Properties dialog box.

Secondary Page or a Push Button?

There are two ways to associate a secondary page with a primary page:

- Insert a push button or link and associate it with your secondary page.

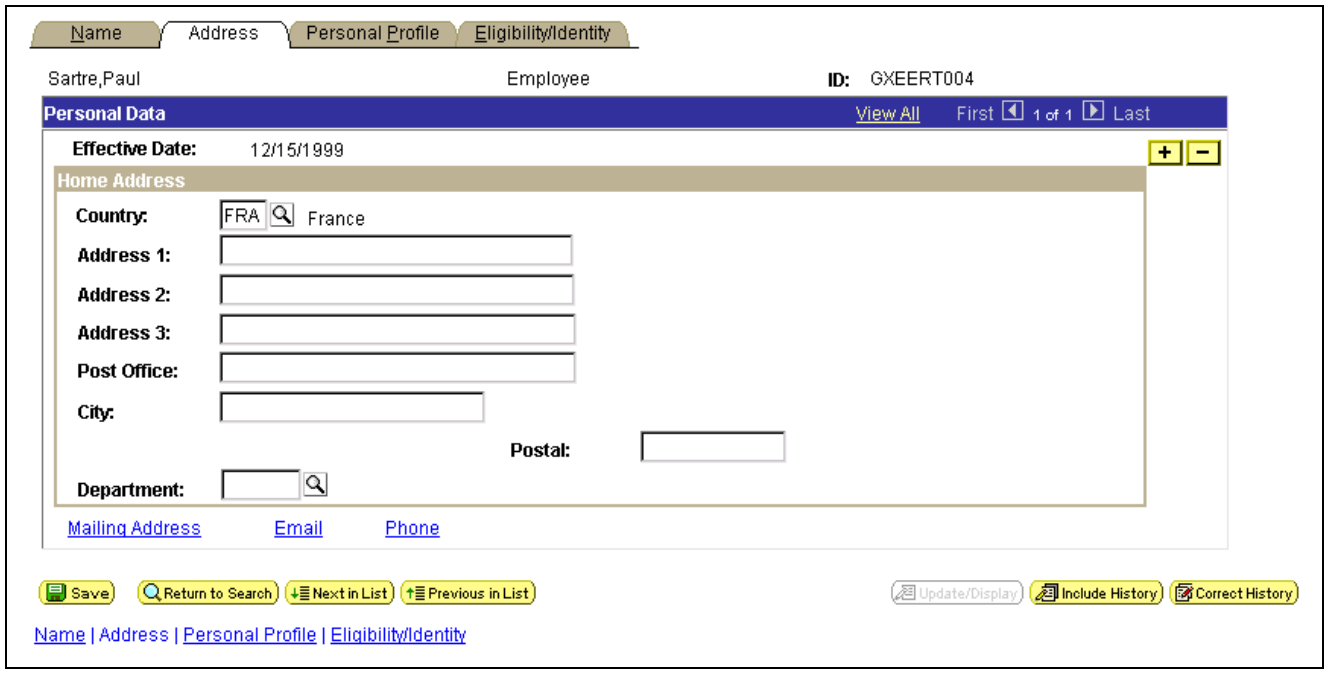
  This automatically displays the secondary page when the user presses the button or clicks the link and is the preferred method. Use this method when:

  - No procedural PeopleCode logic is necessary before the secondary page is displayed (PeopleCode can be used on the secondary page just like any other page).
  - You want to control the formatting of the information (therefore you want to use a page, and not use the Prompt function).
  - The secondary page is used more than once.
- Insert a secondary page control.

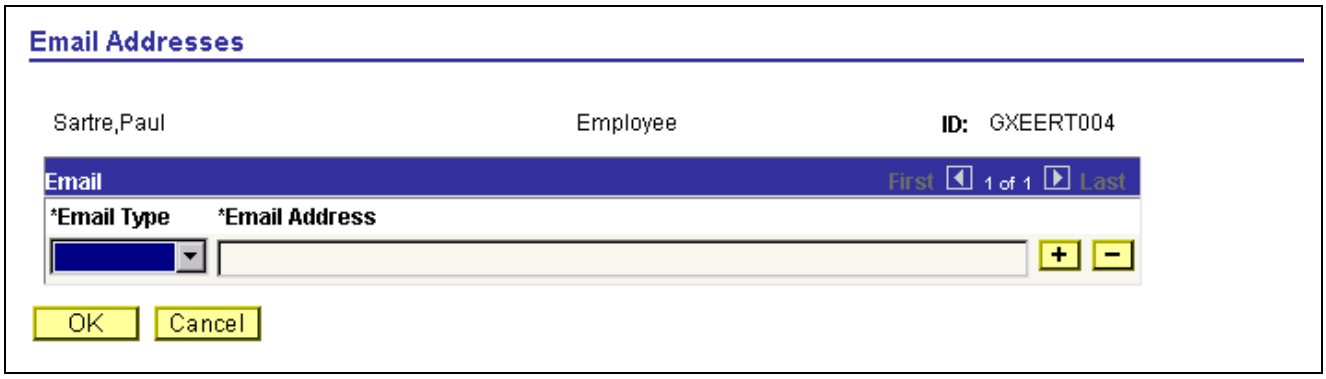
  This control looks like a command push button, but it is invisible at runtime. When you use a secondary page control, you must also insert a command push button on the page and call the DoModal PeopleCode function from the FieldChange event for the push button to display the secondary page.

Example

In the following example, the Address page contains an Email link at the bottom of the scroll area. This link opens the Email Addresses page, enabling the user to enter email address information.



Primary page

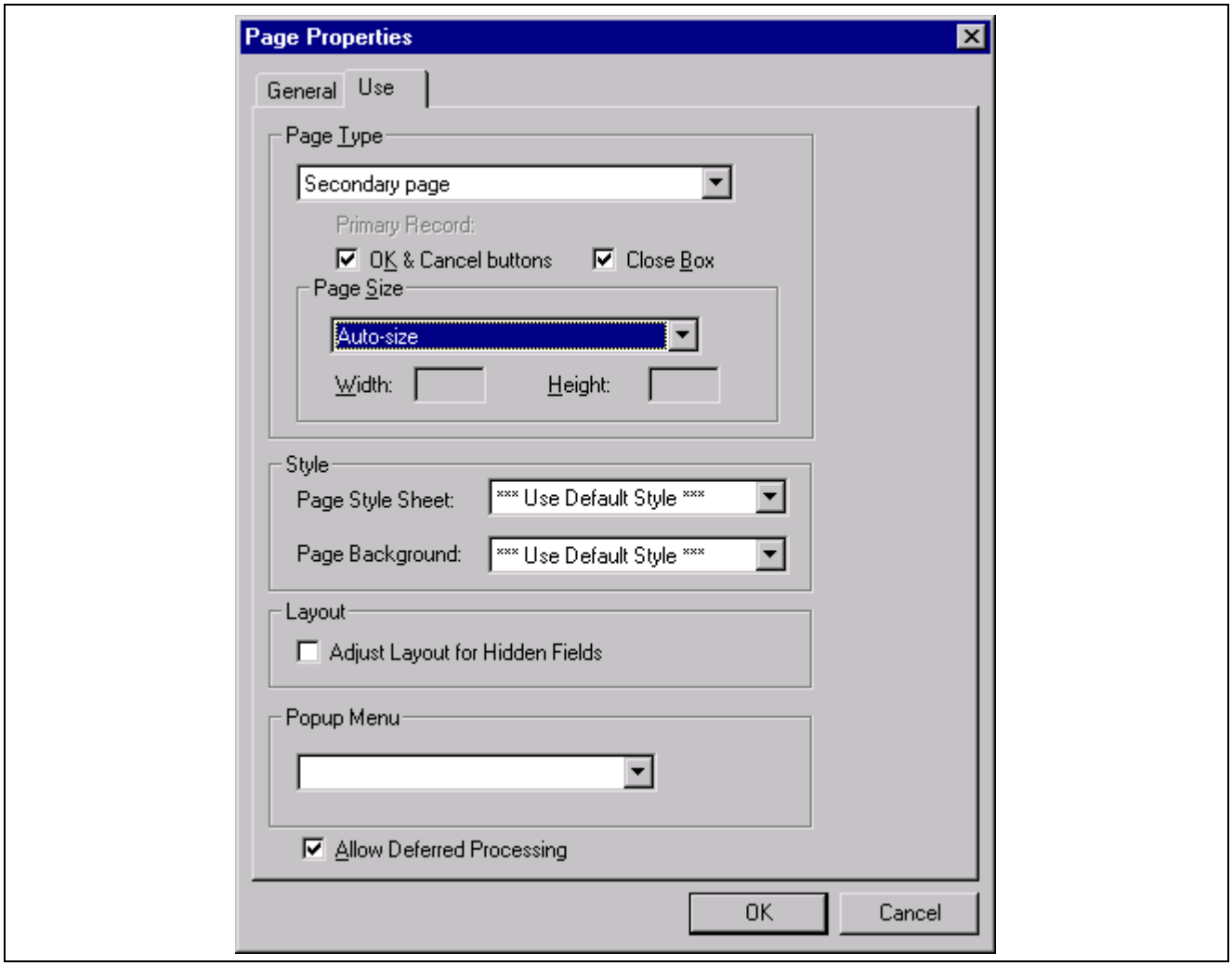


Secondary page

After the user enters the email information in the Email grid, the user can return to the Address page by clicking OK.

Defining Secondary Pages

Determine which data in the primary component is appropriate for a secondary page. Typically, this is supplemental information or information that is accessed from more than one main page.



Page Properties dialog box

To create a secondary page:

1. Select File, New and select Page from the New Definition dialog box.
2. Open the Page Properties dialog box.
3. Select the Use tab.
4. Select *Secondary Page* from the drop-down list box in the Page Type group box.
5. Select the page size:

   Auto-Size Select to size the page automatically to fit the fields that are defined on it.

   Custom Size Select to size the secondary page by dragging the edge or by entering the width and height in pixels.
6. Select the page style sheet to associate with the secondary page.

   To override the default style sheet that is associated with the application, select a different style sheet from the drop-down list box. The style sheet that you select is available only for the controls on the secondary page.
7. Select the page background.

   You can control the background of the page and any controls that don't have a style sheet associated with them by specifying a style in the page background.
8. (Optional) Select Adjust Layout for Hidden Fields.
9. (Optional) Clear Allow Deferred Processing if you want processing to occur each time the user presses TAB to move through a field.
10. Click OK and save your secondary page.

    If you selected Auto-Size, the system sizes the page automatically to fit the fields that are defined on it when you save.

Inserting a Secondary Page Control

After you define the secondary page, you can place a secondary page control on your primary page and associate it with the secondary page you just created.

To insert a secondary page control on a primary page:

1. Select Insert, Secondary Page.
2. Click the primary page where you want to display the secondary page control.

   The secondary page control appears like a small push button with the secondary page icon on it. This control is invisible at runtime.
3. Double-click the control to access the Secondary Page Properties dialog box: Secondary Page tab.
4. Select the name of the secondary page to associate with the secondary page control on the active page.

   Only secondary pages can be associated with secondary page controls. You cannot associate a standard page or subpage with the secondary page control.
5. Select the Label tab.

   This label is for informational purposes only. It appears in the Order tab of the page definition and in the page description printout.
6. Position the secondary page control at the proper scroll level on the Order tab.

See Chapter 9, “Using Page Controls,” Specifying Destination Types, page 226.

CHAPTER 10

Creating Page Definitions

Pages are the graphical interface between your users and your application database. As a system designer, you configure or build pages that meet the data requirements of the application and that are easy to use and understand. Using PeopleSoft Application Designer, you can create, modify, and delete page definitions in your PeopleSoft system.

This chapter provides an overview of page design and development and discusses how to:

- Use page development tools.
- Create new page definitions.
- Add page controls.
- Manipulate page controls.
- Set page field properties for controls.
- Create display control and related fields.
- Order and space page controls.
- Design inquiry pages.
- Align page controls.
- Maximize performance.
- Access PeopleCode in page definitions.
- View pages in the browser.
- Produce pages.

Understanding Page Design

This section discusses:

- Level-based controls.
- Keys for accessing pages.
- Multiple occurrences of data.
- Prompt fields.
- Derived work fields.
- Sensitive data.
- Hidden pages.

- Upgrade considerations.
- End user page customization.

Level-Based Controls

Page design hinges on the type of data that you plan to access and maintain. In some cases, a page references a single record definition; in others, you may want to reference multiple records. To accommodate a variety of page designs, PeopleSoft created *level-based controls.* The three level-based controls are:

- Grids
- Scroll areas
- Scroll bars

There are four levels in level-based controls: Level 0, Level 1, Level 2, and Level 3. These levels are referenced as *occurs levels* on the Record tab in the page field properties for the level-based control that you are setting.

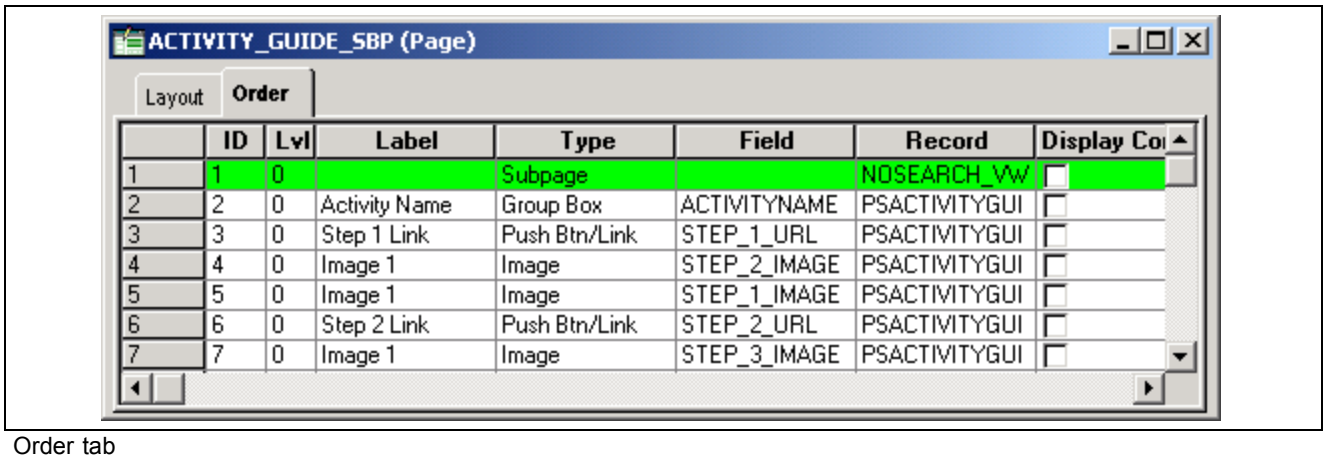
- Level 0

  This is the nonscrolling area that directly relates to the key information of the underlying record. Level 0 information is usually display-only with data that the user entered on the initial search page.

- Levels 1−3

  These levels include the scrolling data that is related to the Level 0, nonscrolling data. Level 1 is subordinate to Level 0; Level 2 is subordinate to and nested in Level 1; and Level 3 is subordinate to and nested in Level 2. You can nest level-based controls up to 3 levels.

The first occurs level on a page is Level 0. In general, this level is reserved for the primary key fields that are used to search for pages. It is possible to have a page that contains no level-based controls, making all fields set to Level 0. This is particularly true for secondary or subpages that contain few data entry fields, as shown in this example. The second column, Lvl (level), of the Order tab indicates that all fields on the page are at Level 0.



	ID	Lvl	Label	Type	Field	Record	Display Co
1	1	0		Subpage		NOSEARCH_VW	
2	2	0	Activity Name	Group Box	ACTIVITYNAME	PSACTIVITYGUI	
3	3	0	Step 1 Link	Push Btn/Link	STEP_1_URL	PSACTIVITYGUI	
4	4	0	Image 1	Image	STEP_2_IMAGE	PSACTIVITYGUI	
5	5	0	Image 1	Image	STEP_1_IMAGE	PSACTIVITYGUI	
6	6	0	Step 2 Link	Push Btn/Link	STEP_2_URL	PSACTIVITYGUI	
7	7	0	Image 1	Image	STEP_3_IMAGE	PSACTIVITYGUI	

Order tab

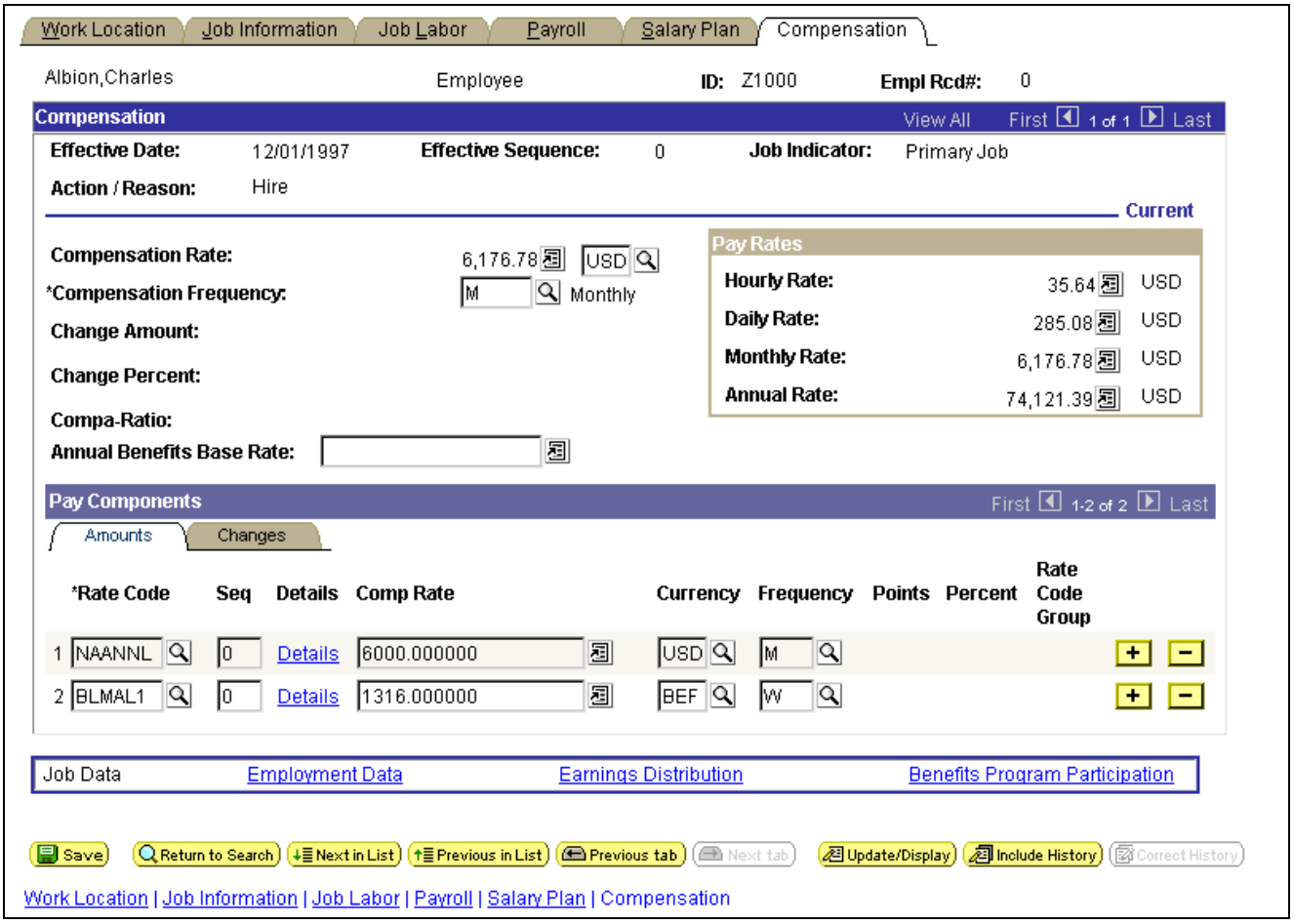
After you add a level-based control to your page, such as a scroll area, the default occurs level for that control is set to one in the properties dialog box. If you place a field in or below that scroll area, it is also set to Level 1 in the Order tab, even if it is another level-based control. If necessary, you can use the Set to Level 0 feature of the horizontal rule control to restart the occurs level on your page.

Note that you can have any number of level-based controls at the same level.

Nested Level-Based Controls

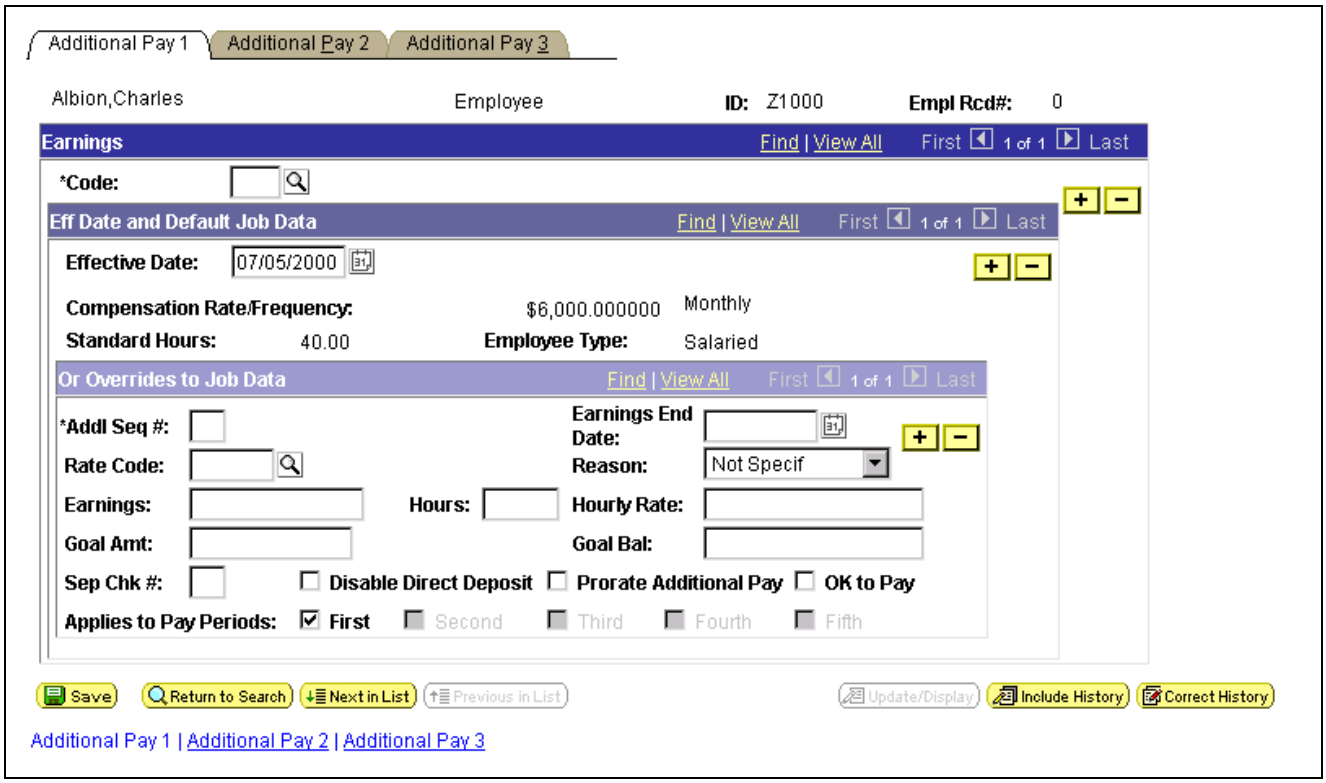
Nesting controls involves two or more level-based controls on a page, such as two scroll areas, when the second scroll area has an occurs level of 2. You nest controls when the new data that you want to add is a repeating set of data for each entry in your first level-based control. In doing so, you create a hierarchical, or "parent and child" relationship between the controls and the processing of the record definitions. The Level 2 control is the child of, and is subordinate to, the Level 1 control.

For example, on the Compensation page, the Level 2 grid is nested in the Level 1 scroll area. On the Amounts tab of the grid, there are two rate codes for each compensation action in the Level 1 scroll area.



Compensation page

You can nest up to three levels of scrolls or grids on your page. For example, the Additional Pay 1 page shows three levels of data that can be entered, two of which are nesting scroll areas in the Earnings scroll area.



Additional Pay 1 page

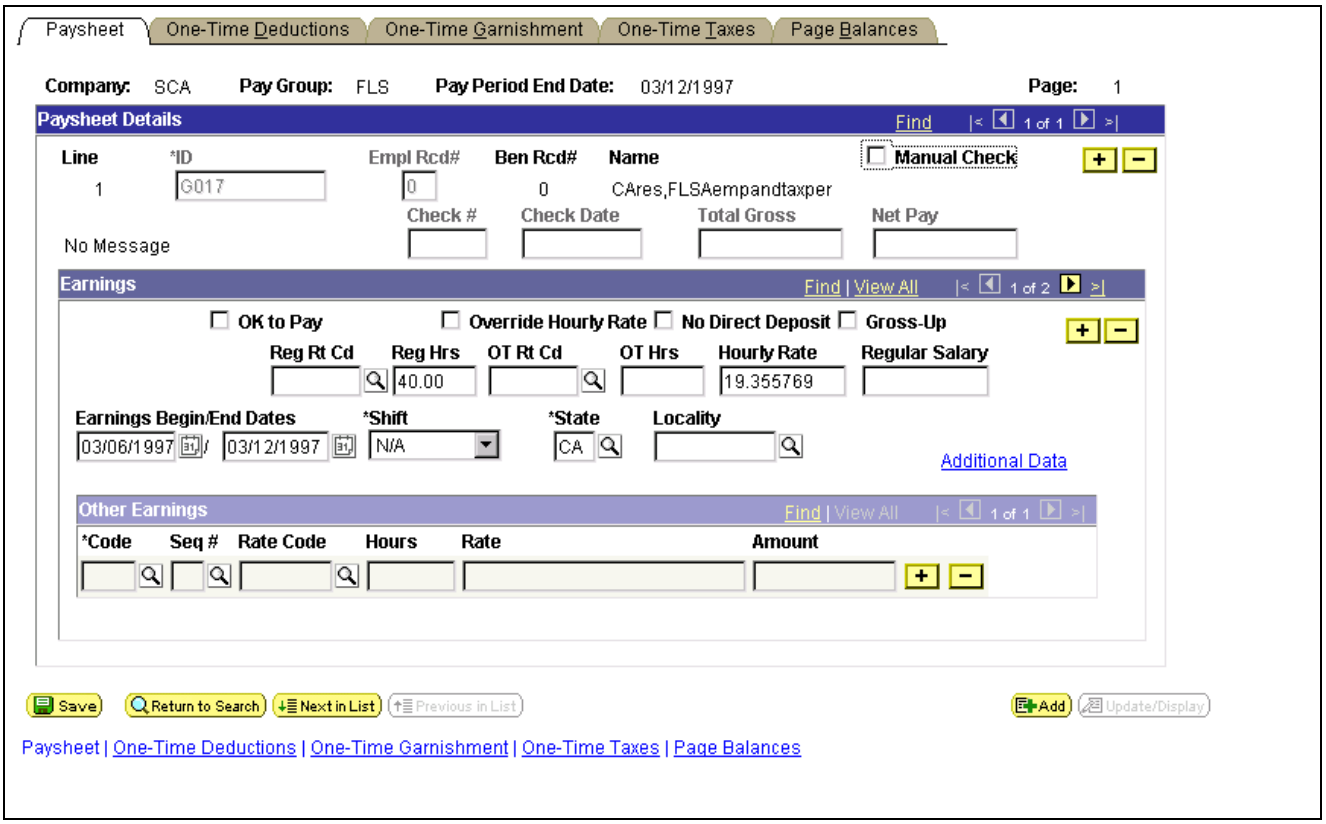
In this case, we want to maintain information about the compensation history for a single employee, and, for each change or override in compensation status, enter the details about that change. The first scroll area, Earnings, associates the earning code with the second, subordinate scroll area, Eff Date (effective date) and Default Job Data, which enables the user to enter the effective date for the status change. The third scroll area, Or Overrides to Job Data, which is subordinate to the second, enables the user to enter the overrides to the default job data that appears in the second scroll area.

For each of the three scroll areas, you can have several rows of data. While you don't see actual scroll bars on your page, the navigation buttons and links in the navigation bars for each scroll area enable you to navigate or scroll through the rows.

Nested Grids in Scrolls

As shown previously, you can nest a grid in a scroll or scroll area. The following page shows the Other Earnings grid at Level 3, which is nested in the Earnings scroll area at Level 2, which is nested in the Paysheet Details scroll area at Level 1. A nested grid serves the same function as a nested scroll area. It can offer a more compact way of viewing many fields of data, particularly if you use a tabbed grid.

Note. While you can nest a grid in a scroll area, you cannot nest a scroll area in a grid or a grid in another grid.



Paysheet page

Levels and Runtime Processing

Levels play an important role in runtime processing. The component processor relies on the level at which you place a field on a page to determine how to process any PeopleCode attached to the field in the record definition.

Effective Dates and Level-Based Controls

EFFDT (effective date) must be the *only* key field that is controlled by level-based controls that you create to help users maintain multiple occurrences of data that is keyed by effective date. Otherwise, the effective date processing for update actions does not function correctly.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Developer's Guide, "Referencing Data in the Component Buffer"

Keys for Accessing Pages

No matter how much time and effort you invest in defining and refining your page, it's useless unless the user can access it. This means adding it to a component, then adding that component to a menu. When you add a page to a component, you determine what actions the user must perform to access the page and the keys that are required to retrieve rows of information.

The search record that you define for a component determines the key list; that is, keys for which users are prompted when they select a page and an action. A search record can be either a view that concatenates information stored in several tables or the underlying table itself. Select the search record that contains all of the key items for the primary record underlying the page.

The keys for which the search dialog box prompts should populate the high-level (Level 0 in the page definition) key controls on a page. These key controls always appear above any level-based control on the page and are typically display-only. A search record might differ from a primary record definition, but it must contain all of the Level 0 keys that you have placed on the page.

Using Keys for Views

When you create a view that should use key values from a page, each of those keys must be:

- Listed as output columns from the view (not just referenced in the WHERE clause of the view).
- Marked as key fields of the view.

For example, suppose that a page has PERSON.PERSONID as a Level 0 field. PERSONID is the key of the PERSON record. A grid on the page uses the PERSON_ADDRESS_VW view to display addresses for the current person. The SQL statement for the view cannot just mention PERSON.PERSONID in the WHERE clause; PERSONID must be both an output column of the view and a key field of the view.

See Also

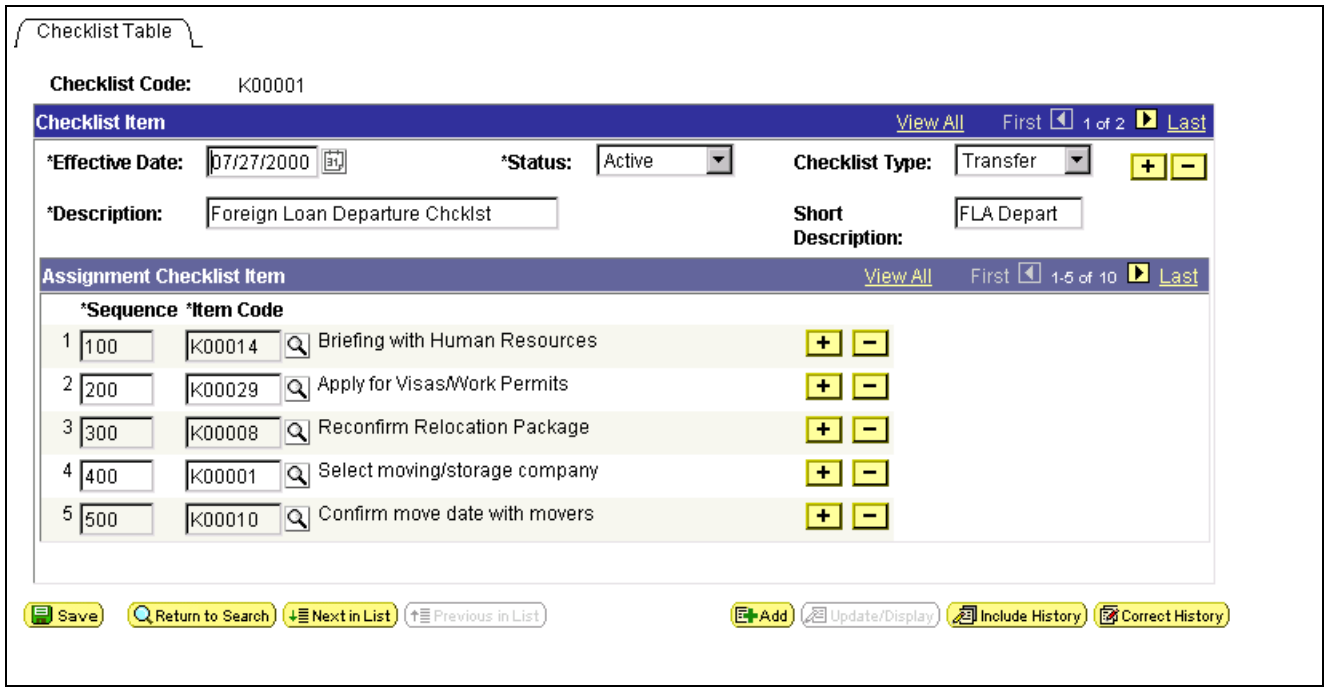
Chapter 6, “Creating Record Definitions,” page 103

Chapter 11, “Creating Component Definitions,” page 301

Multiple Occurrences of Data

On some pages, you may want a few of the field controls to display multiple rows or occurrences of data. To do this, you can add a level-based control—a scroll area, a grid, or a scroll bar. Users can then add, edit, delete, find, and scroll through multiple occurrences of data in a page control or group of controls using action buttons, links, or the browser’s scroll bar, depending on how you set the occurs count. Using a scroll area or a grid, rather than a scroll bar, is the preferred page design to show multiple occurrences of data.

For example, this Checklist Table page contains the Assignment Checklist Item grid with an occurs count of 5. The Checklist Item scroll area in which it is nested must have an occurs count of 1 since we can see only one row of data in the scroll area.



Checklist Table page

To see the next set of five rows in the Assignment Checklist Item grid, a user can click the right arrow button. To see all rows of data at once, in either the grid or scroll area, the user can select the View All link in the navigation bar.

In PeopleSoft Application Designer, you set the occurs count for a level-based control on the General tab in the properties dialog box. You can set the occurs count to any number. You also have the option of selecting Unlimited Occurs Count so that the user sees all rows of data. If there are more options than can be seen in the window at runtime, the browser displays a scroll bar enabling the user to scroll to the bottom of the page.

Note. When occurs count is set to a number other than *1*, the grid displays the specified number of rows. However, when it is set to *1*, the grid displays as many rows as possible within the given space allocated for the grid control at design time.

Prompt Fields

At runtime, you may want to enable your users to look up the valid values that they can enter in a field. For this, PeopleSoft provides prompts or look up buttons. There are three types of prompts:

- Drop-down list box.

  This is a small list that opens below a field in the current page, such as the Job Indicator field on the Work Location page. To use a drop-down list box, the user clicks the down arrow inside the field. One does not have to exit the page. The drop-down list box is a predefined control that you place on your page.

- Calendar drop-down prompt.

  A calendar drop-down prompt opens a small calendar next to a date field to enable the user to easily scan for the correct date. The Work Location page contains calendar prompts for the Effective Date, Position Entry Date, and Department Entry Date fields. Place a calendar prompt on a page by associating any date field with an edit box control and selecting the Show Prompt Button in the Display Options of the Record properties of the edit box.

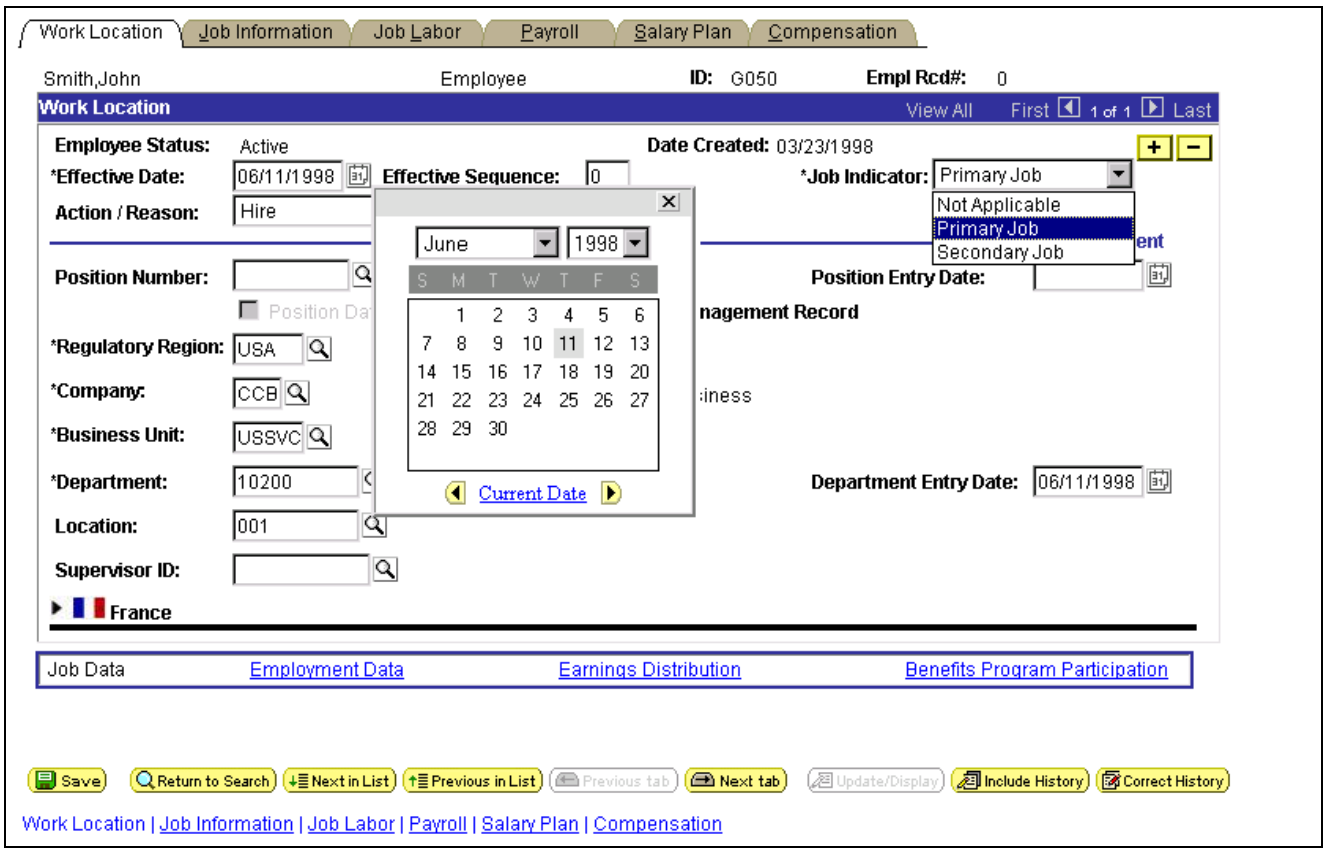
Note. The calendar prompt feature is not supported on all browsers.

See "Troubleshooting Browser Limitations" on Customer Connection.

- Prompt button.

  A prompt or lookup button opens a lookup page in the user's browser populated with up to 300 available values for that field. The user can then either select the desired value or refine their search further. For extremely large tables, the system administrator has the option of excluding that table from auto prompting on the Lookup Exclusion Table via PeopleTools, Utilities, Administration.

  In PeopleSoft Application Designer, you can only associate a prompt button with an edit box control. Do this by selecting the Show Prompt Button check box from the Display Options on the Record tab of the Edit Box Properties. The record field with which you associate the edit box must list values in the Translate Table or prompt table for the system to display the prompt button.



Work Location page

See Also

Chapter 9, "Using Page Controls," Using Drop-Down List Boxes, page 199

Chapter 4, "Creating Field Definitions," Specifying Date Field Attributes, page 66

Chapter 4, "Creating Field Definitions," Using the Translate Table, page 82

Derived and Work Fields

You can use a field definition from a derived or work record to store a temporary value that PeopleCode uses to determine the values of other field controls on the page.

For example, for a budgeting transaction in PeopleSoft General Ledger, assume that you have an annual amount that you must spread to multiple accounting periods. You can create a page that includes both a field control from a derived record for the annual amount and an amount control for each accounting period. You then write PeopleCode to derive the amount per accounting period from the annual amount. When a user enters the annual amount in the derived field control, PeopleCode calculates the amount per accounting period and inserts it into each accounting period field control. The annual amount isn't stored in the database, but the period amounts are.

Sensitive Data

You can allocate sensitive data to a single page and limit access to that page to the users who need to update it. Alternatively, you can enter PeopleCode to hide certain fields on pages based on whatever criteria are appropriate. The page approach is simpler, however, and can be used in most situations. For secondary pages, this sort of security is more complex to manage.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference, "PeopleCode Built-in Functions," Hide

Hidden Pages

Hidden pages are work pages that are associated with derived or work records and are often used in work groups. You can store all of your work field controls there. Create these pages when you want calculations to be performed in the background by PeopleCode that the user does not need to see. As a convention, PeopleSoft assigns work pages that are delivered with your application names that end with the suffix, *_WRK*. PeopleSoft recommends that you follow the same naming convention. For example, *MC_TYPE_WRK*.

Hide a page by selecting the Hidden check box in the component grid as you set up the component definition.

See Also

Chapter 11, "Creating Component Definitions," Setting Page Attributes, page 307

Upgrade Considerations

If you adapt a PeopleSoft application, you might affect your use of future PeopleSoft releases. The closer your PeopleSoft system is to the standard product, the easier your upgrades will be. Avoid superfluous or cosmetic changes to data structures in the standard product. Document all of your changes in the comment area on the General tab in the Page Properties dialog box.

End User Page Customization

End users of PeopleSoft applications can customize various settings on a page including tab order, the display state of scroll areas and grids, and the state of collapsible sections. Users can also choose the default page to display for a component each time they open that component. In addition, users can choose to share their customization settings with or copy settings from another user.

The page customization option is set in the Component Properties dialog box, Internet tab. The Customize Page Link check box is selected by default. This enables the Customize Page link in the pagebar at runtime for all pages.

See Also

Chapter 11, "Creating Component Definitions," Setting Internet Properties, page 313

Enterprise PeopleTools 8.46 PeopleBook: Using PeopleSoft Applications, "Setting User Preferences," Customizing Pages

Using Page Development Tools

This section discusses how to:

- Use page definition menus.
- Use page definition toolbars.
- Use the page layout grid.

Using Page Definition Menus

As you build pages, use the tools and options in these menus.

- File Menu.

  In addition to the standard options for opening, deleting, and renaming pages, use this menu to access the definition (page) properties and project properties.

- Edit Menu.

  Access the page field properties from this menu. To find out what other definitions reference the active page, select Find Definition References. You can also search for a text string in types of PeopleCode or SQL objects.

- View Menu.
  - Select View Definition to view the underlying definition, such as the subpage or record, for the selected control.

    You can view the PeopleCode for the page or the underlying record definition.
  - Edit Fill Display, Edit Fill All, and Edit Fill None refer to how controls appear only during design time.

    They do not affect the page during runtime.
  - Use the Show Page Control Inspector tool to view summary data of the selected page field.
  - Use Show Grid to display or hide a layout grid on the page that you are designing to help you place controls more accurately.

- Insert Menu.

  Use this menu to insert different types of controls on your page. You can also insert the page on which you are working into a project.

- Tools Menu.

This menu provides access to various utilities, such as data administration, change control, upgrade, and translate.

- Layout Menu.

  Use this menu to modify the number of pixels between points on the layout grid. Options on this menu also enable you to align page controls, view the processing order of the controls on the page, and test the tab order between fields on your page.

  - The View in Browser function enables you to see a very general image of the page in the selected browser without data. Note, however, that PeopleCode is not run on this page rendering, so the page may look significantly different for the user if PeopleCode is used to hide or unhide page fields.
  - The Generate HTML function creates a text file containing the HTML for your page and places it in the TEMP directory of your local drive. Note that the HTML generated contains no data or context. It is therefore likely to differ from the HTML on a page at runtime.

Using Toolbars

The toolbars in PeopleSoft Application Designer change, depending on the active window. When a page window is active, you see the page definition toolbar and the page control toolbar.

Page Definition Toolbar

Click the Properties button to open the Page Properties dialog box (ALT+ENTER).

Click the Project Workspace button to display or hide the project workspace (View, Project Workspace or ALT+0).

Click the Select Group button to select several controls at once (Edit, Select Group menu item or CTRL+P).

Click the Default Ordering button to reorder all of the fields on the page based on their relative locations on the page (Layout, Default Ordering).

Click the Test Page button to test the tab order of your page design (Layout, Test Mode or CTRL+T).

Click the View Page in Browser button frequently throughout the design process (Layout, View in Browser).

Click the Toggle Inspector button to display or hide the floating Definition Inspector window (View, Show Page Control Inspector).

Click the Auto Size button to size a subpage or secondary page to fit around page controls.

Click the Toggle Grid button to display or hide the page grid (View, Show Grid or CTRL+G).

Click the Left Label Position button to the place page control label for the currently selected field immediately to the left (Layout, Left Label Position or CTRL+D).

Click the various alignment buttons to align the edges of selected page fields relative to the last clicked field.

See Chapter 10, “Creating Page Definitions,” Aligning Page Controls, page 286.

Click the Show Help button to view the page definition help.

Page Control Toolbar

The page control toolbar contains a button for each type of page control that you insert. The buttons display images that look like the controls that they insert. You can move this toolbar on your workspace independently of the system toolbar or the other half of the page definition toolbar.

Frame.

Group box.

Horizontal rule.

Static text.

Static image.

Grid tab separator.

Check box.

Drop-down list box.

Edit box.

HTML area.

Image.

Long edit box.

Push button/hyperlink.

Radio button.

Tree.

Grid.

Scroll area.

Scroll bar.

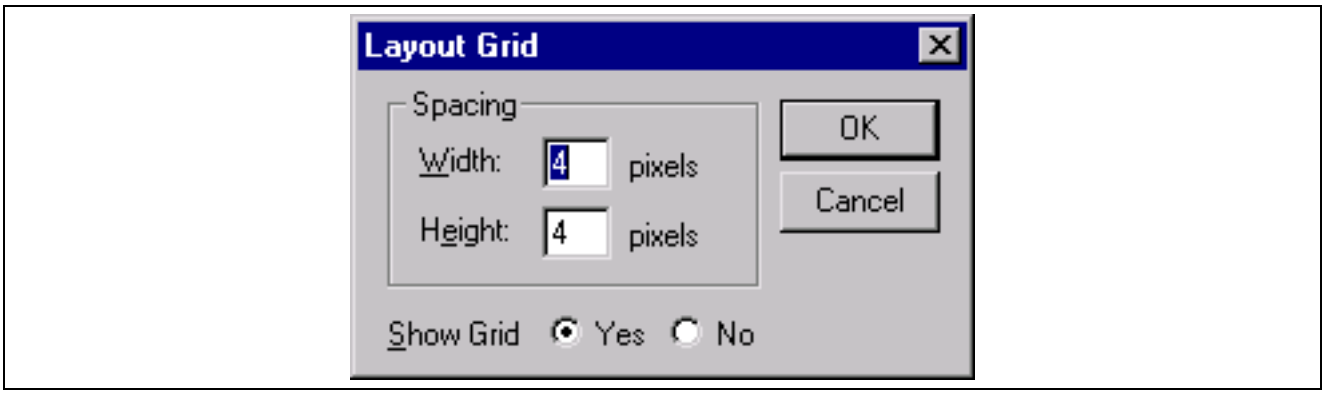
Secondary page.

Subpage.

Chart.

Using the Page Layout Grid

When you open a page definition, evenly spaced dots appear in the workspace. This is the page layout grid that you use to align controls. When you're running applications, the grid doesn't appear on pages. It appears only as a design aid in the page definition.



Layout grid

The default grid spacing is 4 × 4, which means that each row has one dot per 4 pixels and that the rows are 4 pixels apart on the vertical axis. PeopleSoft builds most of the pages in the standard applications using this grid. To change the spacing, open the Layout Grid dialog box by selecting Grid Settings from the Layout menu.

You can turn off the grid view of your page by clicking the Toggle Grid button in the page definition toolbar.

Changing Page Layout Grid Settings

To change the grid spacing:

1. Select Layout , Grid Settings.
2. Enter values for the width and the height, which is the spacing of the dots in pixels.

The smaller the value, the finer the grid. The finer the grid, the more difficult it is to align fields precisely without using the align functionality. Note that if either the width or height are set to one, then the grid will be slightly off.

Select a Show Grid option to activate or deactivate the page grid.

If you copy an existing page and save it under another name, you also copy the grid settings that were used to create the original page. For example, if the original page was built with a 5 × 5 grid, your new page also has a 5 × 5 grid, by default. You can change the grid settings anytime while working on a page. Doing so has no effect on the position of a field.

The snap-to-grid functionality is only available when the layout grid is showing.

Creating New Page Definitions

To create a new page definition, either clone an existing page or begin with a blank page. Cloning is more efficient, because you don't have to re-create controls that are common to all pages. You can also create a template that contains only the controls that you need.

This section discusses how to:

- Clone page definitions.
- Create a blank page.

Note. When saving new definitions, always make sure to adhere to accepted naming conventions.

See Chapter 2, "Using PeopleSoft Application Designer," Saving Definitions, page 30.

Cloning Page Definitions

To clone a page definition:

1. Select File, Open.

   The Open Definition dialog box appears.
2. Specify *Page* for the definition and locate the page that you want to clone.
3. When the system retrieves the page definition, select File, Save As.

   If you save after you make modifications, you might accidentally overwrite the old page definition.
4. Enter the new page name.

   To create a new page template, name the page so that it appears at the top of your page list.
5. Click OK.

Note. Record definition names are restricted to a maximum of 15 characters, while page names can have up to 18 characters.

See Also

Chapter 2, "Using PeopleSoft Application Designer," Opening Definitions, page 27

Chapter 2, "Using PeopleSoft Application Designer," Saving Definitions, page 30

Creating a Blank Page

To create a new page without copying an existing page, select File, New, Page.

When saving the page, make sure that you adhere to the accepted naming conventions.

See Chapter 2, "Using PeopleSoft Application Designer," Saving Definitions, page 30.

Adding Page Controls

There are multiple ways to add page fields to a page. You can copy page fields from one page and paste them onto another, or you can drag-and-drop page fields from one page to another. In addition to these basic methods, this section discusses how to:

- Drag field definitions from a record onto a page.
- Drag record fields from the project workspace onto a page.
- Drag record definitions onto a page.
- Use the page control toolbar.
- Use the Insert menu.

Dragging Field Definitions From a Record Onto a Page

To drag field definitions from a record onto a page:

1. Open an existing record definition by selecting File, Open, Record.
2. Open a new page by selecting File, New, Page.
3. Drag field definitions from the record to the page.

   The system selects the page definition control type based on the record field attributes. In the preceding page, the EMPLID (employee identification) field was defined as a prompt table edit in the record, so a Prompt button was added for EmplID when it was dragged onto the page.
4. Double-click the new page field to set the properties.

   When you drag field definitions, the properties from the record definition are used to set page field default properties. You can alter the properties using the Properties dialog box.

Dragging Record Fields From the Project Workspace Onto a Page

To drag record fields from the project workspace onto a page:

1. Open the project that you want to drag from an existing or new page.
2. Drag record fields from the project workspace to the page.
3. Double-click the new page field to set the properties.

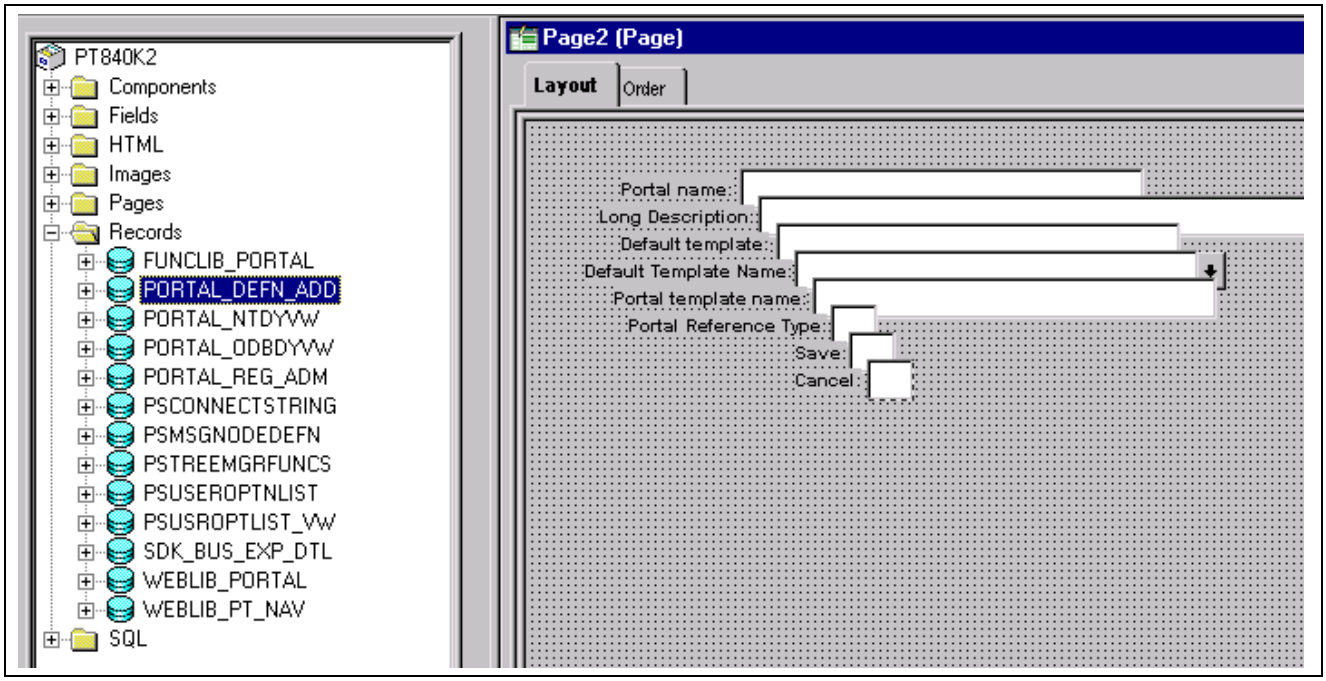
Note. When you drag fields from the project workspace, use fields that are contained in records (as in record.fieldname), not field definitions.

Dragging Record Definitions Onto a Page

You can add an entire record definition to a page at once. This can save a great deal of time when generating pages. You can then arrange the fields as desired on the page.

Note. This can also be done for a grid. You can drag an entire record definition into a grid control that you've placed on a page.

See Chapter 9, "Using Page Controls," Inserting and Manipulating Grid Columns, page 206.



Dragging a record definition to a page

To drag record definitions onto a page:

1. Open the project that you want to drag from an existing or new page.
2. Drag the record definition onto the page.

   PeopleSoft Application Designer positions the record fields on the page as page fields in a cascading manner. Fields are in the order that they appear in the record with the appropriate control value assigned to each one.
3. Reposition the fields as necessary on your page.
4. Double-click each new page field to set the properties.

Using the Page Control Toolbar

You can insert page controls by using the page control toolbar. When you click one of the page control buttons, the cursor changes to a cross-shaped icon or hand, depending on which control type you select. You can then move the cursor to where you want to position the control and click once. If you select a control from the toolbar erroneously and want to cancel the selection, press the ESC key, and then select the desired page control button.

If the control is a fixed size during insertion, the cursor changes to a cross-shaped icon. If the control type requires that you define the size of the control at the time of insertion, the cursor changes to the monogrammed hand icon. When a hand-shaped icon appears, press and hold the left mouse button as you drag the hand diagonally downward to where you want the lower, right-hand corner of the frame. Release the mouse button.

If the control isn't correct the first time that you draw it, you can easily adjust it. The dotted box and black or blue handles surrounding the control indicate that it is selected. Use any of the four directional arrow keys on the keyboard to move the frame one page grid unit in the indicated direction. You can also use SHIFT+ the arrow key to resize the page control.

Using the Insert Menu

Select the control that you want to add to your page from the Insert menu. Your cursor changes to a cross-shaped icon or a hand, depending on which control type you select. Move the cursor to where you want to position the control and click once.

Manipulating Page Controls

After you place a control on the page, you have several choices for manipulating it.

This section discusses how to:

- Select controls.
- Resize controls.
- Use the Page Control Inspector.
- Delete controls.
- Move controls on the same page.
- Copy and move controls to another page.
- Move labels.

Selecting Controls

Before you do anything to a control, you must select it. You can do this by clicking the control or by using the Edit menu. A check mark beside the option in the menu indicates which of these modes you're in:

Select Field Select one control on the page by clicking on it. To deselect a control, click once outside the dotted box. This is the default mode.

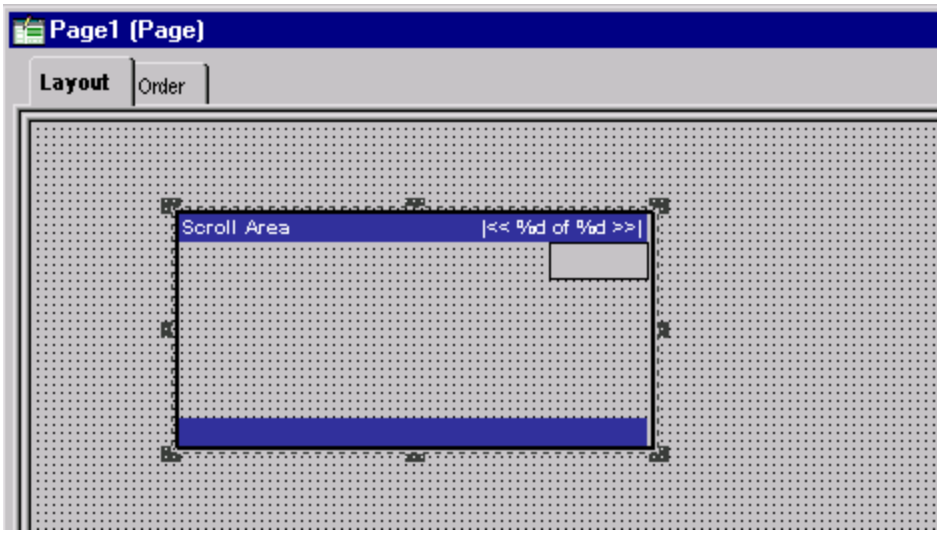
Select Group Select a group of controls by drawing a box around the controls that you want to select. You can also activate this option by clicking and dragging over the target fields.

Note. You are in Select Group mode when the cursor changes to a pointing finger. If the cursor does not change when you select Edit, Select Group, try first selecting an individual control on the page and then selecting Edit, Select Group again.

Select All Select all of the controls on the active page. The result is the same as using the Select Group option to draw a box around the controls.

Resizing Controls

You can adjust the size or shape of any page control that displays selection handles when it is selected.



Resizing a control with selection handles

Note. Some browsers do not support the resizing of certain control types. In these cases, changing the size in PeopleSoft Application Designer has no effect upon the runtime size of the field.

See "Troubleshooting Browser Limitations" on Customer Connection.

To resize a control, use one of these methods:

- Select the control and drag a handle to adjust the height or width.

  Note. Some control types can be adjusted only in width.

- Hold down the SHIFT key while pressing the UP ARROW, DOWN ARROW, LEFT ARROW, or RIGHT ARROW key.

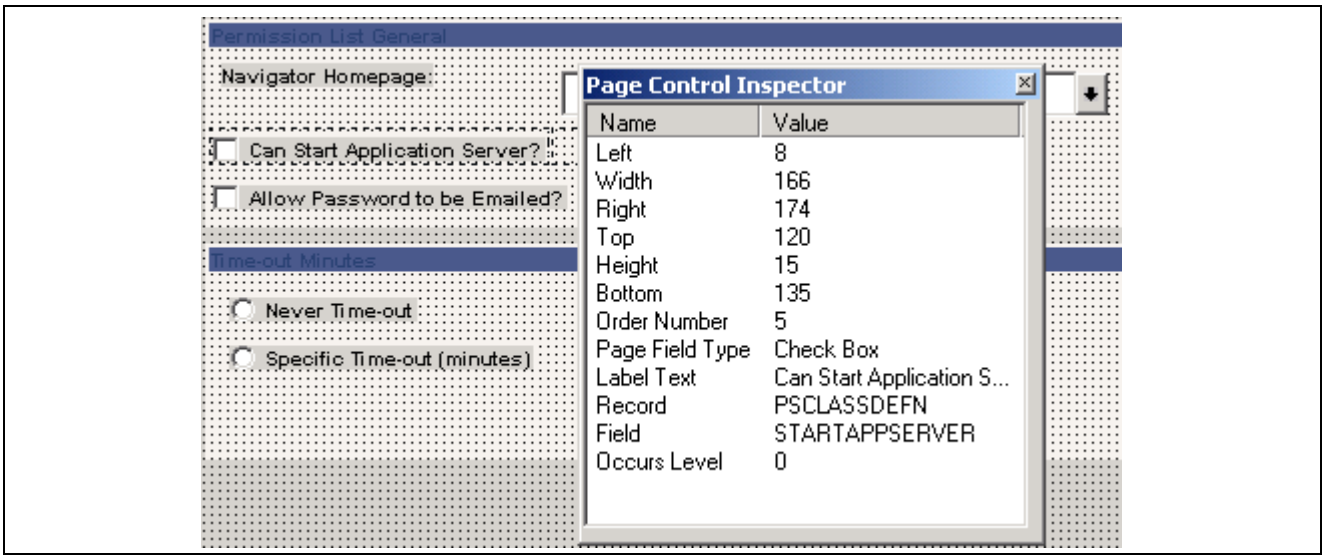
  The frame size is adjusted one grid unit in the indicated direction.

Note. The position of the top, left-hand corner of the frame does not change; resizing with the keyboard occurs by adjusting the position of the bottom, right-hand corner.

Using the Page Control Inspector

The Page Control Inspector provides location, size, type, and data source information for the selected page control on the page. The first six values, Left, Width, Right, Top, Height, and Bottom, display the exact bounding coordinates in pixels of the control on your page in PeopleSoft Application Designer. The remaining values help distinguish the selected control from others on the page.

Access the Page Control Inspector from the View menu or by clicking the Toggle Inspector button on the page definition toolbar. When you finish viewing the values for one control, simply click another control to view its values. This enables you to check multiple controls on the page in quick succession.



Page Control Inspector

Note. The HTML that is generated for your page uses table layout, rather than pixel layout. It is important to preview how your page might look in the PeopleSoft Pure Internet Architecture as you design it. Spacing of fields at runtime may not appear exactly the same as during design time.

While the Page Control Inspector displays values for a grid, no information is available for individual grid columns.

Deleting Controls

If you remove a control from a page, look for other controls that are related to it, such as display controls or invisible controls used by PeopleCode. You may need to delete them as well, or alter their attributes so that they can be standalone fields.

Check for PeopleCode that references this control on the page by opening the field definition and selecting View, Find Definition References. If any references exist, modify or delete them because the control no longer exists on the page.

To delete controls from a page:

1. Select the controls.
2. Select Edit, Clear.

Moving Controls on the Same Page

To move controls to another position on the same page, use one of these methods:

- Select a control and drag it to the new position.
- Select a control and press the UP ARROW, DOWN ARROW, LEFT ARROW, or RIGHT ARROW key.

  The control moves one grid unit in the indicated direction.
- Select a group of controls and drag them to the new location.

Copying and Moving Controls to Another Page

To copy a single control to another page, drag the control from one page to the other. Or for a group of controls, select the controls and use the copy/paste functionality.

To move a group of controls to another page, cut and paste the group onto the new page.

Moving Labels

On the page definition in PeopleSoft Application Designer, you can move the label that you just assigned independent of the control.

To move a label, use one of these methods:

- Select the label and drag it to the new position on the page.
- Use a directional arrow key on the keyboard to move the label one grid unit in the indicated direction.

To return the label to its default position, select Use default position on the Label tab in the properties dialog box.

Setting Page Field Properties for Controls

For each of the page controls that you add to a page you can control how they look and function in your application page by setting page field properties. In most cases, you can access the property settings by double-clicking the control. Alternatively, you can highlight the control and select Page Field Properties from the Edit menu or the pop-up menu, which is activated by right clicking the control.

This section provides an overview of page field properties and discusses how to:

- Set record properties.
- Set label properties.
- Set use properties.
- Set general properties.

Setting Record Properties

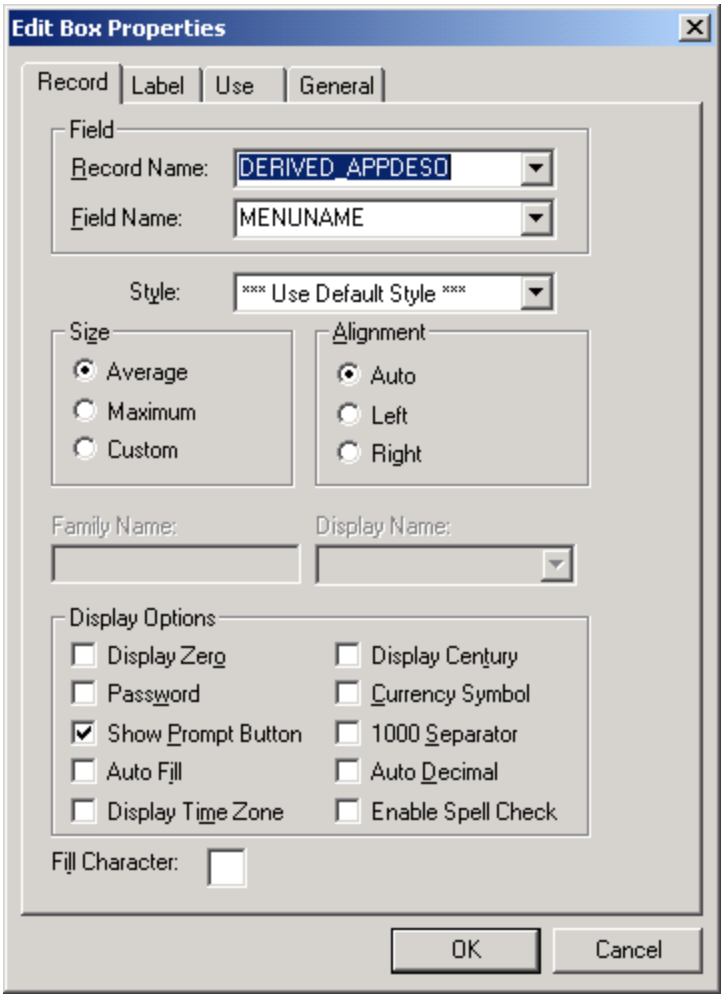
For most controls, you must set record properties to assign the control to a specific field in a record definition. There's a distinct correlation between the field types in a record definition and controls in a page definition.

To select the appropriate page control type to associate with the corresponding field in your record definition use this table:

Record Definition Field Type	Page Definition Control Type
Character	Edit box
Character (Yes or No Table Edit)	Check box Edit box

Record Definition Field Type	Page Definition Control Type
Character (Translate Table Edit)	Radio button Edit box Drop-down list box
Long Character	Long edit box, HTML area
Number	Edit box
Signed Number	Edit box
Date	Edit box
Time	Edit box
DateTime	Edit box
Subrecord	Not applicable; no direct association to subrecords
Image	Image

To set the record properties for a page control, access the page field properties for the control and select the Record tab.



Edit Box Properties dialog box: Record tab

Note. This section applies to both edit boxes and long edit boxes. Other controls may contain only a few, if any, of the properties listed in the following tables. Refer to the discussion of the specific control for more information.

Record Name Select the record name of the record definition where the field is located. If you already added a field to your page and associated it with a record definition, the system uses the last record definition name that you entered.

Field Name Select the field name. If the field is a related display field that contains a long name or short name from the translate table, use PSXLATDEFN as the record definition name. The field name is either long name (30 characters) or short name (10 characters), depending on whether you want to use the long or short name.

Style Set the font and color attributes of your control data. The default style class for an edit box is PSEDITBOX, which controls how the data portion of the edit box appears. Control the color, font, and other characteristics of an edit box by specifying a different style class.

Note. Certain browsers always display the background of an edit box as white.

See "Troubleshooting Browser Limitations" on Customer Connection.

Size

After you link the control with a record name and field, the system automatically calculates the page control size. The size is based on the length of the field that is defined in your record definition, the font metrics of the field style, and any formatting options (currency symbol, 1000 separators, and so on) that apply. Because many fonts have variable width characters (for example, a *W* character is much wider than an *l* character) three size options are available.

Note. Some browsers do not support custom sizing for edit boxes, long edit boxes, drop-down list boxes, and push buttons.

See "Troubleshooting Browser Limitations" on Customer Connection.

Average Select to provide sufficient space to display the field control length in average-width characters.

Maximum Select to provide enough space to display the field control length in maximum-width characters.

Custom Select to define a custom size for edit boxes that are not display-only. If you set a display-only edit box to *Custom,* it appears as its defined length. If your edit box is in a grid, this field wraps.

Alignment

Alignment in this case indicates the runtime alignment of data within a page field. These settings have no affect on the relative alignment of page fields.

Auto Select to left-justify the contents of character fields and right-justify the contents of number and signed number fields. This is the default.

Left Select to left-justify the contents of the field.

Note. If the field is not display-only, the alignment is always left-justified. If the field is display-only, the system uses the alignment that you specify.

Right Select to right-justify the contents of the field. Do not use this option in the PeopleSoft Pure Internet Architecture for fields that are not display-only.

Family Name Displays the current family name, which was set when the field was created, if it's applicable to your control .

Display Name Select an option to override the display format that is associated with a field.

Display Options

Display Zero Select if the contents of the page control are numeric and you want to display a zero value instead of a blank field. Sometimes it helps users if they see a zero to remind them that the page control isn't blank. For example, in a tax table, you might show the lowest tax bracket as starting at zero instead of leaving it blank.

Display Century Select for date fields to enable users to enter a date with a four-digit century, as in 1999. Dates are always stored with the four-digit century in the database,

but only the last two digits are displayed unless you select Display Century. If this option is not selected, the century is automatically set to the century of your system date.

Password Select to hide the value that is entered in a page control. This option causes characters in this control to appear online as asterisks (*). The component processor still sees the actual value. Use this option for pages that capture sensitive information, such as personal identification numbers (PINs).

Currency Symbol Select to display a currency symbol in the field. This expands the display length of the field by the length of the currency symbol.

Show Prompt Button Select to display a prompt button next to the edit box, which enables the user to look up valid values for that field.

1000 Separator Select if the contents of the page control are numeric and you want to insert thousand separators to make the numbers easier to read. The system automatically calculates the number of thousand separators to insert and determines where they should be positioned. This expands the display length of the edit box by one character for each separator.

Auto Fill Select to have the system automatically populate the page control with the character specified in the Fill Character field. The direction in which it populates depends on the alignment that you select. If a field is left-aligned, then it populates from left to right. If a field is right-aligned, it populates from right to left.

For example, suppose that you define a six-character control as left-aligned, specify a fill character of *0,* and activate Auto Fill. When you type *123* in the control online, the system displays *123000.* Similarly, if you changed the alignment to right, the system displays *000123.*

Note. Auto Fill can affect the actual value of the control, not just its visual representation.

Auto Decimal Select to insert a decimal point automatically if none is provided in the data that is entered into the control. Where the system inserts the decimal point depends on how you define the control.

For example, in a record definition, if you define a numeric field with a length of *4.2* (allowing four characters to the left of the decimal and two to the right) and activate Auto Decimal, the system inserts a decimal at the second digit from the right. This option applies only to numeric field controls and affects the actual value of the field control, not just its visual representation.

Display Time Zone Select if you are setting the properties for a Time or a DateTime field and you want to display the related time zone. This helps users understand whether the time reflects the database's base time zone or some other time zone. This setting does not determine which time zone is actually used, only whether the time zone is displayed. The record field properties determine which time zone is used.

Enable Spell Check For edit boxes and long edit boxes only; enables the user to check spelling on field content. This feature supports 17 languages using 36 dictionaries. Users have the option of selecting the appropriate dictionary to meet the language needs.

The behavior of this feature is as follows:

- *Design time behavior:* The default setting is *Off*. When theEnable Spell Check check box is selected, the Show Prompt Button option is cleared and disabled—a field can either be spell checked or validated, but not both. Like the Look-Up button, the spell check button appears to the right of the field and is not visible on the page definition. Be sure to leave extra space to accommodate it when placing other fields on the page.
- *Runtime behavior:* The spell check button appears to the right of the edit box and at the upper right corner of a long edit box. Each click of the spell check button forces a transmission to the application server, opening the Spell Check page. The user then has the option to accept or reject the recommended spelling for the individual word or for all incidences of the term in the field. If there are no misspellings, a message box indicates this without leaving the current page. The ALT+5 hot key invokes spell check while cursor focus is on the spell check field.

  The spell check feature uses the current session language when applying a foreign language dictionary, unless the user changes it by means of Personalizations. The system uses PSLANGUAGES to provide the SCLANG default for each supported session language.

Fill Character Enter a character to replace blank spaces in an edit box when the contents of the field are displayed. For instance, if the length of a Net Pay field is 8.3 and you specify a fill character of *, then a value of $1,250 is displayed as:

*****$1,250.000

You can use any character as a fill character.

Example: Auto Decimal

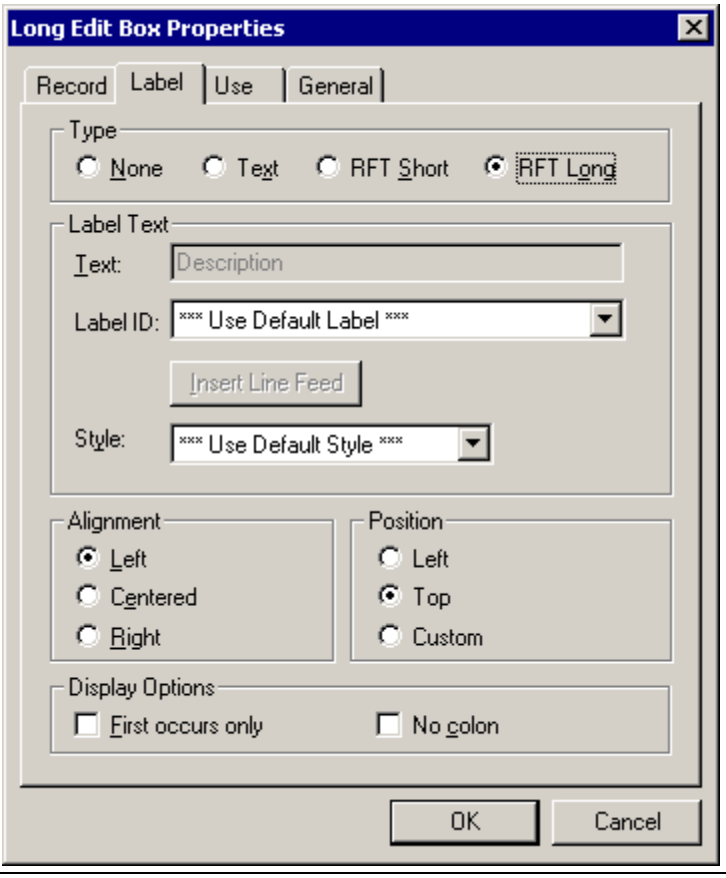
This table shows how Auto Decimal affects a numeric field control with a length of 4.2, depending on what you enter online:

Entered	Displayed
100	1.00
100.	100.00
1	0.01

Setting Label Properties

The Label tab enables you to set the label that appears on the control. This can be the long or short name that is specified on the record definition or other text. Use this tab to verify the label ID that is used as the internal reference.

Access the page field properties for the control and select the Label tab.



Long Edit Box Properties dialog box: Label tab

Note. This section applies to the following controls: edit boxes, long edit boxes, check boxes, drop-down list boxes, group boxes, radio buttons, and static text.

Type

Select the type of label. If you want the label to remain blank, you must first set up a blank label in the field definition that you are using. The blank label then appears as an option in the Label ID drop-down list box.

None — Select to display no control label on the page. Use this option for controls such as related displays.

Text — Select to display text that you enter in the Text field. The default text is the long name for the field from the associated record definition.

For translation purposes, avoid using this option if possible.

RFT Short (record field table short) — Select to display the RFT short name for the field from the associated record definition.

RFT Long (record field table long) — Select to display the RFT long name for the field from the associated record definition. This is the default.

Label Text

Text — Enter the text exactly as it should appear on the page. The default is *Dummy Name* until you assign a record and field to the control. This field is only

enabled if you selected Text as the type. Otherwise, it displays the label text assigned to the field for the Label ID you select.

Label ID Select from the drop-down list box the label you want to appear for the page field. The choices available here are based on the Label ID column and the Long Name column for the selected field definition.

The default setting for this option is *Use Default Label.* This default is determined by the label you select as the default for the field definition.

Insert Line Feed Click to split your control label into multiple lines at the position of the cursor in the Text field. A thick vertical bar character appears in the Text field. When you close the properties dialog box, the label is split into multiple lines. This option is only active when you select *Text* for the Type.

Style Select an option to control the color, font, and other characteristics of a label. If you do not select a different label style from the default, *Use Default Style,* the system uses the label style specified on the style sheet on the PeopleTools Options page.

Alignment

The label alignment in the page field properties controls the alignment for both page fields placed on a page and page fields as grid columns. For a grid column, the label becomes the column heading and is aligned within the column boundaries as specified by this attribute, either left, centered, or right.

Left Select to align the label to the left-of-center horizontally. This is the default.

Centered Select to center the label horizontally.

Right Select to align the label to the right-of-center horizontally.

Position

These position options are available for edit boxes, long edit boxes, and drop-down list boxes only.

Left Positions label immediately adjacent to the left side of the field. Left is the default position of the label for fields newly added to the page. If you move the label on the page from the left position, PeopleSoft Application Designer changes the selection to Custom.

Top Positions label above the field. Selecting this option automatically moves the label to the top of the field. If you later move the label on the page from the top position, PeopleSoft Application Designer changes the selection to Custom.

Custom Indicates that the label has been manually moved on the page. Labels can be adjusted using the keyboard arrows. Selecting this option does not automatically move the label on the page.

See Chapter 10, "Creating Page Definitions," Moving Labels, page 264.

To set labels to the left position for individual page fields:

1. Select the control that you want to affect.
2. Select Layout, Left Label Position.

This option is only enabled if the label is set to the custom position. The system moves the label for that control to the left position. The position indicator in the page field properties does not change from *Custom*. Note that you may need to readjust the positioning of other fields and labels to accommodate this change.

Note. If you move a page field label manually on the page, the label position in the page field properties dialog box automatically updates to *Custom*.

Display Options

First occurs only Select to display the label only with the first occurrence of a child page field in a scroll area.

No colon Select this option if you do not want a colon to display at the end of the label text. This option is selected by default for edit boxes, long edit boxes, and check boxes.

Special Label Considerations

If you're adding a related display page control with a label type of *None,* enter an information-only label that identifies the related field but that isn't identical to the label on the control field. A little documentation now can save you time in the future, should you modify this page again. For example:

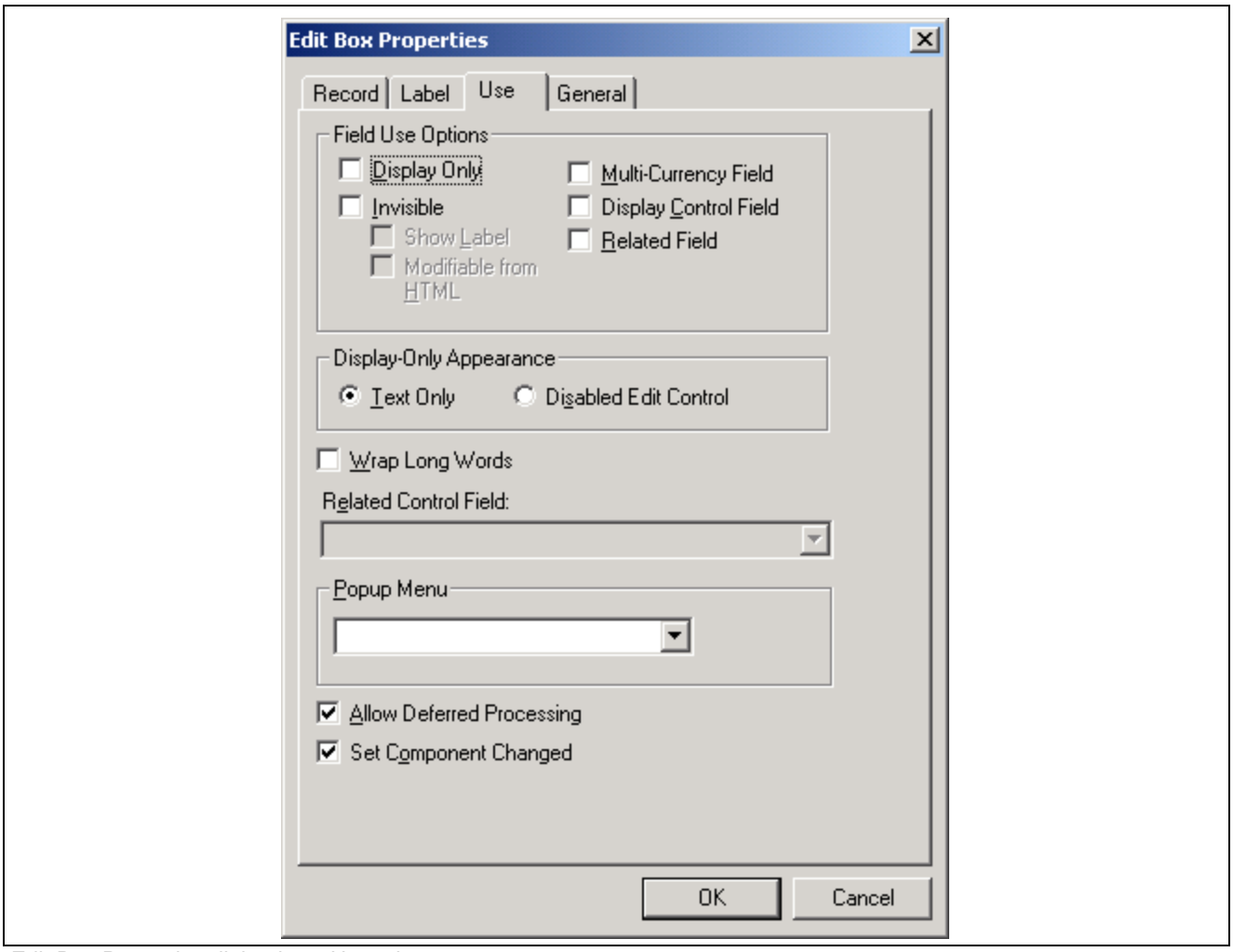
Control Label	Related Field Label (Information-Only)
Department	Department Description
Jobcode	Jobcode Description
Regular/Temporary	Regular/Temporary XLAT (XLAT is from the Translate Table)

When defining labels for columnar controls in a multi-occurrence scroll, you can apply several techniques. The first technique is to select First occurs only. This limits the display of the label to the control's first scroll occurrence, allowing the label to be used as a column heading. The second technique is to select No colon to omit the colon from the label, because column headings typically do not need a colon.

Setting Use Properties

The Use tab defines how to use the page field on the page. You can make fields display-only or invisible. Use this tab to define the display and related control fields and the processing of the control.

Access the page field properties for the page control and select the Use tab.



Edit Box Properties dialog box: Use tab

Note. These controls contain the same or very similar use properties: edit boxes, drop-down list boxes, check boxes, images, long edit boxes, and radio buttons.

Field Use and Other Options

Note that long edit boxes have slightly different field use options.

Display Only Select to prevent users from modifying the contents of the control during application data entry. The system automatically selects Display Only when you select Related Field.

Multi-Currency Field Select to identify the control as associated with multicurrency processing. This causes the field to appear at runtime only if Multi-Currency is selected on the PeopleTools Options page.

Invisible Select to make the control physically present on a page but invisible to users. Typically, you add an invisible control because it's required for a PeopleCode program that is associated with the page. An invisible control can also be used as a display control field.

Display Control Field Select to indicate that the field controls another field on the same page level. The controlled field is a related field. For example, on many pages, Department ID is the display control field and Department Name is the related field. The system uses Department ID to retrieve Department Name from the Department table to display on the page.

Show Label Select to make the control label visible while the control itself is invisible. This option is useful if you add an invisible display control field to a page to show its related description. Show Label is selected only if Invisible is selected.

Related Field Select to specify that the contents of this control are ruled by another control on the same page level—one that you selected as a display control field. When you select this check box, the system automatically selects the Display Only option. It also makes the Related Control Field drop-down list box available for you to select the related control field.

When you select Related Field, Display Only is automatically selected. If the related field is located on a record definition with multiple keys, relate the display field to the lowest-order key field that both record definitions have in common—with the exception of EFFDT and EFFSEQ—on the control record definition. The system searches for the higher order keys by matching field control names on the current level and all higher levels for the other keys.

If the related display field contains a long name or short name from the Translate Table, use PSXLATDEFN as the record definition name.

Modifiable by JavaScript This is a security-related feature and should *always* be cleared unless you are familiar with modifying an invisible field using JavaScript in an HTML area. If the Invisible check box is cleared, Modifiable by JavaScript is cleared and unavailable for entry. If the Invisible check box is selected, this check box is cleared, by default.

Expand Field when Display Only Select to make a long edit box expand at runtime to display all the text it contains when it is marked as Display Only. The field automatically expands to accommodate text. This is option available for long edit boxes only. This check box is cleared, by default. When selected, this option enables the Wrap Long Words option.

Wrap Long Words Wraps long words that do not contain spaces, such as long URLs, in a page field at runtime for Internet Explorer (IE) 5.5 only. The word wraps to the length of the field set at design time. Other browsers automatically stretch the width of the page to accommodate the longer text. This option has no impact at runtime to applications running on browsers other than IE 5.5. This setting is cleared by default.

Wrap Long Words is available for edit boxes, long edit boxes, and drop-down list boxes only. It can be applied to stand alone page fields and grid columns. For edit boxes and drop-down list boxes, this option is disabled if Disabled Edit Control is selected. For long edit boxes, this option is available only if the Expand Field When Display Only option under Field Use Options is selected.

Note. The system does not restrict an edit box or drop-down list box that is configured as Display Only and Text Only to one line of height. The text is wrapped to the next line as necessary.

Also, the Wrap Long Words property does not impact the word wrapping behavior of shorter words that can be accommodated by the page field size at runtime. This text automatically wraps at word boundaries in accordance with the page field size regardless of whether this option is set.

Related Control Field When you select Related Field, a list of all controls on the page that are marked as display control fields appears in this drop-down list box. Select the field to which this control is related. You must define the use of the initial control field before it appears as an option in the Related Control Field drop-down list box. For example, after the Pay Group field is designated as a display control field, it appears in the Related Control Field drop-down list box for the control that you set as the related field.

Note that the number that appears before each entry in the Related Control Field drop-down list box is the page field order number associated with that entry.

Display-Only Appearance

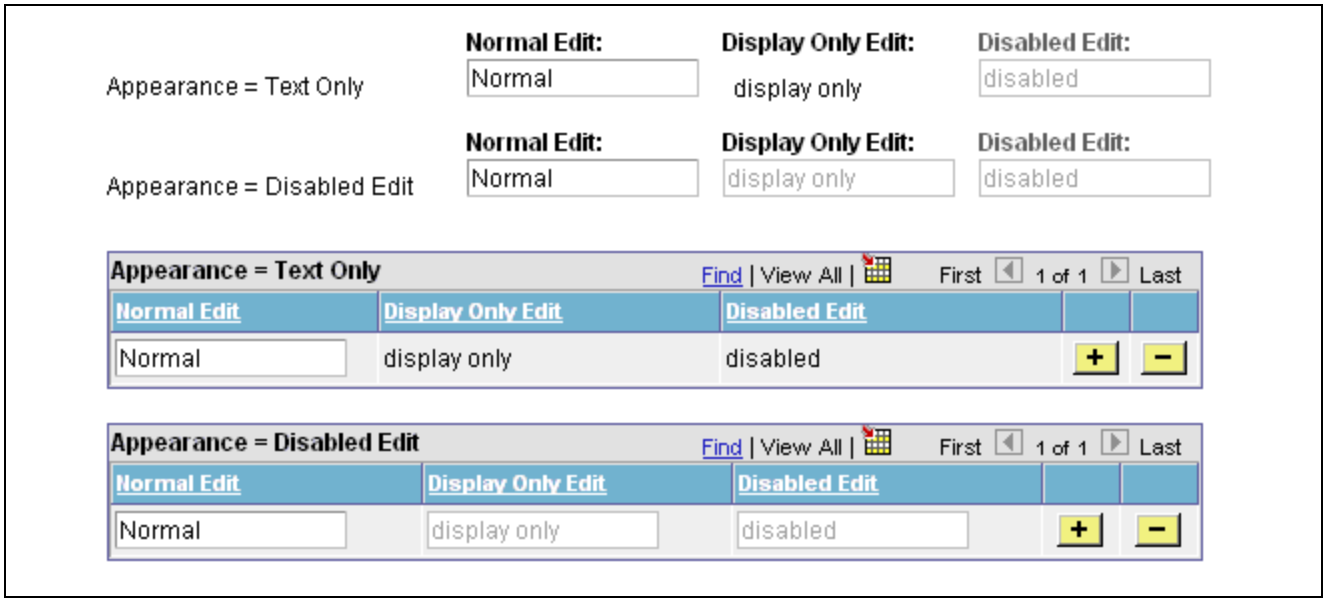
The Display-Only Appearance attributes, Text Only and Disabled Edit Control, apply to edit boxes and drop-down list boxes only. These properties, in conjunction with other attributes you apply to the field, such as Display Only on the Use tab or the Gray function in PeopleCode to disable the field, and whether or not the field is in a grid, control the base style the system uses to render these controls at runtime.

The default base style for a normal edit box, meaning editable and enabled (as opposed to display-only or disabled), is PSEDITBOX. The default base style for drop-down list boxes is PSDROPDOWNLIST. The base style then changes depending on the attributes that you select and where you place your field, as shown by the default base style examples in the following table.

If you choose a custom base style for the field on the Record tab of the control properties, the system uses the style's associated display only and disabled variants as appropriate to create the additional looks. For example, if you select XYZ base style, and set the field as display-only, the related XYZ_DISPONLY style is used if it exists, otherwise the base XYZ style is used.

Display-Only Appearance Option	Normal Edit Field	Display-Only Edit Field	Disabled Edit Field
Text Only	*Non-Grid:* PSEDITBOX *Grid:* PSEDITBOX	*Non-Grid:* PSEDITBOX_DISPONLY *Grid:* PSEDITBOX_DISPONLY	*Non-Grid:* PSDISABLED *Grid:* PSEDITBOX_DISPONLY
Disabled Edit Control	*Non-Grid:* PSEDITBOX *Grid:* PSEDITBOX	*Non-Grid:* PSDISABLED *Grid:* PSDISABLED	*Non-Grid:* PSDISABLED *Grid:* PSDISABLED

Note that for Text Only disabled edit boxes using the default PSEDITBOX base style, the system applies PSDISABLED to non-grid fields and PSEDITBOX_DISPONLY to fields in a grid. As a result, these fields render differently at runtime, as shown in the example below. If the field is outside of a grid, for example, selecting the Display Only field use option with the Text Only appearance option displays the field value as disabled text within a grayed border, whereas if the field is located in a grid with the same attributes, the field value renders as display only text without a border.



Examples of Display-Only Appearance settings at runtime using the base PSEDITBOX style

Note. The previous examples may render differently at runtime depending on the style sheet that is in use.

Popup Menu

Pop-up menus are lists of menu items that you can associate with a field on a page. At runtime, the menu appears on a separate page as a list of links to related pages. Designate these links when creating a pop-up menu definition. You can then associate the newly created pop-up menu with a field on your page on the Use tab in the properties dialog box for most controls.

A pop-up menu can be identified by either of these two icons:

This page field icon appears if the pop-up menu contains more than one item. The user goes to a new page to select among the menu items listed.

Note. This icon also appears if PrePopup PeopleCode is associated with the pop-up menu and there is only one item remaining in the list after the PeopleCode has run. The transaction page opens automatically.

This page field icon appears if the pop-up menu contains only one menu item. In this case, the user goes directly to the assigned transaction page.

Allow Deferred Processing Enables deferred processing for this page field. A transaction can run in two modes: deferred and interactive.

Set Component Changed Enables the system to issue a save warning for the field if the user changes the value and attempts to exit the page before saving. This setting reinforces current save warning behavior. This option is set by default for edit boxes, long edit boxes, radio buttons, check boxes, and drop-down list boxes.

Clearing this option overrides the save warning that normally displays to users. The user will not see a save warning after changing the value of the field and attempting to exit the page. An example of when this might be necessary is for a drop-down list box that includes links to another page. If the user selects a link from this field to transfer to another page but has not made any other changes to the page, it is not necessary for the system to issue a save warning. By clearing the Set Component Changed flag, you insure that no save warning message is issued for this field.

This option works for fields associated with a derived work field or database record field.

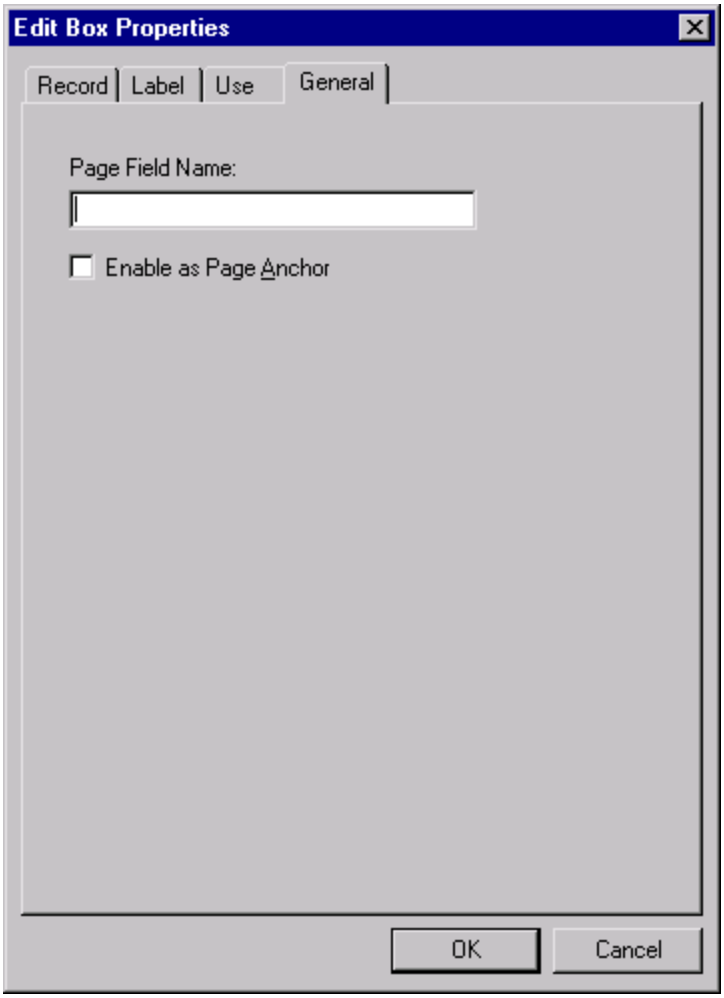
This option is also available for the push button/hyperlink control though the default setting is cleared instead of selected.

See Chapter 9, "Using Page Controls," Inserting a Push Button or Link, page 225.

Setting General Properties

The General tab enables you to specify an optional internal page field name that is referenced by the page.

Access the page field properties for the control and select the General tab.



Edit Box Properties dialog box: General tab

Note. For most controls, the General tab contains only the Page Field Name and Enable as Page Anchor settings. Grids and scroll areas have additional settings on the General tab that are described later. The Enable as Page Anchor check box is available for all controls that have a page field name.

Page Field Name

Enter a name for the page field that you are creating. This is a system-only setting. It does not appear as the label for the page field. The page field name enables you to refer to a particular field on a page using PeopleCode.

This setting is optional unless you select the Enable as Page Anchor check box.

Enable as Page Anchor

Select to apply an anchor tag to the current page field on the page. If you select this check box, you must add a page field name to identify this field when setting the related control for the link. This check box is cleared, by default.

See Chapter 9, "Using Page Controls," Specifying Destination Types, page 226.

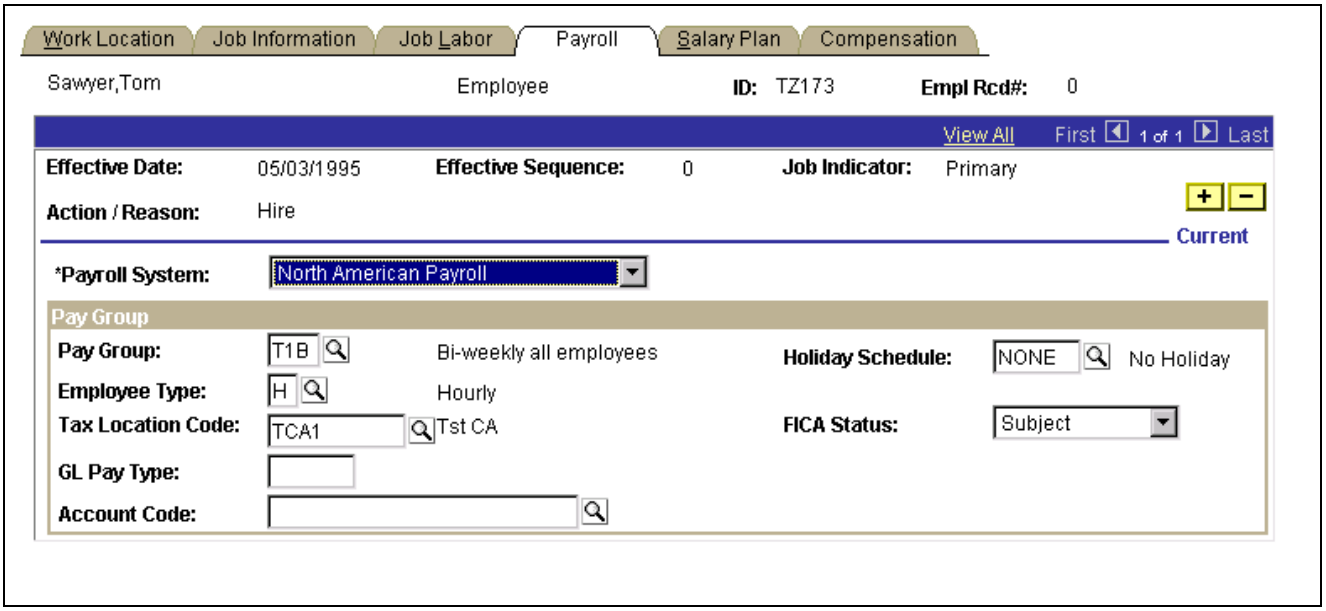
Creating Display Control and Related Fields

This section discusses how to:

- Use display control and related fields.
- Create related edit fields.
- Create invisible control fields.

Using Display Control and Related Fields

A related display field is for display purposes only—it always references a row that's not being updated from the current page. The display control and related display fields must both be at the same level. In the Payroll page, the Pay Group, Employee Type, Tax Location Code, and Holiday Schedule fields all show related display fields to their right. Search level fields, such as those shown above the horizontal rule, are display-only fields.



Payroll page

Because of the nature of control fields and related fields, PeopleSoft recommends that you:

- Place them side-by-side on a page to indicate their relationship.
- Provide adequate space between the fields.
- Do not overlap them; otherwise, they appear skewed when viewed through the browser.
- Change the label type for the related field to *None* so that it doesn't appear on the page.
- Enter a text description to document the purpose of the field.

Note. The display control and related fields must be in the correct order on the order page. The display control field must be positioned before the associated related field; otherwise, a warning dialog box appears when you save the page. Also, fetching the related field after the control field is entered requires a transmission to the server at runtime.

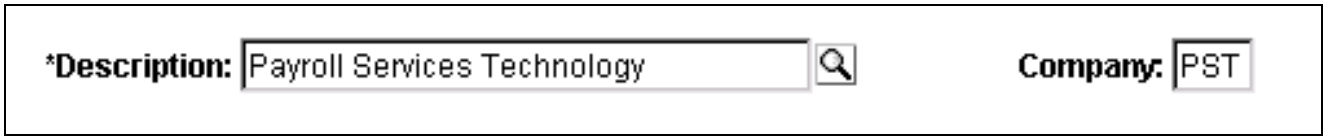
Creating Related Edit Fields

Related edit fields are slightly different from related display fields. Related edits enable users to enter descriptive values instead of code values and enable prompting on those descriptive values. Changing the value in the control field updates the related edit field, and changing the value in the related edit field updates the value in the control field. If appropriate, the control field can be display-only or even invisible to hide code values from the user.

At runtime, when a user edits a related edit field, it is treated as if the user changed the control field directly. Edits, including any assigned PeopleCode, are run on the control field. PeopleCode is not run for the related edit field.

The following partial screen shot is an example of a related edit field with a control field that is available for entry. When entering company information, the data-entry clerk may not have all company codes memorized, but instead knows just the name of the company. By entering the more descriptive company name in the Description field, (the related edit field) the company code (display control field) is automatically populated in the Company field.

If the user enters *Payroll* in the Description field and exits that field, the system searches for a match to this value and populates the field if only one is found. The field reads *Payroll Services Technology.* If more than one match is found, the field turns red, and an error message appears indicating that the user must use the lookup page to view all related values. Alternatively, the user could enter more detailed information in the field before clicking the prompt to further narrow the search.



Related edit field

At design time, you set up a related edit field in the same way that you create a related display field, except that you clear the Display Only check box in the Field Use Options group box so that the field is active at runtime. The control field's prompt table is used. You do not need to define a prompt table for the related edit field, just the control field. The related edit field must be an alternate key in the prompt table. PeopleSoft recommends that the related values in your prompt table be unique so that there is a one-to-one mapping to the control values. This prevents the user from receiving a warning and having to access the prompt page to select the proper value.

In some instances, you may not want the control field to be apparent to the user. PeopleSoft Global Payroll, for example, relies heavily on PINs. While PINs are key values, and therefore very important for tracking and storing information in the database, you may not want to distract the user with such a number. However, you still want this data to be entered into the database with the transaction. Related edit fields are particularly helpful in these situations. You can associate the PIN field with a descriptive field and have only the descriptive, related edit field appear on your page. To do so, hide the control field using PeopleCode.

Note. If the hidden control field that you select is a required field, PeopleSoft Pure Internet Architecture changes the related edit field into a required field as well. At runtime, an asterisk appears next to the field label, marking the field as required. If the user does not enter information in the related edit field, the system displays an error message.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference, "PeopleCode Built-in Functions," Hide

Creating Invisible Control Fields

Your page design may require an invisible control field. For example, if users are interested only in the contents of the related display field, then make the control field invisible. Unlike visible control fields, you *can* overlap an invisible control field and its related display field.

Note. If you specify a field as invisible in PeopleSoft Application Designer, you cannot make it visible using the UnHide property in PeopleCode.

To add an invisible control field with a visible label:

1. Access the properties dialog box for the invisible control for which you want the label to appear.
2. Select the Use tab.
3. Set the appropriate field use options:
    a. Select Display Only, Invisible, and Show Label to make the field invisible and its label visible.
    b. Select Display Control Field.
4. Select OK.
5. Add an edit box to your page.

    Place this edit box directly to the right of the display control field that you just set.
6. Access the properties dialog box for the new edit box.
7. Select the Use tab.
8. Select Related Field.
9. Select the appropriate control field from the Related Control Field drop-down list box.
10. Select OK.

Ordering and Spacing Page Controls

This section provides an overview of page control order and spacing and discusses how to:

- Order controls visually.
- Order controls logically.
- Test page control order.
- Apply control order rules.
- Change control order using the order list.
- Find a field on a page definition.
- Use default order.
- Space controls on pages.

Understanding Page Control Order and Spacing

The order of the controls that are on your new page is important to both how your users interact with the page and how the component processor interprets the underlying record and field relationships.

Two types of control order are important on pages:

- The order in which you visually arrange controls on the page.
- The logical processing order—governed by levels—that the system requires to correctly process the page data.

As you add controls to a page, the system automatically builds a processing control order list that can be viewed on the Order tab of the page definition. Usually, you don't want to preserve this order for processing, so you can reorder your controls on the Order tab to indicate how the system should process your page.

Ordering Controls Visually

Organize fields from top left to bottom right in a page. Include most important information at top. Use group boxes to group related fields and indicate the hierarchy of information on a page. Guidelines for grouping information include:

- Keys

  Group all key fields at the top of a page (such as Business Unit, Employee ID, and SetID).

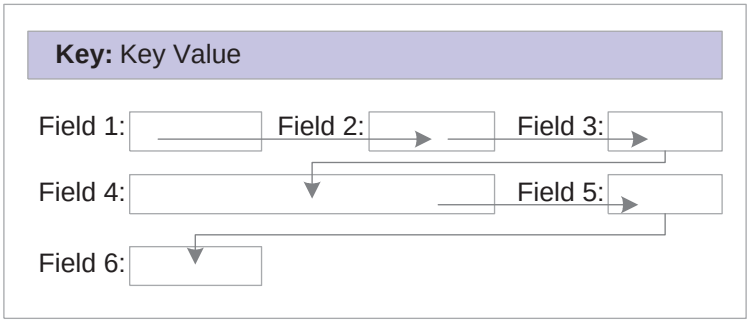
- Level 1−3

  Controls at these levels must be enclosed by a scroll area or grid. At design time, these levels can be stacked. At runtime, they appear nested.

Ordering Controls Logically

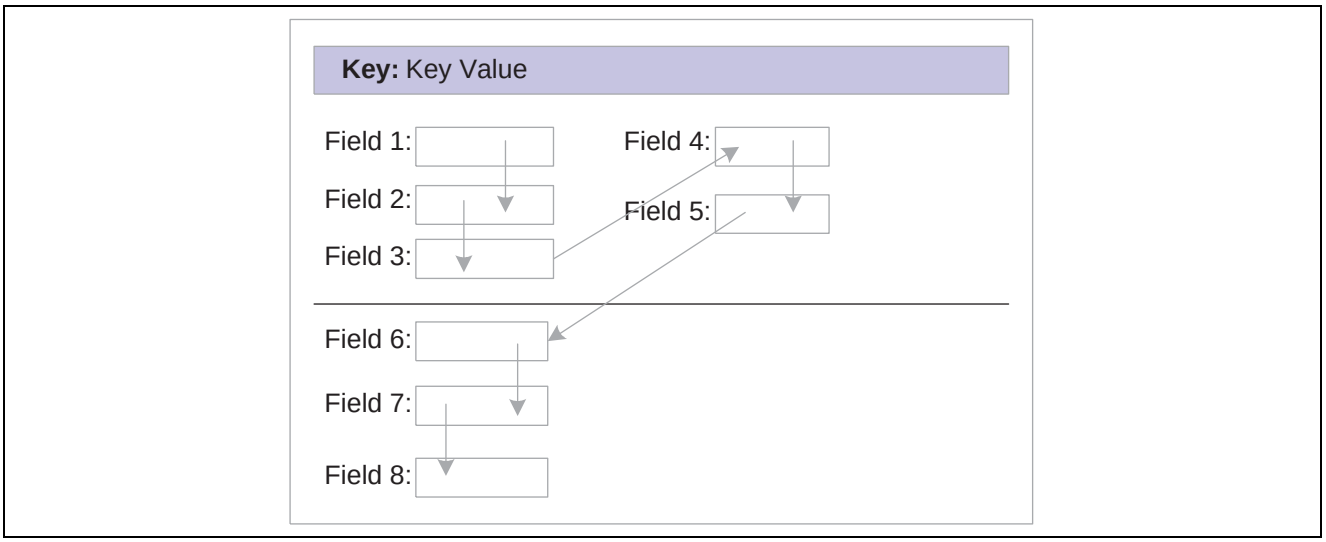
Tab ordering through a page at runtime is strictly defined by page field ordering. When you add a control to a page, PeopleSoft Application Designer automatically inserts it in the order list based on where you position it on the page. You can manipulate the ordering of fields on your page by moving them up or down on the Order tab in the page definition. In doing so, you also change the tab order that users follow as they move through fields on the page.

In general, field tab order should flow from top left to bottom right on a page. The flow should reflect the way that the eye naturally scans information. On a page with multiple scroll levels, the tab order should follow the scroll level order, from Level 0 to Level 1, and so on. In a noncolumnar page, the tab order should go from left to right on each line from top to bottom as depicted in this figure:



Example flow of noncolumnar page

In a columnar page, the tab order should go from the top to the bottom of the first column, then from the top to the bottom of the second column, and so on.



Example flow of columnar page

Fields that share the same label should follow consecutively in the tab order from left to right.

Testing Page Control Order

After you have placed all of the controls on your page, you should test the tab order. You can do this using either the test mode or by viewing the page in the browser. Using the View Page in Browser mode is more useful because you can also check the placement of controls and subfields that are on your page. In these testing modes, you can enter data into edit boxes and select radio buttons and check boxes. However, you cannot save data that you enter, and push buttons and links do not function.

Note. The tab order that you establish at design-time may not apply for all browsers.

See "Troubleshooting Browser Limitations" on Customer Connection.

To test tab flow using View Page in Browser mode:

1. Open the page in PeopleSoft Application Designer that you want to test.
2. Select Layout, View in Browser.
3. Select the appropriate browser from the drop-down list box.
4. Press the TAB key to move from one field to the next.

   Press SHIFT+TAB to move to the previous field.

Applying Control Order Rules

If you're working with a complex page or you're new to order lists, you might print out a page definition and work on the hard copy. The sequence number of each control is reflected in the Num column on the page report. You can easily mark where you need to move a control to make your page function properly, or you can look at the Lvl column on the Order tab of the page definition.

Use these rules to order your controls:

Radio Buttons

For radio buttons to function in a single group, they must be associated with the same record field and be listed together on the Order tab of the page definition. The only control that you can place between related radio buttons is the static text control to extend radio button labels. Put the text immediately after the radio button to which it relates.

Level-Based Controls

List level-based controls (scroll areas, grids, and scroll bars) immediately before the first control that they govern, followed by the controls that are directly governed by that control. Level-based controls directly govern all controls that are listed below them on the order list until they encounter another level-based control that is at the same or lower level (higher occurs level number).

Display Controls

Place display controls before related displays that they govern. The related display controls don't have to follow the display controls immediately, but they must be inside the same scroll area or scroll. However, if you have more than one related display control, placing each immediately following its display control makes the order page easier to read and understand.

Changing Control Order Using the Order List

The Order tab of the page definition displays attributes about each of the page fields and their field order. The ID column represents the order in which the field was added to the page. If you modify the order of page fields on the page, note that the numbers assigned to each field remain constant. Thus the IDs may not always appear in sequential order. The field ID displays on the Compare report when a database compare is performed to assist you in identifying specific page fields.

Reorder page fields on the Order tab by dragging them in the same view. Changing the order list doesn't change the physical location of controls on the page. It changes only the logical order or tab order in which controls are processed. When you've added and arranged all of your controls, you may want to print your page definition to see how you might need to reorder your controls.

The Order tab also governs processing rules for scrolls and record or field relationships. Consider which controls are associated with which scroll area or scroll bar and which secondary relationships are important to page processing.

To change the order list:

1. Open the page.
2. Select the Order tab on the open page.

   The Order view appears. Use this view to change the logical processing order of fields on your page.
3. To move a control to another position in the control order list, select the control that you want to move.

   Press the SHIFT key to select multiple controls.
4. Drag the selected control to the new position on the Order view.

   The system moves the control to the new location in the list. The ID value remains static. The visual display of the page still looks the same—changing the order list doesn't move the control on the page, only the logical processing order of the control.

Finding a Field on a Page Definition

Use the Order view to locate a field on a page definition. Using this method of locating fields is useful when you are working with detailed page definitions that contain many fields.

To find a field on a page:

1. Access the Order tab of your page definition.
2. Select the field that you want to locate on the page.
3. Select the Layout tab.

   The field that you selected on the Order tab is selected in the Layout view.

Using Default Order

You can rearrange the order list on the Order tab so that the logical control order reflects the physical control order as shown on the Layout tab. Do so by selecting Layout, Default Page Field Ordering. You can use this tool in either the Layout or Order view for your page definition. The system creates the default order by reading the page as though it was on a pixel-by-pixel grid, from top to bottom and left to right.

Note. Use the default ordering option sparingly on existing pages. It may offset any previous order that was created. However, on new pages, you may find default ordering a useful starting point for your control order list.

Spacing Controls on Pages

Provide adequate space between controls on a page so that fields and their labels don't touch or overlap other controls or labels in PeopleSoft Application Designer. If they do, then when your page appears in the browser, the label is offset automatically and the overlapped control might shrink.

Overlapping Fields

You can layer or overlap fields only if the one that you are overlapping is set to *Invisible* on the Use tab of the properties dialog box for that control. When you move through the data entry controls on a page, the component processor recognizes only visible, unhidden fields as available for entry.

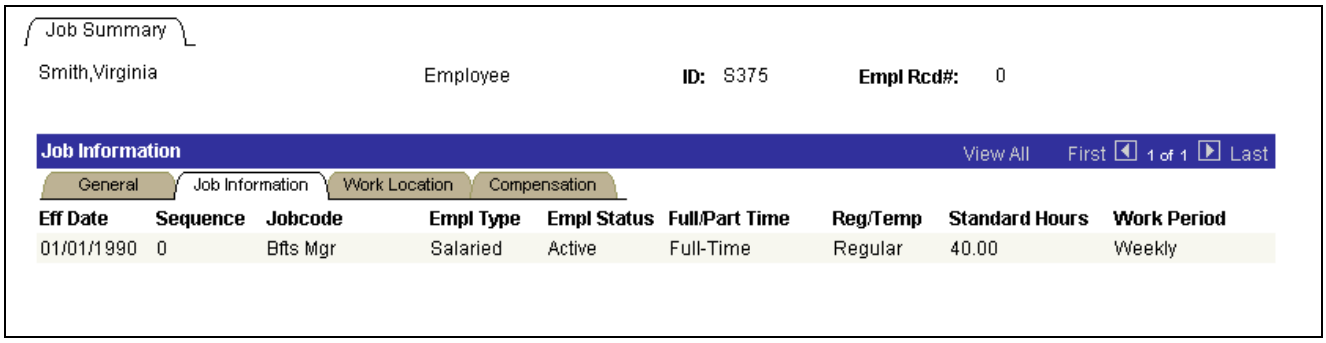
You can layer multiple invisible fields. However, you must set up your stacks of edit boxes so that all but one field in the stack are invisible or hidden at RowInit time.

Designing Inquiry Pages

You can design pages for inquiry purposes only. Inquiry pages are usually based on search records that extract specific information from different tables to display different views of your database, such as a summary of expenses by department.

To create an effective inquiry page:

- Make all of the fields display-only.
- Build in sufficient display control and related field relationships to show relevant descriptions.
- When using level-based controls, disable the row action buttons so that the user cannot add or delete rows.



Job Summary inquiry page

Aligning Page Controls

Page design mode in PeopleSoft Application Designer provides relative alignment functionality in the page definition toolbar to help you ensure that your controls are aligned relative to each other, both horizontally and vertically. The relative alignment tools are enabled when two or more controls on the page are selected.

To align controls on a page relative to one another:

1. Select the controls that you want to align.

   Select controls by pressing CTRL and clicking each field on the page. Leave the last control to be selected as the guide, or anchor, by which all other selected controls are aligned. The anchor control does not move when you select an alignment button.

   Note. Controls can also be selected using the group selection method of dragging the cursor around the controls. However, for relative alignment purposes, the CTRL + click is the preferred method of selection, because it enables you to explicitly set the anchor control by which the system aligns the other selected controls.

2. Click the appropriate relative alignment button in the toolbar.

   Relative alignment can also be activated from the Layout menu.

   Page fields can be moved manually after relative alignment, though previous alignment is not preserved.

See Also

Chapter 10, “Creating Page Definitions,” Selecting Controls, page 261

Maximizing Performance

Page definitions permit controlled access to application data. The system can validate the data, write it to the database, and then retrieve and display it upon request. Behind the scenes, the component processor—the PeopleTools runtime processor—builds SQL statements that are based on the actions that you perform on pages. The component processor:

- Manages the flow of data processing as users enter information on pages.

- Issues INSERT, DELETE, and UPDATE statements to maintain data in the database and SELECT statements to retrieve data.

As you design your pages, some features can adversely affect page performance. There's always a tradeoff between eliminating a useful feature and speeding up page processing. Guidelines for improving page performance include:

- Be judicious about references to record definitions other than the primary record definition under each scroll area.

  References to other record definitions can include:

  - Related display controls.
  - PeopleCode references (such as edits and defaults) to other records.
  - Defaults to fields on other record definitions.
  - Field controls on derived or work records.
- Put the field control on the appropriate derived or work record, rather than on a regular data record definition to derive its value.

  For example, FTE (full-time equivalent) on the JOB record definition would be moved to the DERIVED_HR derived or work record because its value is derived by the system.
- Use as few record definitions as possible in a component.

  When you open a page in a component, the system loads all record buffers from the entire component into buffers.
- Do not remove table edits to improve performance, even though an edit against another table causes a short pause.

  Eliminating them may compromise data integrity.
- Frames, scroll areas, scroll bars, grids, and group boxes all create HTML tables, which, in some browsers, might slightly degrade the performance of your system.

  Be judicious about the number of these types of controls that you use on a page.
- Apply deferred processing when possible to fields, pages, and components.

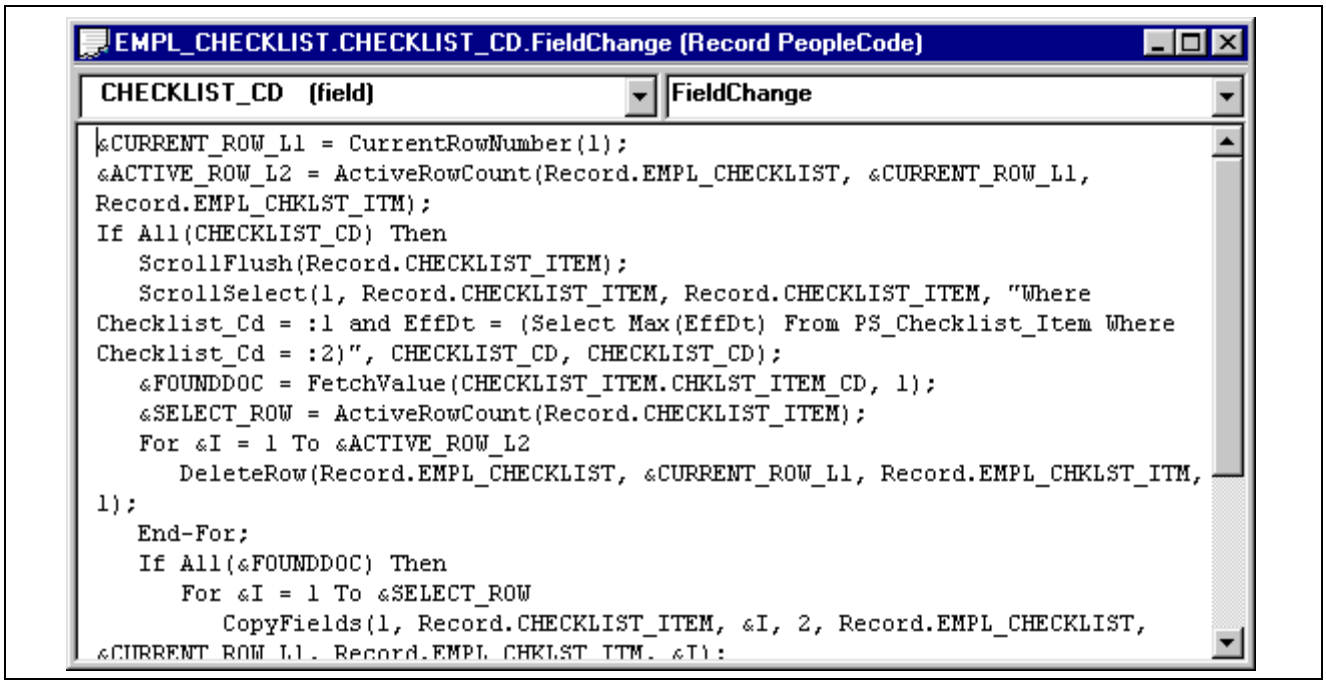
See Also

Chapter 8, "Designing Pages for Optimal Performance and Accessibility," page 173

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Developer's Guide, "PeopleCode and the Component Processor"

Accessing PeopleCode in Page Definitions

Page fields are associated with a specific record field. You can access the PeopleCode for that record field from the page field in the page definition. You might add PeopleCode to a field to achieve a variety of tasks, ranging from real-time editing of fields to altering the appearance of fields on a page. You can also associate PeopleCode with a component, component record, and component record field.



Editing PeopleCode

To edit or add record field PeopleCode through a page definition:

1. Select File, Open to open the page definition through which you want to access PeopleCode.
2. Select the field on the page for which you want to view the associated PeopleCode.
3. Select View, View Record PeopleCode.

   The PeopleCode editor appears, providing access to all of the PeopleCode for the record that owns that field.
4. Select the PeopleCode event type from the drop-down list box in the PeopleCode editor.

   You can also select other fields in the primary record from that drop-down list box.
5. Select File, Save to save your changes.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Developer's Guide, "Accessing PeopleCode and Events"

Viewing Pages in the Browser

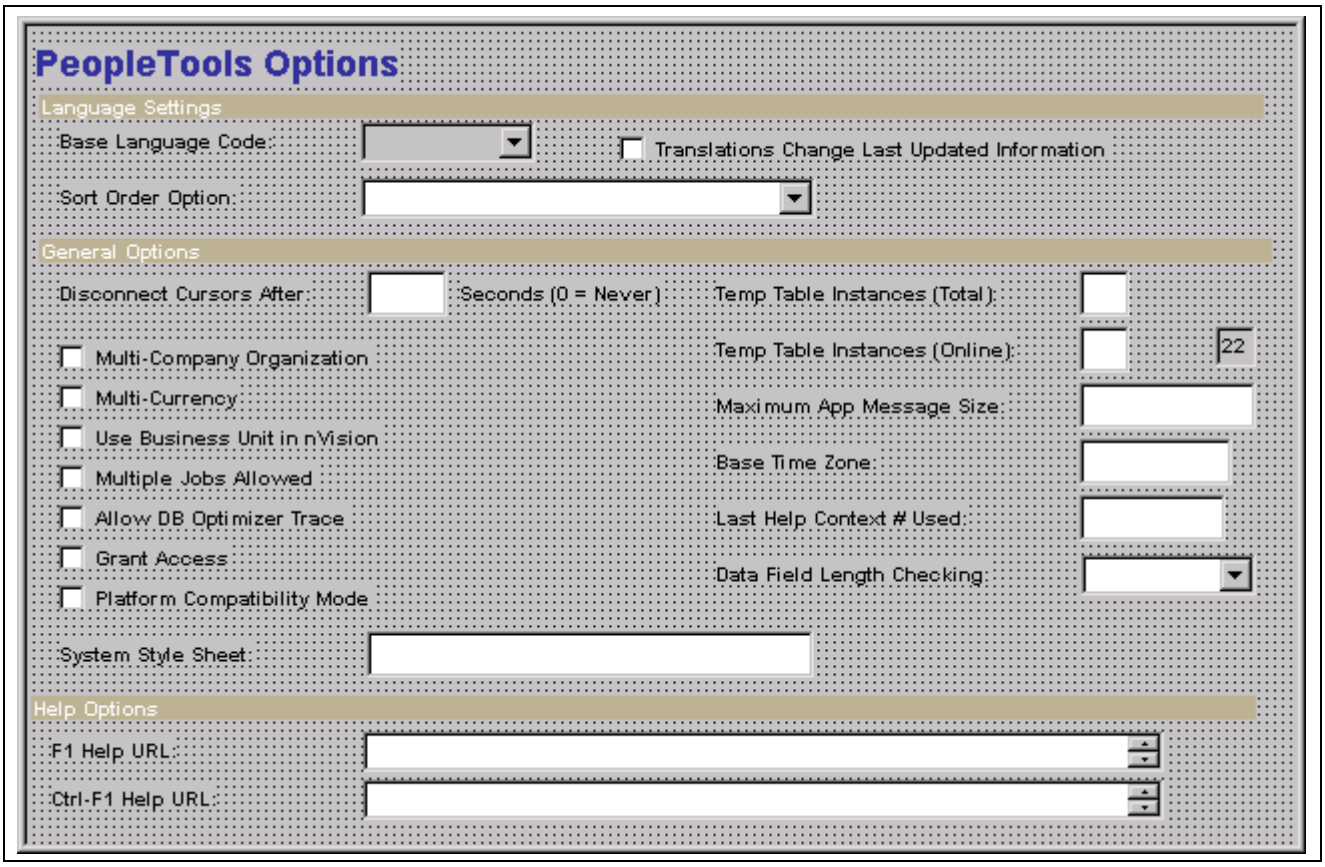
This section discusses how to:

- Work with the View in Browser feature.
- Change the default browser.
- Generate HTML.
- View the HTML for a page.
- Identify page definitions online.

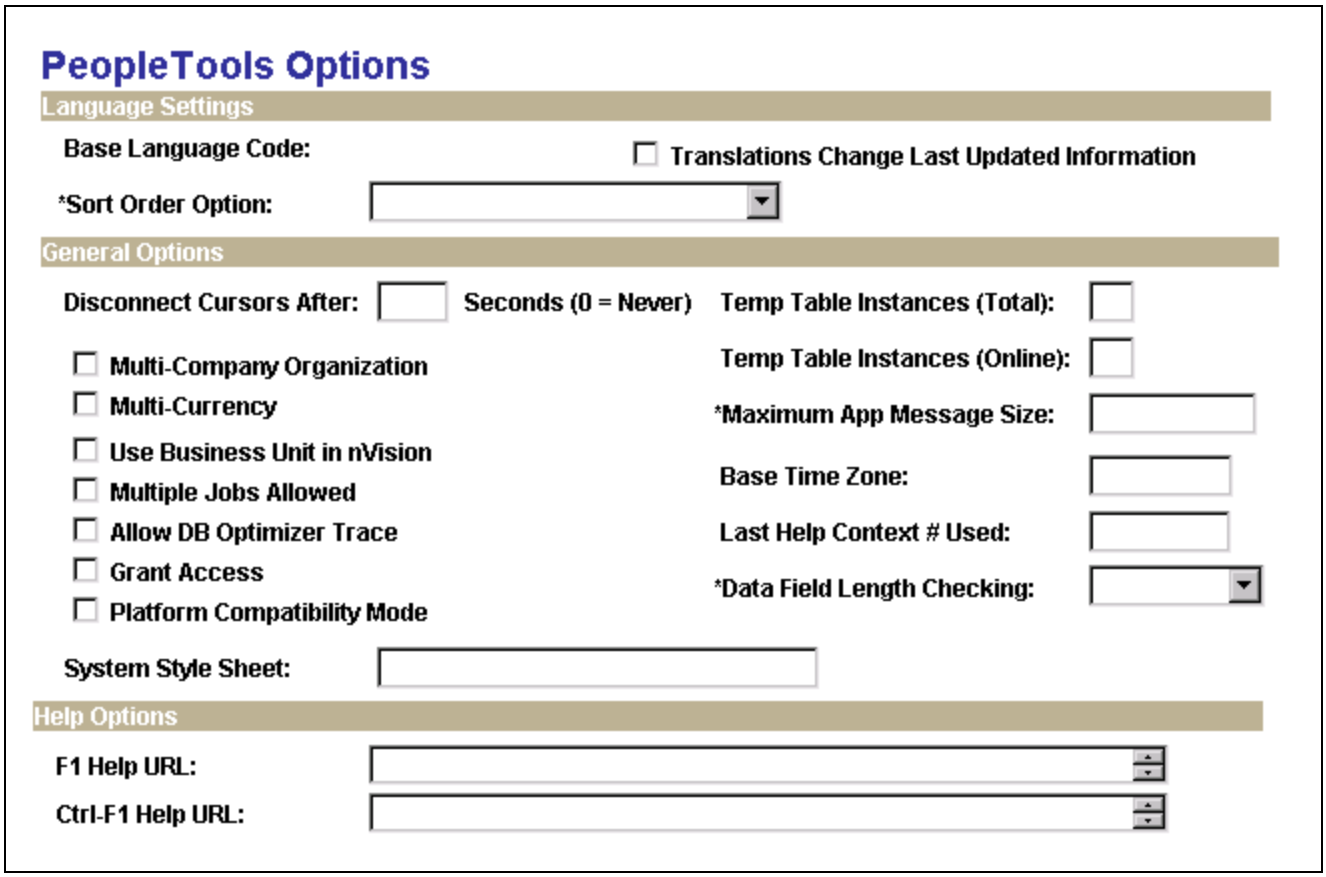
Working With the View in Browser Feature

During the page design process, you should periodically view how your page looks in the browser. How you design your page in PeopleSoft Application Designer may look different when viewed online, particularly if you are using subpages that contain multiple fields.

To do this, select Layout, View in Browser. This feature is helpful if you are changing any of the style characteristics of the page or aligning and spacing controls, such as scroll areas.



Sample page in PeopleSoft Application Designer



Same sample page viewed in Microsoft Internet Explorer

The View in Browser feature provides only a rough idea of how your page might look. For a more complete view of the page at runtime, including the navigation header, assign your page to a component and add it to the existing menu structure using the Registration Wizard. You can then access the page from the menu in the PeopleSoft Pure Internet Architecture.

Changing the Default Browser

You can test your page in any browser by changing the default browser to one other than Microsoft Internet Explorer. After you set up a new browser, you can select in which browser you want to view your pages.

To change the default browser:

1. Open a page in PeopleSoft Application Designer.
2. Select Layout, View in Browser, Edit Browser List.

   The Browsers dialog box appears.
3. Click the Add button.
4. Click the Browse button to locate the browser to add.

   You must select the correct path and browser application for the new browser to function properly.
5. Enter the name, type, and version of the browser.

   The name that you enter appears in the Layout, View in Browser menu.

Generating HTML

The PeopleSoft Pure Internet Architecture system automatically writes HTML forms or tags for all of the page controls that you add to a page. You do not need to know how to write HTML code to create pages in PeopleSoft Application Designer and then view them in the browser. The table shows this conversion:

Page Controls as HTML

Page Controls	HTML Forms	Static HTML Tags
Edit Box (editable)	<INPUT TYPE=TEXT>	N/A
Long Edit Box	<TEXTAREA>	N/A
Drop-down List Box	<SELECT><OPTION><OPTION>…</SELECT>	N/A
Radio Button	<INPUT TYPE=RADIO>	N/A
Check Box	<INPUT TYPE=CHECKBOX>	N/A
Push Button or Link	<INPUT TYPE=BUTTON> <INPUT TYPE=HYPERLINK>	N/A
Static Text	N/A	HTML text
Static Image	N/A	<IMG>
Grid	N/A	HTML <TABLE>

You can view the HTML that is created for your page by using the Generate HTML feature. The Generate HTML feature writes the HTML code to a file on the local drive. This feature is mainly used for debugging purposes and is not needed for the creation of pages.

To generate HTML for a page:

1. Open the page for which you want to generate the HTML.
2. Select Layout, Generate HTML.
3. Select the browser type and version.

   PeopleSoft Application Designer generates the HTML to the c:\TEMP\pshtml directory. The file is named according to the page name and the browser that you select. For example, the Absence History page is named ABSENCE_HISTORY IE5.00.html.

Viewing the HTML for a Page

To view the HTML for your page:

1. Open the generated HTML file.

   The selected browser appears, displaying how your page appears at runtime.

2. Select View, Source in your browser window.

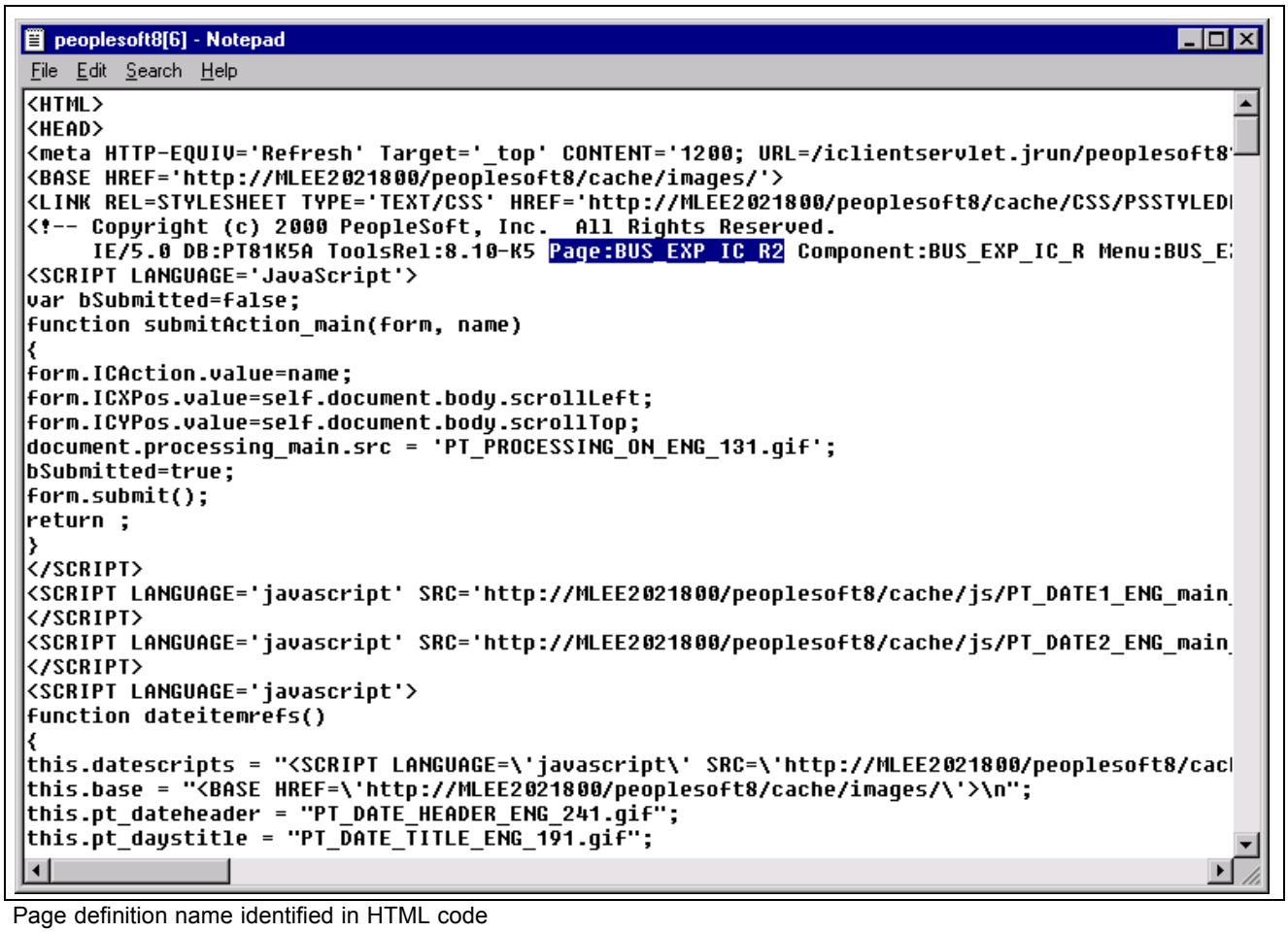
   Notepad or another text-based application appears with the HTML that was used to create your page.

Note. Different browsers might have different methods for viewing the HTML for your page.

To adjust the look or function of how your page looks in the browser, do so in PeopleSoft Application Designer. If you make changes directly to the HTML in Notepad, your changes are *not* saved to the system. Each time that you open the page in the browser, it reverts to the settings of the original page definition.

Identifying Page Definitions Online

In some cases, the page name online differs from the actual name of the page definition in PeopleSoft Application Designer. While viewing a page in the browser, locate the page definition name by right-clicking the page and selecting *View Source* from the drop-down menu. The HTML code appears for your page in a text application, such as Notepad. In most cases, the page name is in the sixth or so line of code after *Page:*. You can also identify the component and menu definitions for your page next to the page definition name.



Page definition name identified in HTML code

Producing Pages

This section provides an overview of page production and discusses how to:

- Change general page information.
- Change page use information.
- Save pages.
- Rename and delete pages.
- Print page definitions.
- Alter page setup.
- Read your page definition report.

Understanding Page Production

If you are changing pages or deleting controls in the page definition, use the tools in the Edit and File menus. To avoid making changes that might adversely affect your application database, review your plans with your database administrator. Together, you can evaluate the impact that your actions might have on your system database as a whole.

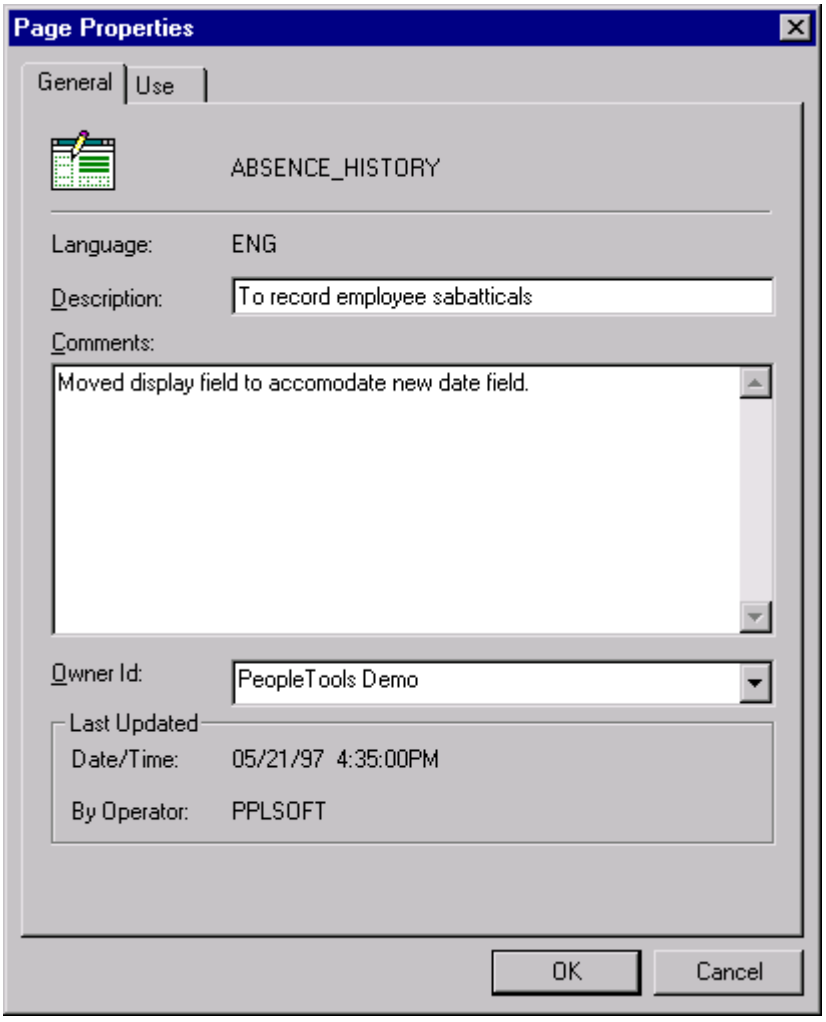
There are several additional steps in the page design process that help make future editing of page definitions easier.

After you design your page, you must set the attributes for how your page should function and make sure that you have the proper documentation to assist you when performing upgrades. Access the Page Properties dialog box by selecting File, Definition Properties in page definition mode.

Use the General tab in the Page Properties dialog box to document the page. Enter both short and long descriptions of the page here. You can also document what changes have been made, or must be made, to a page.

Changing General Page Information

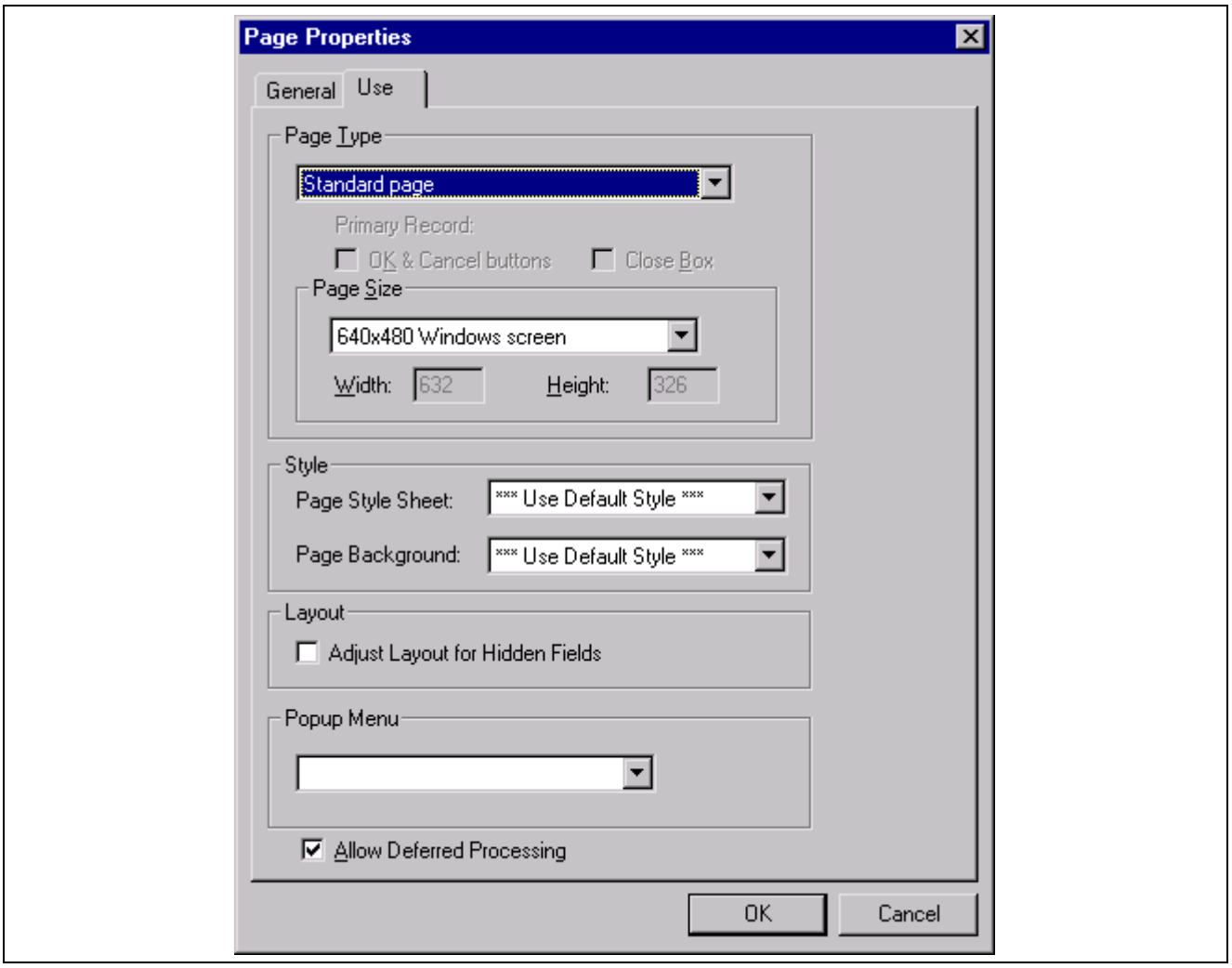
Access the Page Properties dialog box. Select the General tab. Enter a description and any comments about the page and assign an Owner ID.



Page Properties dialog box: General tab

Changing Page Use Information

Access the Page Properties dialog box. Select the Use tab.



Page Properties dialog box: Use tab

Page Type Use the standard page, or select subpage or secondary page from the drop-down list box.

See Chapter 9, "Using Page Controls," Understanding Subpages, page 202.

See Chapter 9, "Using Page Controls," Understanding Secondary Pages, page 240.

Page Size

To accommodate different types of workstation monitors, you can adjust the page size.

800x600 page inside portal This is the standard option for viewing pages in the portal, making room for the universal navigation header and the menu. It provides a default page size of 570 × 330 in PeopleSoft Application Designer.

800x600 page without portal Most pages should be developed using this option. It is the standard option for viewing pages, making room for the navigation header and the menu. This option provides a default page size of 760 × 330 in PeopleSoft Application Designer.

1024x768 page inside portal Selecting this option provides an optimal display for users with a 1024 x 768 resolution, showing the full transaction page and the menu. Users with an 800x600 display, will see the full transaction page without the menu when the menu is enabled. This option provides a default page size of 760 x 498 in PeopleSoft Application Designer.

1024x768 page without portal For the power user, this is a high-resolution option. It provides a default page size of 984 × 498 in PeopleSoft Application Designer.

240xVar portal home page comp.(240 x Variable portal home page component) Use only for creating pagelets for the portal. This size is most usable because it can be viewed in both the narrow area and the wide area of the portal. While the width is set to 240, you can set the height.

490xVar portal home page comp.(490 x Variable portal home page component) Use only for creating pagelets for the portal. This size can be displayed only in the wide area of the portal. While the width is set to 490, you can set the height.

640x480 Windows screen Deprecated feature used only for Windows client users. This is designed for VGA resolution. The pages are actually less than 640 × 480 pixels in size in PeopleSoft Application Designer, because they provide space for various windows items, such as the window title, menu bar, and toolbar.

800x600 Windows screen Deprecated feature used only for Windows client users. This is designed for Super VGA resolution. These pages provide space for the window title, menu bar, toolbar, folder tabs, and status line, as well as space at the bottom for the taskbar.

Custom size Select to set a specific page size other than those listed previously. Set the width and height manually.

Note. As a licensee of PeopleTools, you are licensed to use the base portal technology, which is limited to navigation to licensed PeopleSoft applications. If you want to register additional non-PeopleSoft content, customize your homepage, or create any pagelets, you must license PeopleSoft Enterprise Portal.

Style

Page Style Sheet Select a different style sheet for a specific page to override the style sheet that is selected for the application. If you do not select a different page style sheet (keeping ****Use Default Style****), the system uses the style sheet that is specified on the PeopleTools Options page.

Page Background Select a different page background style class to override the background style of the page style sheet specified above. If you keep the ****Use Default Style***,* the background of this page is determined by the default background of the page style sheet.

Note. The style options you select do not necessarily appear the same in the design time and runtime rendering of the page. For example, font and page control sizing metrics are different in the design time Windows environment and the runtime browser environment. As such, when developing pages, do not rely entirely on the rendering of the page in PeopleSoft Application Designer to gauge layout issues, such as font size and the placement of controls. All pages should be viewed in the runtime browser environment and adjusted accordingly.

Additional Settings

Adjust Layout for Hidden Fields	Select to set the page to resize automatically when hidden fields are present.
Pop-Up Menu	See Chapter 12, "Creating Menu Definitions," Defining Pop-up Menus, page 326.
Allow Deferred Processing	Clear if you want the page and all of its fields to follow standard processing. Deferred processing is the default.

Saving Pages

To save your work, select File, Save or File, Save As.

When you save your page, the system performs various edits and issues warning messages as appropriate. The warning explains any errors that are associated with each control. You can disregard these messages and save your work anyway, but you cannot view the page in the browser until all errors are corrected.

Access the explanation of an error message by clicking the Explain button in the warning message box. You can fix the problem immediately or save the page and return later to correct it.

Renaming and Deleting Pages

If you rename a page, the change is reflected throughout the system, including PeopleCode, so you don't have to change the page name anywhere else.

To delete a page, particularly a subpage or a secondary page, first use the Find Definition References option to determine which page, component, and menu definitions refer to or use the page you want to delete.

See Also

Chapter 2, "Using PeopleSoft Application Designer," Renaming Definitions, page 30

Chapter 2, "Using PeopleSoft Application Designer," Deleting Definitions, page 32

Chapter 2, "Using PeopleSoft Application Designer," Finding Definitions, page 33

Printing Page Definitions

To keep track of your application definitions and refinements, print your page definitions and keep a log or binder with your new and revised pages as you reconfigure your applications. You may want a reference for each page that includes both the onscreen image and the page control information (the record definitions and special uses or edits that you've applied), as well as the information for any subpages that are included in the page definition.

Printing page definitions also helps you debug during testing. Each report includes a unique identifier that's automatically incremented by the system each time that you change the page.

To print a page definition:

1. Open the appropriate page.
2. Select File, Print.

Altering Page Setup

Access the Print Setup dialog box by selecting File, Print Setup.

Print

All print options are selected, by default.

Definition Select to print the list of fields on the page and all of the parameters that you've set for each one.

PeopleCode Select if you used PeopleCode to design your page

Graphics Select to provide a snapshot of your page design. Graphics generally take longer to print than page descriptions or PeopleCode reports.

Borders

Header Select to print a header at the top of the report indicating the date and time that you printed the report and the database name, page name, version number, and page number. The default is selected.

Footer Select to print a footer at the bottom of the report indicating the date and time that you printed the report and the database name, page name, version number, and page number. The default is cleared.

Border Select to print a border or box around a page report. The default is cleared.

Border Space (mm) Select to insert a set amount of space between a graphical border around the page report and the margins of the report. Clear this option to print in character mode (faster), rather than in graphics mode (slower). The default space is 3 mm, but can be changed.

Margins (mm)

Set the distance from the edge of the page to the left, right, top, and bottom edges of the page image or report. The defaults are:

- Top: *20*.
- Bottom: *5*.
- Left: *10*.
- Right: *0*.

Note. PeopleSoft has selected the HP LaserJet as the default printer.

Reading Your Page Definition Report

This table lists the columns on the page definition report and describes their contents:

Column	Contents
Num	Sequential number that shows the relative position of the field in the field order list for the page.
Field Type	Field type, such as *edit box.*
Label Text	Label that's associated with the field, regardless of whether the label is actually displayed on the page.
Label Type	• *None:* Label is not displayed on the page. • *Text:* Text label. • *RFT Long:* Long name for the field (from record definition). • *RFT Short:* Short name for the field (from record definition). • *XLAT Long:* Long name for the value (from the Translate Table). • *XLAT Short:* Short name for the value (from the Translate Table). • *Bitmap:* Bitmap displays on button face.
Record Name	Record name where the field is located.
Field Name	Field name on the record definition with which the page field is associated.
Siz (size)	Field size (*custom, minimum,* or *maximum*).
Alg (alignment)	Alignment (*left* or *right*).
On	Value of the radio button or the *on* value of the check box (typically *Y*).
Off	The value of the radio button or the *off* value of the check box (typically *N*).
DSP (display)	*Yes* indicates a display-only field.
INV (invisible)	*Yes* indicates an invisible field.
CTL (control)	*Yes* indicates a display control field.
REL (related)	*Yes* indicates a related display field.
RelNum (related number)	Number (Num column) of the display control field for this related display field.

Column	Contents
CUR (currency)	*Yes* indicates a multicurrency field that does not display unless the user is operating in multicurrency mode.
DER (derived)	*Yes* indicates a field from a derived or work record.
OccLvl (occurs level)	Occurs level of scroll bar that governs this field.

You may see additional reference lines below each field or at the end of the report:

Reference	Description
Page Help Context: nnn	Indicates that the page has been assigned a page help context number, linking it to a help file that describes how the field is used wherever it appears in the database.
Field Help Context: nnn	Indicates that this field, as used on this page, has been assigned a record field help context number, linking it to a help file that describes how the field is used only as it appears in this record definition.

CHAPTER 11

Creating Component Definitions

This chapter provides an overview of component definitions and discusses how to:

- Define components.
- Specify market-specific components.
- Determine where a component is used.
- Set component properties.
- Override the search record.
- Access the message catalog.
- Enable Expert Entry feature in Security component.

Understanding Component Definitions

A component represents a complete business transaction. It comprises either a single page or a set of pages that are meant to be processed as one. After you create pages, you add them to one or more components to access them through menus or in business processes.

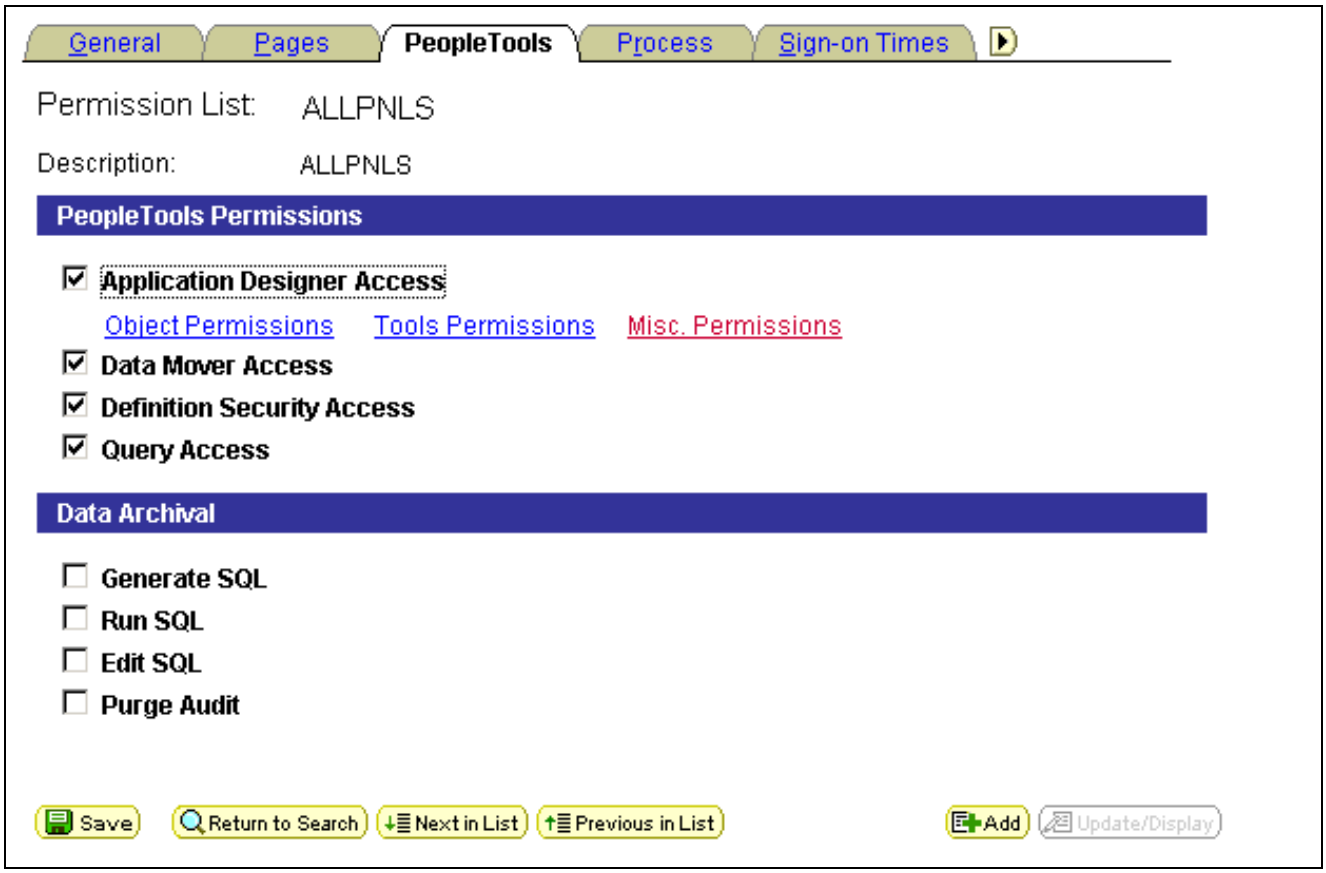
This section discusses:

- What component definitions manage.
- The component buffer.

What Component Definitions Manage

Component definitions manage:

- Grouping of pages and their associated tab labels.
- Search records that are used to retrieve data for the page.
- Access keys for folder tab navigation.
- Links at the bottom of a page.
- The toolbar at the bottom of a page.



Sample component with multiple pages (tabs)

If a component contains more than one page, you can control which page appears first by setting the display order in PeopleSoft Application Designer. At runtime the user can navigate between the pages of a component by selecting:

- Folder tabs at the top of the page.
- Links at the bottom of the page.
- Specified access or hot keys.

Component Buffer

When you open any page in a component, the system retrieves all of the data records for the entire component and stores them in one set of record buffers, organized by scroll level and then by page level. This *component buffer* consists of rows of buffer fields that hold data for the various records that are associated with page controls, including the primary records, related display records, derived work records, and translate table records.

You can change the records in memory either through the user actions on the page or through PeopleCode that is associated with different page controls. At runtime, you open and save the entire component, not just individual pages. When you save *any* page in the component, you automatically save the whole component.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Developer's Guide, "Referencing Data in the Component Buffer"

Defining Components

This section provides an overview of the component definition window and discusses how to:

- Create a new component definition.
- Open an existing component definition.
- Add pages to components.
- Reorder pages in a component.
- Copy or move pages to another component.
- Set page attributes.

Understanding the Component Definition Window

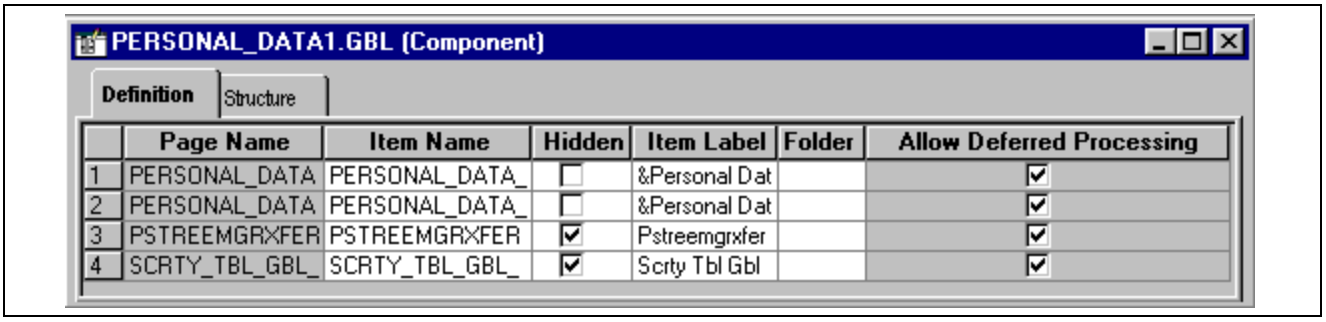
When you design pages of a component, the pages should share the same basic key structure because they share the same search record.

Depending on the complexity of the component, the system may take longer to display the first page than to display other pages in the component (or even redisplay the first page) because it is loading records for the entire component.

The component definition window has two tabs, Definition and Structure, that provide different views of a component.

Definition Tab

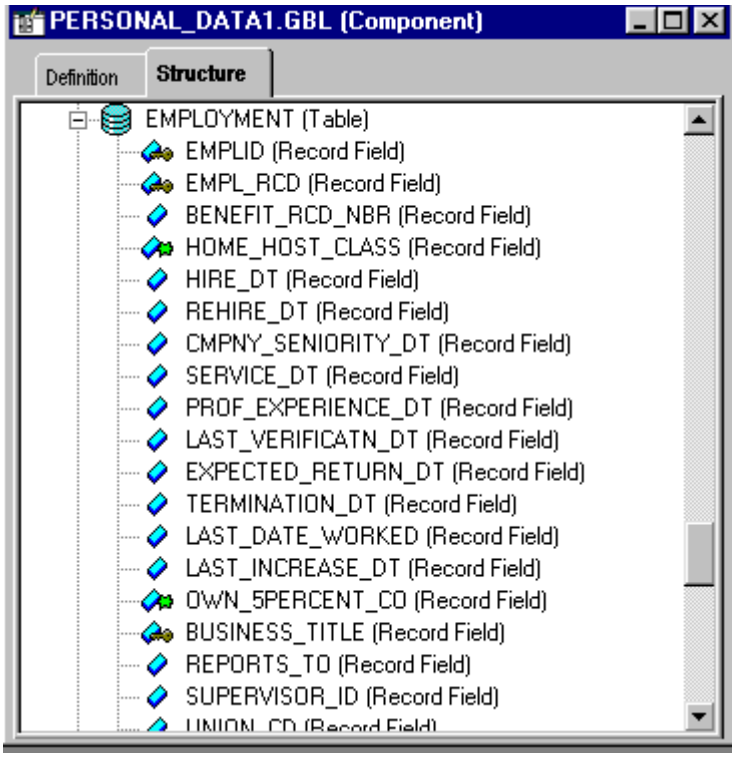
The default component definition view displays the page items and corresponding attributes of a component definition. You can double-click the page name to open the page definition.



Component definition view

Structure Tab

The structure view shows records and scrolls in a tree representation. It provides information about page levels and component records and their roles. You can double-click the objects in this view to open their definitions.



Component structure view

You can view the PeopleCode that is attached to any of the components by right-clicking and selecting the View PeopleCode option from the pop-up menu. The PeopleCode Editor opens directly in the workspace, displaying the related PeopleCode.

Note. The Structure tab only displays the runtime state of the PeopleCode. That is, it only displays record field PeopleCode. For example, PeopleCode programs that are orphaned as a result of a page definition change do not appear in the Structure tab. On the other hand, these orphaned PeopleCode programs do appear in the PeopleCode Editor, which displays the design-time view of PeopleCode.

A key icon appears next to all key and alternative search key fields in the component structure view.

An asterisk icon appears next to all fields that are required.

Creating a New Component Definition

To create a new component definition:

1. With a new or existing project open in PeopleSoft Application Designer, select File, New.
2. Double-click Component.

   The new component definition appears in the workspace.

When saving a component definition, make sure to adhere to the accepted naming conventions for PeopleSoft definitions.

See Chapter 2, “Using PeopleSoft Application Designer,” Saving Definitions, page 30.

Opening an Existing Component Definition

To open an existing component definition:

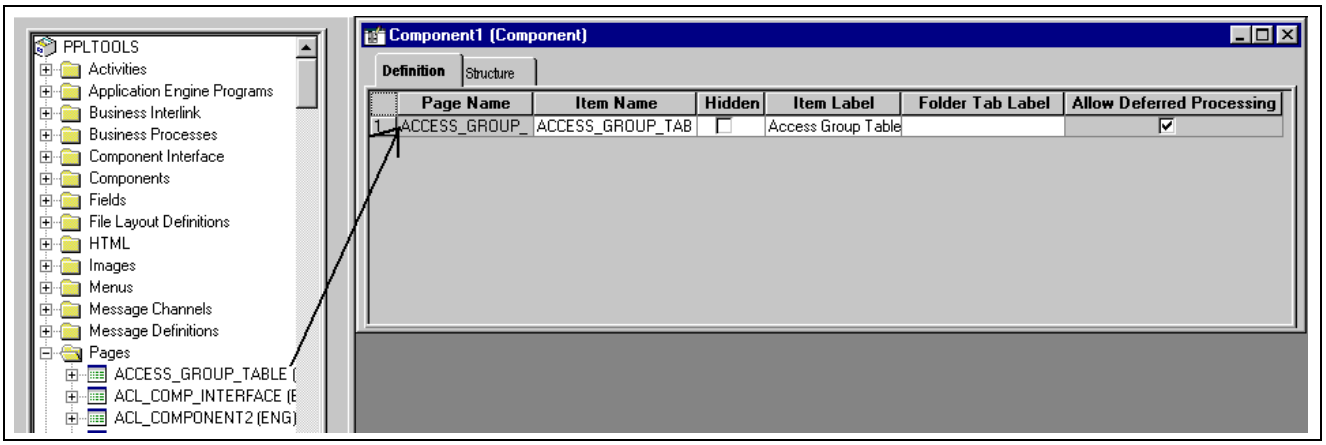
1. Select File, Open.
2. Select Component as the type.
3. Specify the selection criteria.

   The component definition appears in the workspace.

Adding Pages to Components

This section discusses how to:

- Use the Insert menu to add a page.
- Drag a page into the component.



Dragging from the project workspace to a component

Note. The system does not allow you to move or delete all pages from a component definition. The component must contain at least one page definition.

Using the Insert Menu to Add a Page

To add a page to a component using the Insert menu:

1. Open a new or existing component in the workspace and make the definition active.
2. Select Insert, Page into Component.
3. To narrow your search, enter selection criteria, such as name, description, or project.
4. Click Insert.

   A list of available pages matching your search criteria appears.
5. Select the page that you want to add to the component.
6. Click Insert.

   The page that you selected appears in the component in the workspace.
7. When you are finished adding pages to your component, click Close.
8. Save your component.

Component names can be up to 18 characters in length.

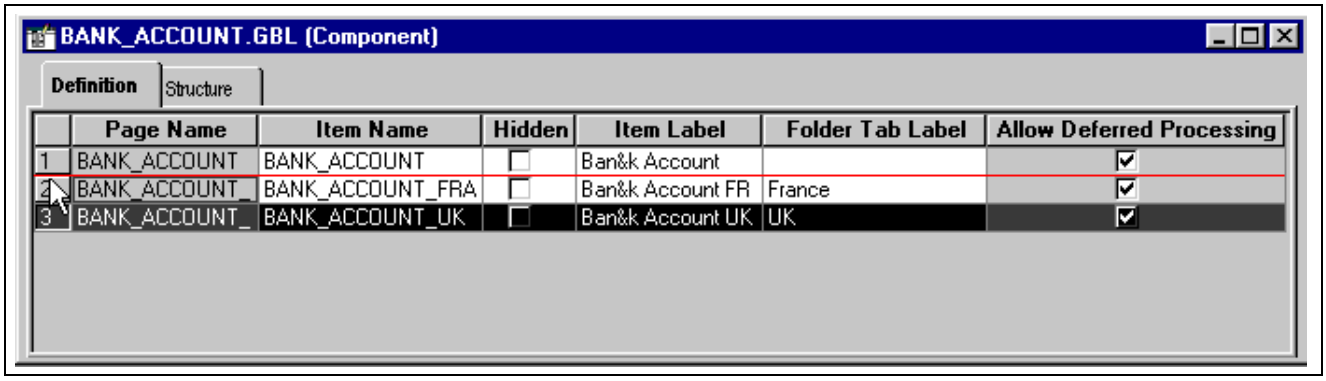
Dragging a Page Into a Component

To drag a page into a component:

1. Open the project and component.
2. Drag pages from the project workspace to the component.

Reordering Pages in a Component

After you add pages to your component, you can change the order in which they appear in the component.



Moving a page in a component

To reorder pages in a component:

1. Select a row number on the left-hand side of the component definition.
2. Drag the row to the correct position.

   The page is inserted immediately below the highlighted line. In the preceding example, the third page (UK) becomes the second.

Copying or Moving Pages to Another Component

After you create a component, you can copy or move pages from one component to another.

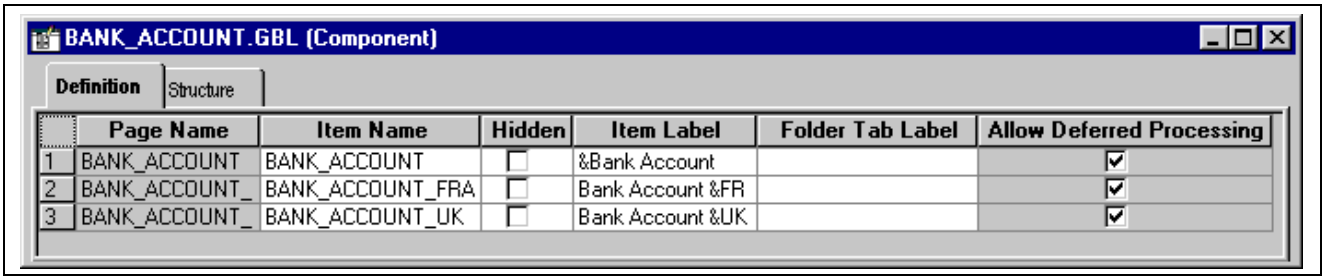
Note. The system does not allow you to move or delete all pages from a component definition. The component must contain at least one page definition.

To copy or move a page from one component to another:

1. Open both components.
2. In the left-hand column, select the number of the page that you want to copy.
3. Copy or cut the page:
   - To copy the page to another component, select Edit, Copy.
   - To move the page to another component, select Edit, Cut.
4. Select the other component.
5. Select Edit, Paste.

Setting Page Attributes

Each page in a component has attributes. Each attribute is represented by a column in the component definition.



Component item label and tab label

Page Name Displays the read-only name of the page definition. If you rename the page, this column is updated automatically.

When creating page definitions, you might want to use similar names to make them easily recognizable as a group of pages. For example, if you create three pages to hold the information for the Personal Data Table, the page names might be:

- PERSONAL_DATA1
- PERSONAL_DATA2
- PERSONAL_DATA3

Item Name Displays a name for each page in the component. This name must be unique in the component, and the default is the page name. This name is for informational purposes only. If you use the same page on more than one component, you might want to change the item name to reflect the purpose of the page in the component.

Hidden Specifies whether the page can be viewed by the user at runtime. Pages are usually hidden when they are used in work groups or associated with derived work records. For example, information from a page might need to be loaded into the buffer for PeopleCode to perform calculations, but the user does not need to see it.

Note. Marking the page as hidden also hides the toolbar, including the Save button, even if you choose to display the page by means of another method, such as the Transfer PeopleCode function.

Item Label Serves as the default folder tab label, unless a different label is specified. The item label should be unique for each page in a single component menu. The folder tab label is usually used when shorter names are needed for folder tabs.

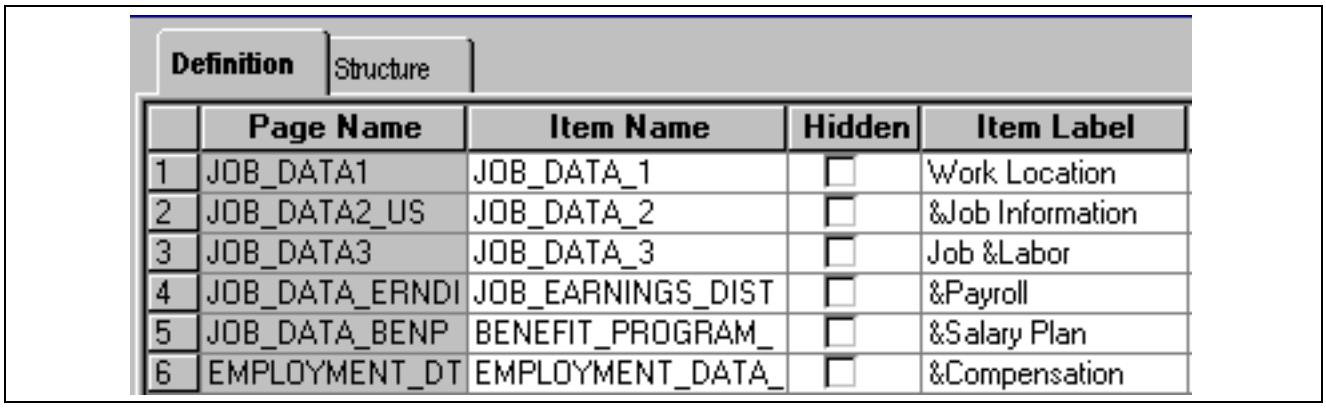
In the preceding example (BANK_ACCOUNT.GBL), for the first page in the component, the same text appears on both the folder tab and the component menu. The second and third pages have different menu names and folder tabs.

Folder Tab Label Displays the text that appears on the folder tab label. If no text is specified, the text of the item label is used on the folder tabs.

Allow Deferred Processing Indicates whether deferred processing is active for that page in its property settings.

Setting Access Keys

You can set *access keys* by placing an ampersand (*&*) in the text of each item label. Put the ampersand in front of the letter that you want to be underlined on the folder tab at runtime.



	Page Name	Item Name	Hidden	Item Label
1	JOB_DATA1	JOB_DATA_1	☐	Work Location
2	JOB_DATA2_US	JOB_DATA_2	☐	&Job Information
3	JOB_DATA3	JOB_DATA_3	☐	Job &Labor
4	JOB_DATA_ERNDI	JOB_EARNINGS_DIST	☐	&Payroll
5	JOB_DATA_BENP	BENEFIT_PROGRAM_	☐	&Salary Plan
6	EMPLOYMENT_DT	EMPLOYMENT_DATA_	☐	&Compensation

Item labels with ampersands (&)

At runtime, the user can navigate between pages by pressing ALT, plus the letter that is underlined, followed by ENTER.

Underlined access keys on tabs

See Also

Chapter 8, “Designing Pages for Optimal Performance and Accessibility,” Using Instructional Text, page 182

Validating Components

PeopleSoft Application Designer includes a validate utility to verify the integrity of a component. The validate utility runs a series of tests on components to check that the component will operate properly at runtime and sends the results to the Validate tab in the output window.

To validate a component:

1. Open the desired component definition.
2. Select Tools, Options, Validate, and make sure that Validate PeopleSoft Internet Architecture Execution is selected.

   Note. This option must be selected for the validate tests to be invoked.

3. Select Tools, Validate Component.
4. View the results displayed in the Validate tab, and correct any errors.

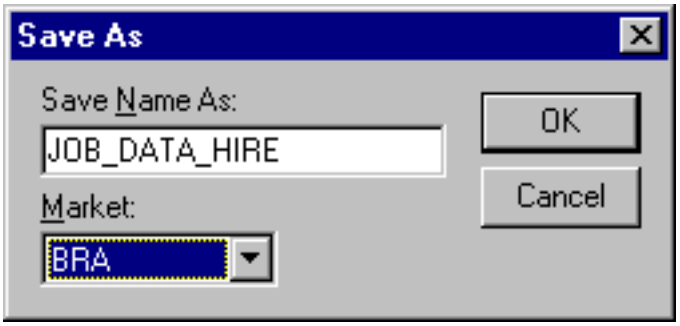
See Also

Chapter 2, “Using PeopleSoft Application Designer,” Setting PeopleTools Options, page 21

Chapter 3, “Working With Projects,” Validating Projects, page 56

Specifying Market-Specific Components

You might want to add custom features to a component that is specific to an international market or region. For example, suppose that a page is used in a procedure for hiring new employees and that the procedure includes special transactions that are required only when an employee is hired in Brazil. You can create a custom component using the same component name as the component from which it is derived and saving it using a market setting of *BRA*.



Component saved with BRA market setting

Market-specific components are independent of system-side language settings and are accessible to any user who has security access to the component. This makes it possible for an English-speaking user in New York, for example, to perform a procedure for hiring an employee in Brazil.

Access the market setting of a component using the PeopleCode %Market system variable. Consequently, you can maintain a single set of PeopleCode programs for a set of market-specific components and build conditional logic into the PeopleCode programs that run only in components that have specific market settings.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference, "System Variables," %Market

Determining Where a Component Is Used

The Find Definition References feature enables you to generate a list of the menus in the database that reference a specific component; that is, a list of the menus in which the component is used. You can invoke this feature from either the project workspace or the workspace. Select Find Definition References from the Edit menu.

See Also

Chapter 2, "Using PeopleSoft Application Designer," Finding Definitions, page 33

Setting Component Properties

In the Component Properties dialog box, specify the update and data entry actions; on the Use tab, specify the search record information. You can also save notes about the component on the General tab. Use the Internet tab to set attributes that affect how the component appears in the browser at runtime.

This section discusses how to:

- Open the Component Properties dialog box.
- Set general properties.
- Set use properties.
- Set internet properties.

Opening the Component Properties Dialog Box

To open the Component Properties dialog box:

1. Open the component definition.
2. Select File, Definition Properties.

   The Component Properties dialog box appears with the General tab active.

Setting General Properties

Access the Component Properties dialog box.

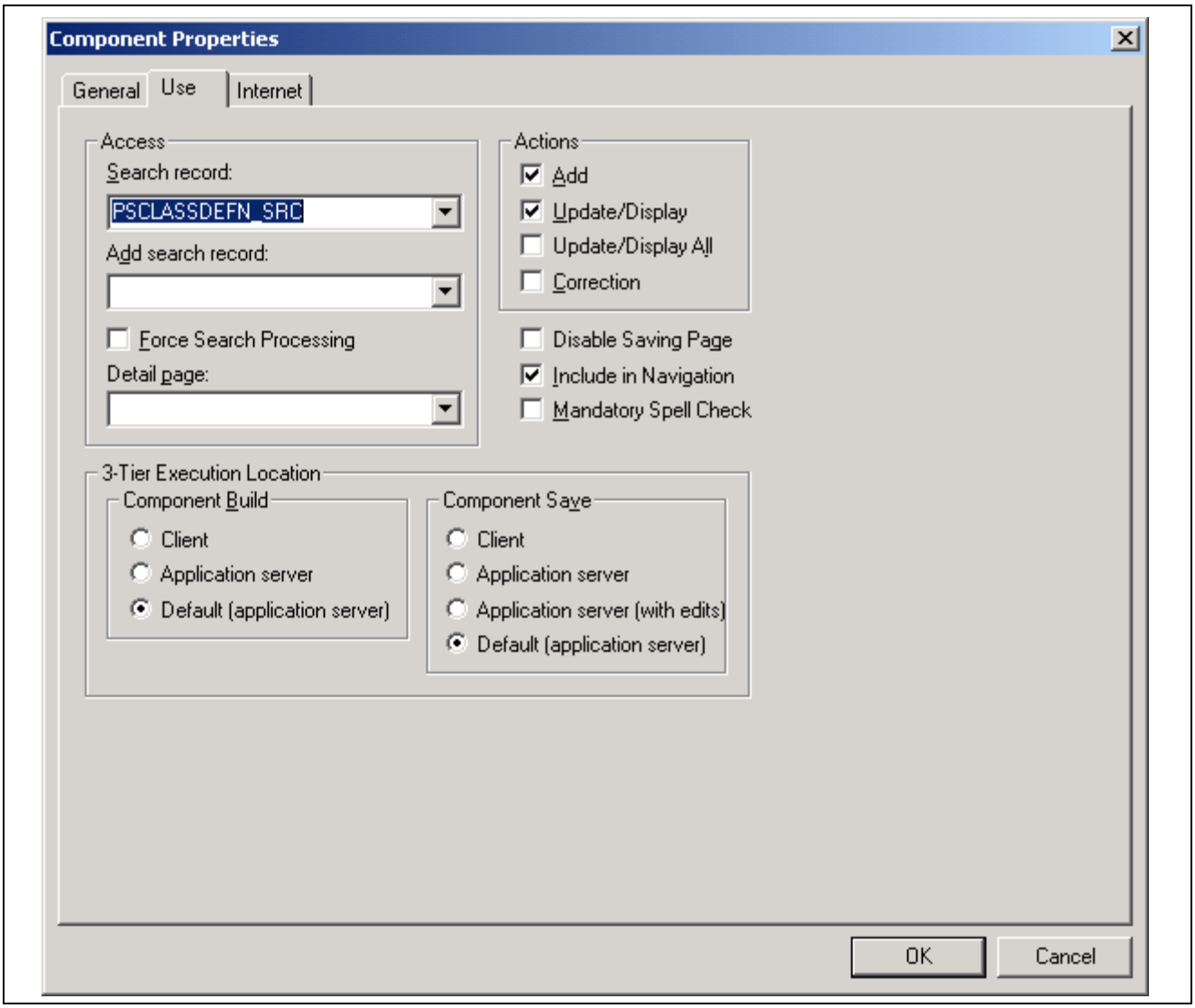
Description Enter a descriptive name for the component.

Owner ID Select the application to which this component belongs. This list is helpful to identify the applications that are associated with the component during the application development phase.

Last Updated View the date and time of the last modification made to the component and the name of the user who made the modification.

Setting Use Properties

Access the Component Properties dialog box. Select the Use tab.



Component Properties dialog box: Use tab

Access

Search record Specify the search record for this component.

Add search record Specify if you want a different search record specifically for add actions. For example, if you selected the auto-numbering option for employee IDs (EMPLID), don't include EMPLID in the search record. Likewise, you might want to create special security views for add actions that limit the rows that users can add, based on specific search criteria. The system default is the standard search record if you don't specify an add search record.

Force Search Processing Select to always run search logic (SearchInit PeopleCode) for this component. The default is cleared.

Detail page No longer used in PeopleSoft applications. This option appears for upgrade purposes only.

Note. To see a subset of search records, type a few characters first. The drop-down list box is populated with a list of all record definitions with names that begin with those characters. This reduces access time and enables you to find specific records faster.

Actions

Add Select to add a new high-level key, such as a new employee ID or customer. Except in the case of effective dating, Add is used to insert a new current row or to update future rows.

Update/Display Select to update existing rows only.

Update/Display All Select to update current and future rows in an effective-dated record. Use only with effective-dated records. Do not use these actions unless the main record that is associated with the page definitions is effective-dated. This is translated to include history at runtime.

Correction Select to update any rows (history, current, and future) in an effective-dated record. Use only with effective-dated records. This is translated to correct history at runtime.

Disable Saving Page Select when you want to hide the Save button in the toolbar and disable the ALT+1 (Save) hot key. This prevents the user from being prompted to save when exiting a page. However, it doesn't prevent using PeopleCode to save a page with the DoSave() or DoSaveNow() functions. This can be helpful for applications in which the user isn't making database changes and doesn't need to be prompted to save.

Include in Navigation Select to include the component in the menu navigation at runtime. The default is selected. If you do not want the component included, clear the check box.

Mandatory Spell Check Select to ensure that spell check is run on all eligible spell check enabled fields in the component when the user saves the page. A field is eligible if it has been changed (or its ReEdit set) and it has not already been manually spell checked since it was last changed.

Note. If you must add a new high-level key, such as a new employee number or customer, select both Add and Update/Display. If you are adding information to an existing high-level key, such as adding education data for an employee, select only Update/Display. You're not adding a new employee ID—it already exists on the database.

Three-Tier Execution Location

This section applies to Windows client applications only.

To partition application processing between the client and the application server, you must define units that, as a whole, run in one location or the other. We call these units *processing groups*. Processing groups can encompass one or more PeopleCode events.

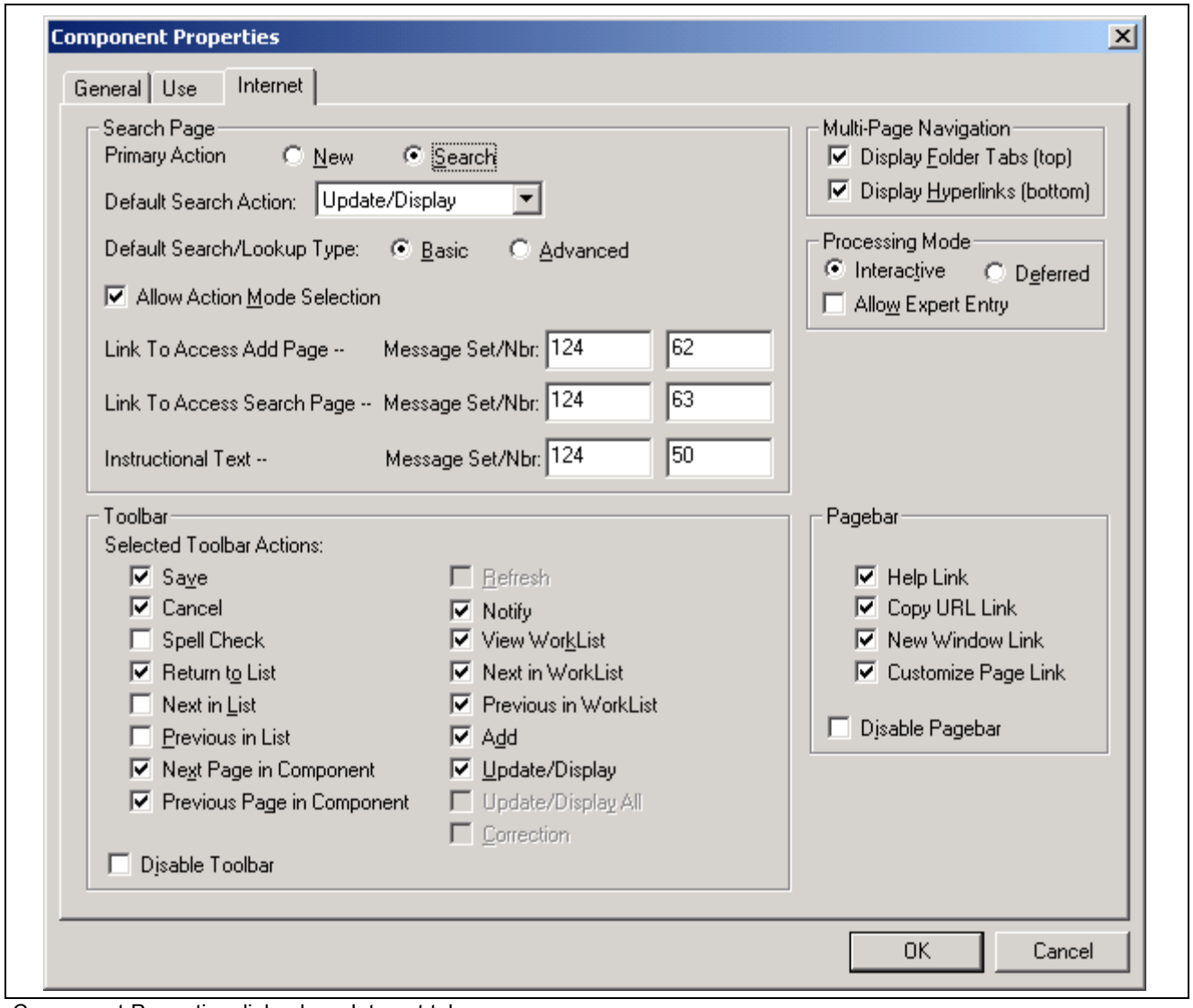
Component Build Specify where you want all processing to occur after the key list of a page is selected and before the user can interact with the page. This includes building component buffers and running many types of PeopleCode.

Component Save Specify where you want all processing to occur after the user saves the component and SaveEdit PeopleCode validations have succeeded. It includes

SavePreChange, WorkFlow, and SavePostChange PeopleCode and updates to the database.

Setting Internet Properties

Access the Component Properties dialog box. Select the Internet tab.



Component Properties dialog box: Internet tab

Search Page

Primary Action

Select the default mode by which the user accesses the associated page. Select New for Add mode. Select Search to use the action that is specified in the Default Search Action drop-down list box.

Specify where you want all processing to occur after the key of a page is selected and before the user can interact with the page. This includes building component buffers and running many types of PeopleCode.

Default Search Action	Select from a list of the actions that you set in the Actions group box on the Use tab of the Components Properties dialog box. If you set only one action, this drop-down list box provides that choice as the default. The default search action determines the default that users see, but they can select another option from the toolbar at runtime.
Default Search/Lookup Type	Select Basic or Advanced.The basic search page provides a choice of which field to search (either the primary and alternate search keys). PeopleSoft recommends using the basic search page for new users because it is easier to understand. If you select Advanced, the advance search page is the default. The search and lookup type applies to the search page and all of the lookup pages in the component.
Allow Action Mode Selection	Select to display the Include History and Correct History check boxes on a search page. If the user selects Include History on a search page, the page appears in Update/Display All mode. If the user selects Correct History, the page appears in Correction mode. However, both of these check boxes appear only on the search page if Update/Display All and Correction were selected as actions in the Use properties for the component and the user has security access to the modes. This check box is selected by default.
Link to Access Add Pageand**Link to Access Search Page**	Specify the message set and number to display on an Add or Search page.
Instructional Text	This is set to display the Find an Existing Value heading on the search page. You can change the default message or redirect the component to use another message that is more appropriate for your use.

Toolbar

Select the toolbar actions that you want to display on the component pages. When you select a check box, that item appears as a toolbar button at the base of the component at runtime. All toolbar actions are set to display by default with the exception of Next Page in Component , Previous Page in Component and Notify. Note that the default settings for the Action and Save buttons are impacted by settings on the Use tab of the Component Properties dialog box.

Disabling any of the toolbar options also disables the hot key for that option in the PeopleSoft Pure Internet Architecture.

Save	Adds a Save, OK, or Apply button to the toolbar, depending on the page type.
Cancel	For modal components only. Clearing this box removes the Cancel button from the toolbar.
Spell Check	Runs spell check for all spell check enabled fields in the component, regardless of whether any changes have been made to the field.
Return to List	Returns user to the search page.
Next in List and **Previous in List**	Populates the page with the next or previous row of data from the database as shown on the Search page.
Next Page in Componentand **Previous Page in Component**	Opens the next or previous page in the component if there is more than one page.

Refresh	Redisplays the page without saving any entered data.
Notify	Enables the user to send a notification to other users.
View Worklist	Enables the user to view the worklist from the current component page.
Next in Worklistand **Previous in Worklist**	Enables the user to access the next or previous item in the worklist.
Add, Update/Display, Update/Display All, and **Correction**	Select each to enable these toolbar buttons for this component. See Chapter 11, "Creating Component Definitions," Setting Use Properties, page 310.
Disable Toolbar	Select if you do not want to display the toolbar on the component pages.

Multi-Page Navigation

Display Folder Tabs	Select to display folder tabs at the top of the component page.
Display Hyperlinks	Select to display links at the bottom of the component page.

Processing Mode

Interactive	Select to send messages to the server whenever logic must be run. When the user presses TAB to exit a field-level event, a transmission to the application server occurs to run that field-level event and the page is refreshed.
Deferred	Selected as the default. This mode reduces transmissions to the application server. See Chapter 8, "Designing Pages for Optimal Performance and Accessibility," Understanding Processing Modes, page 173.
Allow Expert Entry	This is available for both processing modes. See Chapter 11, "Creating Component Definitions," Enabling the Expert Entry Feature, page 318.

Pagebar

The pagebar is a small menu bar that displays at the top of each component page just below the universal navigation header. You can select which options display to the user for each component. All options are selected by default. Select the Disable Pagebar check box to disable the pagebar altogether.

Help Link	Opens the online help PeopleBook entry for the current page.
Copy URL Link	Copies the current page URL to the clipboard. The copied URL includes page, action, and search key information to display in the context of the portal, if the user passed through the portal. If the user did not pass through the portal, then only the page displays without the portal frames. This option adds a small http button to the pagebar.
New Window Link	Opens a new browser window with the search page for the current component. Users can view or enter data in the new window.
Customize Page Link	Opens the Page Customization page which allows the user to control the initial display of the component. This option enables the user to:

- Select the initial page in the component to be displayed.
- Save the state of the expanded and collapsed sections.
- Save the state of the View All settings on the page for grids and scroll areas.
- Customize the page field tabbing order.

Users can also elect to copy and share their settings for the component with other users.

Note. If you set this option for a particular component, all users accessing the component are able to customize the pages in the component unless their personalization options prevent them from customizing pages. Security permission list settings or personalization options do not allow the option to be enabled or disabled per end user per component.

See *Enterprise PeopleTools 8.46 PeopleBook: Security Administration*, "Managing PeopleSoft Personalizations," Understanding General Options.

See *Enterprise PeopleTools 8.46 PeopleBook: Using PeopleSoft Applications*, "Setting User Preferences," Customizing Pages.

You can also enable or disable any of these options using PeopleCode.

See *Enterprise PeopleTools 8.46 PeopleBook: PeopleCode API Reference*, "Page Class".

More on the Customize Page Option

In order for the page customization option to display to the user, in addition to the selection of the Page Customization Link in the Pagebar, certain criteria must be met:

- A PeopleSoft Pure Internet Architecture page, including search and secondary pages, must be displayed to the user.
- The page cannot be a PeopleTools generated page, such as the Page Customization page or the Customize Column and Sort Order page for grids.
- The current page is not an iScript.
- The Customize Pagelink cannot be hidden using PeopleCode for the current component.
- The Customize Page Settings, CUSTOMPGSET, personalization option on the Define Personalizations page must be enabled.

  This option is enabled by default. If this option is disabled, the end user cannot define, share, or copy page customizations and all existing page customizations for the user are deleted.
- The current page must allow some form of personalization, based on the end users security profile and meeting *at least one* of these conditions:
  - Display more than one page element with a TABINDEX >=1 supporting customization (assume that all collapsible sections are expanded when determining visibility).
  - Contain at least one visible scroll area or grid with a visible View All link, enabled or disabled.
  - Contains at least one visible collapsible section.

Overriding the Search Record

This section provides an overview of search records and discusses how to override the search record.

Understanding Search Records

The search record controls access to rows of data in a table, and its keys and alternate search keys appear on the search page as criteria. The search record might also contain logic to refine the search to secure rows of data—row-level security is implemented in this way.

The search record field populates the high-level, or level 0, key fields on a page. These key fields usually appear above a scroll area or bar or on the page, and they are typically display-only. The search record for a component might differ from the primary record definition for a page and might contain any number of search keys, but it must contain all of the keys for each main level 0 record for a page.

Note. When you add page items that are based on derived work records, do not select that record definition as the search record. Instead, select a record definition that stores the primary key or a SQL view that searches for the criteria that best enables users to identify the rows that they want to retrieve.

If you are configuring menus in an existing PeopleSoft application, the easiest way to decide which search record to use is to look at the other search records that are used on the same menu. Look for pages with similar key structures and then evaluate the search records to see if any are suitable. You might want to print the PeopleTools Menu Listing cross-reference report (XRFMENU) to review which search records are used for pages and gain a better understanding of how search records are assigned in the application.

Overriding the Search Record

You might want to reuse a component, changing only its search record.

You can accomplish this by *overriding* the component search record at the time that the component is invoked from a menu. To override a component search record, specify a different search record in the properties of the menu item that invokes the component. The component uses the override search record when it is invoked from that specific menu item; the search record set in the component properties remains unchanged.

By reusing components in this way, you can limit redundancy, keeping your application smaller and easier to maintain.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference, "PeopleCode Built-in Functions," SetSearchDialogBehavior

Accessing the Message Catalog

Message sets and number settings come from the PeopleTools message set catalog.

To access the message catalog:

1. Select PeopleTools, Utilities, Administration, Message Catalog.
2. On the search page, enter the message set number that you want to access.

Component definitions support messages between 0 and 99,999.

3. Click Search to access a message catalog page.
4. Enter the message set and number on the Internet tab of the Component Properties dialog box.

   For example, enter message set and number *124* and *50* to display the Find an Existing Value message on the search page in the browser.

Enabling the Expert Entry Feature

This section provides an overview of the Expert Entry feature and discusses how to enable it in Security.

Understanding Expert Entry

Expert entry enables a user to change from interactive to deferred mode at runtime for appropriate transactions.

Note. Expert entry should be used only by *expert* users of the transaction who understand how all of the fields in the transaction behave. It requires the user to know the exact keystroke sequence for the transaction. This sequence typically varies for a transaction by customer, depending on the customer's setup and entry requirements. Therefore, expert entry should not be used by occasional users, because they might not be aware of the nuances of the transaction and when it is necessary to press the Refresh hot key.

To use expert entry, select:

- The Allow Expert Entry check box on the Internet tab of the Component Properties dialog box.
- The Enable Expert Entry check box in the user's profile.

If these check boxes are selected, an Expert Entry check box appears on the bottom of the page at runtime. If the user selects this check box, the transaction runs in deferred mode, regardless of the setting on the component, page, or field property.

When you set the component property to deferred mode, that component operates in deferred mode processing for all users, not just those who have expert entry enabled in their profiles.

If you want the component to process in deferred mode for some users and interactive mode for other users:

- Set the component property to Interactive mode.
- Select the Allow Expert Entry check box.

This enables security user profiles to control the users for whom deferred mode processing is possible.

Warning! Users who modify component properties from interactive mode to deferred mode or select the Allow Expert Entry check box should understand that this is an adaptation of the software, and, as such, they are responsible for thoroughly testing and supporting this change.

Refresh Button

The Expert Entry feature enables you to specify whether a Refresh button should be included on the component toolbar when the page is displayed. The Refresh button forces a transmission to the server to determine which fields have changed since the last transmission to the server and to run any processing logic that is associated with those changes.

Users can also refresh by pressing the ALT+0 hot key, which keeps the cursor in the same field when the page is refreshed. One can refresh any time during data entry to enable an *expert* user to:

- Update related display field values for the data that is already entered.
- Recalculate totals and balances.
- Provide defaults based on prior data that was entered on the page.
- Validate the data that has been entered on the page so far.
- Invoke the code to hide or gray items associated with specific fields.

Limitations of Expert Entry

These limitations exist when expert entry is enabled:

Hide, Unhide, Gray, and **Ungray**	The user must click the Refresh button after entering a value in a field that is associated with PeopleCode associated that hides, unhides, grays, or ungrays other fields on the same page.
Drop-down list box	The user must click the Refresh button after entering a value in a field that is a high-order key that is used to control the values in a drop-down list box.
Default values	Whenever expert entry is properly enabled and selected by the user at runtime, the transaction runs in deferred mode. As such, defaults, totals, balances, and related displays are not updated until the next transmission to the application sever (for example, when the user clicks a button, icon, link, or another tab). If the user wants the page updated before then, the user must click the Refresh button.

Enabling Expert Entry Through Security

To have the Expert Entry check box appear in the component at runtime, the security administrator must enable it in Security. This enables the Expert Entry check box to appear in any components for which you select the Allow Expert Entry property on the Internet tab of the Component Properties dialog box.

To enable expert entry through Security:

1. Sign in to the PeopleSoft system in your browser.
2. Select PeopleTools, Security, Use, User Profiles.
3. Select the General tab.
4. Select Enable Expert Entry in the General Attributes group box.
5. Click Save.

CHAPTER 12

Creating Menu Definitions

This chapter provides an overview of menus and discusses how to:

- Define custom component menus.
- Work with menu definitions.
- Define pop-up menus.

Understanding Menus

A menu is a logical grouping for assigning security to your system. You create a menu as a placeholder for components. After you save your menu, use the Registration Wizard to assign components and security.

You can create two types of menus using PeopleSoft Application Designer:

- *Custom* (component) menus provide an internal reference for components and pages. They are grouped logically into menu groups to assign security. They are not used for navigational purposes.
- *Pop-up* menus appear when a user clicks a pop-up button.

See Also

Chapter 13, "Using the Registration Wizard," page 331

Enterprise PeopleTools 8.46 PeopleBook: Security Administration, "Understanding PeopleSoft Security"

Defining Custom Component Menus

This section discusses how to:

- Create custom component menus.
- Set menu item properties.
- Set general properties.
- Set use properties.

Creating Custom Component Menus

After you create records, pages, and components, register your new component using the Registration Wizard. To do so you must first create a menu definition, if one does not already exist. This enables you to add the component to the new menu (for navigational purposes) and register it in the portal.

To create a new menu definition:

1. From the PeopleSoft Application Designer toolbar, select File, New..
2. Select Menu from the list.
3. Click OK.
4. Select the Standard option for the menu type.
5. Click OK.

   The thick rectangle surrounding the bar item indicates that this element in the menu definition is currently selected. The empty, dashed rectangle is a placeholder for a new bar item label.
6. Assign a bar name and label.

   You can define multiple menu bars for the menu. Double-click the rectangle to display the Bar Item Properties dialog box.
7. Enter the bar item name and label.

   The most commonly used bar item name is *Use.*.
8. Click OK to accept the settings in the Bar Item Properties dialog box.

   The new label appears in the menu and the empty rectangle appears in a new location.
9. Set the menu item properties.

   When creating a menu simply as a placeholder for components for the Registration Wizard, you need only add a separator bar to save the menu.
10. Set the menu properties.
11. Save the menu definition.

See Also

Chapter 12, "Creating Menu Definitions," Setting Menu Item Properties, page 322

Chapter 12, "Creating Menu Definitions," Setting General Properties, page 323

Chapter 13, "Using the Registration Wizard," page 331

Chapter 2, "Using PeopleSoft Application Designer," Saving Definitions, page 30

Setting Menu Item Properties

Set the menu item properties to define your menu item. When creating a new menu definition to be used in the Registration Wizard, you need only select *Separator* from the Type area of the Menu Item Properties dialog box. This enables you to save the menu definition for use in the Registration Wizard. If you decide not to use the Registration Wizard you need to perform the entire following procedure and set the general and use properties for the menu definition.

To define a menu item:

1. In a standard menu definition, double-click a menu item to access its properties.

   To create a new menu item, double-click the empty rectangle at the bottom of the menu.
2. Specify the menu item.

   Name Specify the system name for the menu or menu item. Menu and menu item names must conform to a specific set of naming conventions for the

system to recognize them: all uppercase letters, no embedded spaces, and no special characters (for example, %, ^, &, *, $, #).

Label Specify the text label to appear on the menu. The label appears in the Home bar item or in a cascade menu of a menu group. You can place an ampersand in the text to assign a keyboard shortcut for the menu.

3. Select the menu item type.

   Component Select for a standard component menu item.

   PeopleCode PeopleCode menu items trigger PeopleCode programs. The program runs in a component buffer context, which allows PeopleCode to access values in the component buffer.

   Separator Select this option when creating a menu for the Registration Wizard. Selecting this option disables all other fields in the Menu Item Properties dialog box.

4. Click the Select button.
5. Select an enabling component in the Open dialog box.

   At runtime standard PeopleCode menu items are always visible in a menu, but they are active (enabled) only when their enabling components are open.

6. Save the menu item if it has not yet been saved.
7. In the menu definition, right-click the menu item, then select *View PeopleCode.*

   The PeopleCode editor appears.

8. Add a PeopleCode program in the menu item's ItemSelected event.
9. When you have finished typing the program, save the PeopleCode program and close the PeopleCode editor.
10. (Optional) Override the component search record.

    You might want to reuse the same component multiple times with different search records. You can accomplish this by overriding the component search record at runtime when the component is opened from a menu item without creating separate copies of the component. The component override is temporary, and occurs only when the component is opened from the menu item in which the override is set. It does not change the component definition.

    Select the Override check box, then select an override search record from the Override prompt field. The override search record must be a valid search record for the component; that is, it must have all of the search key fields that are at level 0 of the component pages.

11. Click OK to accept the settings.
12. Save the menu definition.

Setting General Properties

When you create or make changes to a menu, it's a good idea to document it for future reference. You can do this on the General tab of the Menu Properties dialog box.

Description Enter a descriptive name for the menu.

Comments Add a description of the menu or any other useful information.

Owner ID	View a list of applications with which this menu is used. This list is helpful to identify the applications with which the menu is associated during application development.
Last Updated	View the date and time of the last modification and the name of the user who made the modification.

Setting Use Properties

Setting properties on the Use tab of Menu Properties is optional. Any settings you assign are stored internally only.

Working With Existing Menu Definitions

PeopleSoft recommends that you do not modify PeopleTools menus, but that you create your own custom menu.

This section discusses how to:

- Add components to a menu.
- Rename menu definitions.
- Copy a menu definition.
- Delete menu items.
- Print menu definitions.
- Set up menu security.
- Import menu groups into portals.

Adding Components to a Menu

Use the Registration Wizard to add your component to a menu.

See Chapter 13, "Using the Registration Wizard," page 331.

Renaming Menu Definitions

When you change the name of the menu definition, you do not change the name of the application window that appears when you select the new menu from the PeopleSoft application.

To rename a menu definition:

1. Close all open definitions in the definition workspace.
2. Select File, Rename.

   The Rename Definition dialog box appears.
3. Select *Menu* from the Definition Type drop-down list box.
4. Click Rename.
5. From the list of available menus, double-click the menu that you want to rename.

6. Type the new name over the name that is selected on the menu definition.
7. Click Rename.

Note. If you rename a menu definition, be sure to rename the corresponding registry entries manually.

See Also

Chapter 2, "Using PeopleSoft Application Designer," Saving Definitions, page 30

Copying a Menu Definition

Creating a copy of a menu definition is different from renaming the definition. The Save As command creates a copy of the definition with a new name while keeping the old menu definition unchanged.

To copy a menu definition:

1. Open the menu definition that you want to copy.
2. Select File, Save As.

   The Save As dialog box appears.
3. Type a new name for the copy of the menu definition.
4. Click OK.

   You are prompted to save a copy of any PeopleCode that you have associated with the menu definition.

Deleting Menu Items

Delete an item to remove it permanently from a menu definition. To help prevent accidental deletions, you can delete only one entry at a time.

To delete a menu item:

1. Select the menu item that you want to delete.
2. Select Edit, Clear.

   If you attempt to delete a menu item that is linked to PeopleCode, the system issues a warning.

   If you proceed to delete it, the linked PeopleCode menu items are also deleted.

   If you delete an item by mistake, before you perform any additional edits or saves, select Edit, Undo to restore the menu item.

Note. When deleting menu items, remember to delete any corresponding registry entries.

Printing Menu Definitions

In addition to printing a menu definition from the definition workspace, you can obtain a formatted report of all menu definitions by printing the PeopleTools Menu Listing cross-reference report (XRFMENU). This report lists application windows in alphabetical order and details all menus in each window and all page definitions in each menu. It also includes the associated search record definition name and detail page definition name.

To print a menu definition:

1. Open the menu definition that you want to print so that it appears in the definition workspace as the current definition.

2. Select File, Print.

   The standard Windows Print dialog box appears.

Setting Up Menu Security

Whenever you make a change or add items to an existing custom menu definition, you might need to adjust your security settings. When you add a new menu to a security profile, that menu is available the next time that you sign in to the system. Use the Registration Wizard to assign security.

See Also

Chapter 13, "Using the Registration Wizard," page 331

Enterprise PeopleTools 8.46 PeopleBook: Security Administration, "Understanding PeopleSoft Security"

Importing Custom Menu Groups Into Portals

The menu import process creates content references for all components and pages that belong to the menu group. This should be used to migrate custom menus only.

See Also

Enterprise PeopleTools 8.46 PeopleBook: Internet Technology, "Configuring the Portal Environment," Importing Menu Groups into the Portal Registry

Defining Pop-up Menus

This section provides an overview of pop-up menus and discusses how to:

- Create pop-up menus.
- Define transfer menu items.

Understanding Pop-up Menus

Pop-up menus define the transition to another page—either a system-defined page containing a set of standard commands or a pop-up menu page that was created and associated with the pop-up button by an application developer.

You can also use pop-up menus to run a PeopleCode program. PeopleCode in pop-up menus does not share the same limitations as PeopleCode in standard menus, so pop-up transition menus provide an effective alternative to using command push buttons on pages. Pop-up menu PeopleCode programs can be used for any number of purposes, for example:

- To perform a modal transfer.
- To recalculate a field value.
- To trigger a PeopleSoft Workflow business event.

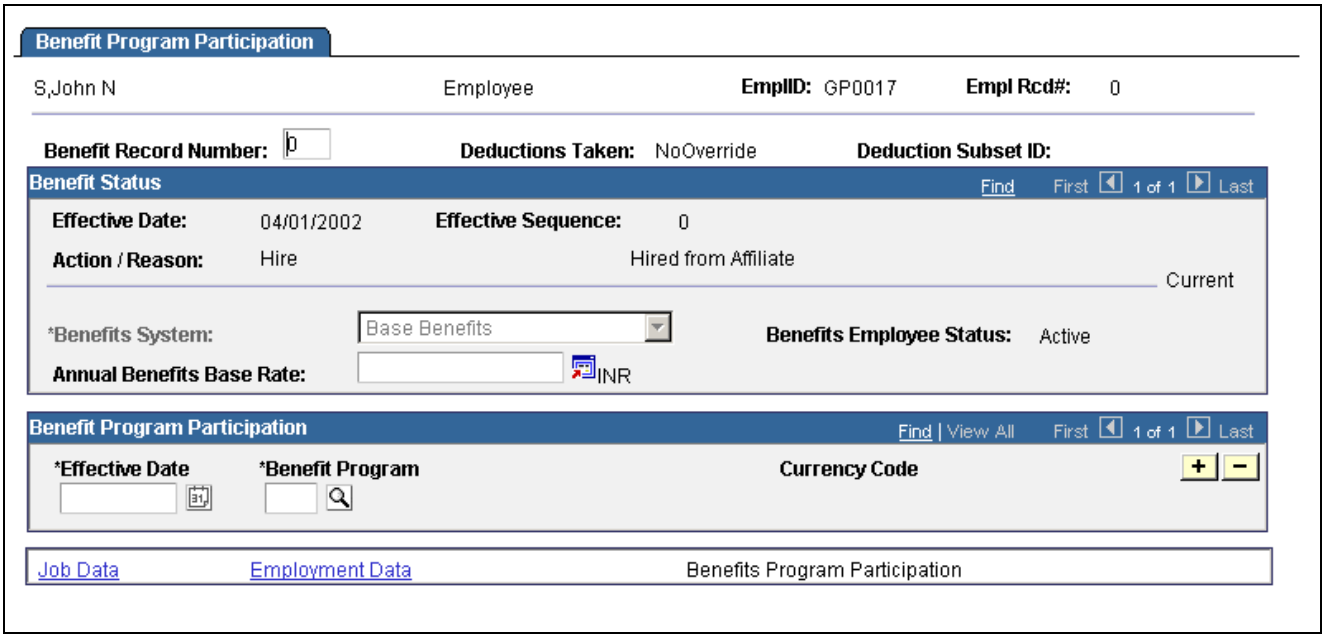
Behavior of Pop-up Menus in Pages

These standard icons appear on the page at runtime when a pop-up menu is defined for a page field:

When a user clicks the pop-up icon (PT_POPUP) on a page, a screen appears with a list of menu items from which to select.

This pop-up icon (PT_POPUP_SKIP) appears if a pop-up menu has only one menu item. When a user clicks this icon, the target transaction page appears immediately, skipping an intermediate page containing a list with one menu item.

For example, the Annual Benefits Base Rate field on the following page contains a pop-up icon, which opens the Display in Other Currency page.



Pop-up button on a page

This type of transfer to another component is called a *definitional transfer* to distinguish it from transfers that are made using PeopleCode programs. Definitional transfers are always nonmodal. To run a modal transfer, you must use PeopleCode.

Creating Pop-up Menus

This section discusses how to:

- Create a new pop-up menu.
- Associate a pop-up menu with a page field.

Creating a New Pop-up Menu

To create a new pop-up menu:

1. Select File, New.

   The New dialog box appears.

2. Select Menu.
3. Click OK.

   The New Menu dialog box appears.

4. Select the Popup option for the menu type.
5. Click OK.

   A new pop-up menu definition appears.
6. Define the menu items for the pop-up menu.
7. Set the menu properties.
   a. Add a description and comments about your pop-up menu.
   b. On the Use tab, type the menu label that you want to appear for that pop-up.
8. Save the pop-up menu definition.
9. To provide users with access to the pop-up menu, associate it with a page field.

Associating a Pop-up Menu With a Page Field

To associate a pop-up menu with a page field:

1. Open the page definition that contains the page field to which you want to associate the pop-up menu.
2. Right-click the page field, then select Page Field Properties.
3. When the properties dialog box for that field appears, select the Use tab.
4. In the Popup Menu group box, select from the available pop-up menus in the drop-down list box.
5. Click OK.
6. Save the page definition.

See Also

Chapter 12, "Creating Menu Definitions," Setting Menu Item Properties, page 322

Defining Transfer Menu Items

Transfer menu items, which can be created only in pop-up menus, enable you to specify a menu, component, and page to which the user is taken when the transfer menu item is selected. The following procedure describes how to create a new transfer menu item or redefine an existing menu item as a transfer menu item.

To define a transfer menu item:

1. In a pop-up menu definition, double-click a menu item to access its properties.

   To create a menu item, double-click the empty rectangle at the bottom of the menu. This displays the Menu Item Properties dialog box for pop-up menus.
2. If this is a new menu item, enter a menu item name and label text in the Menu Item fields.

   You can create a shortcut key for the menu item by placing an ampersand in the label.
3. Set the transfer properties.
   - Click the Transfer button to make this a transfer menu item.
   - Click the Define Transfer button to display the Transfer Properties dialog box.

     This dialog box enables you to define the properties of a definitional transfer that is made from a pop-up menu item. The component from which you are transferring is called the *originating component.* The component to which you are transferring is called the *destination component.*
4. Specify the following:

Portal Select the navigation registry, such as employee portal.

Node Select the PeopleSoft database to which you want the transfer menu to point. *Local* is the default. Valid values include all of the values in the MSGNODENAME column of the PSMSGNODEDEFN table. If you select a node other than *Local,* the system clears the Use data from current page in search dialog check box.

Menu Select the name of the menu containing the destination component.

Component Select the name of the destination component.

Market Select the market of the destination component.

Component Item Select the name of the page to display at the front of the destination component.

Action Select an action mode (*Update/Display, Update/Display All, Correction,* or *Data Entry*) to constrain the user profile to a specific action mode at the time of the transfer. The action modes that are available in the prompt list depend on which modes are specified as valid in the destination component definition.

Select *Prompt* to enable the user profile to select an available action mode at the time of the transfer. The action modes that the user profile can select depend on which action modes are defined as valid in the destination component definition and to which action modes the user profile is granted access in Maintain Security.

5. Set the transfer type.

Re-use current window Select to transfer to the component in the same window in which the transfer is initiated.

Use new window (minimize current window) Select to minimize the current window and open the destination component in a separate window.

6. Specify whether to supply search key values from the originating component.

Use data from current page in search dialog Select to use the values from the originating component search keys in the search dialog box of the destination component. If these values allow the system to select a unique row from the search record, the search dialog box is bypassed and the destination component opens immediately.

Clear this check box if you want the user to type the search key values into the search dialog box.

7. Click OK to accept the Transfer Properties dialog box settings.
8. Click OK to accept the Menu Item Properties dialog box settings.
9. Save the menu definition.

CHAPTER 13

Using the Registration Wizard

This chapter provides an overview of the Registration Wizard and describes how to:

- Register a component or iScript.
- Register the component in multiple portals.
- Register a mobile page.

Understanding the Registration Wizard

This section lists common elements and discusses the Registration Wizard.

Common Elements Used in This Chapter

content reference — A reference to a URL (Uniform Resource Locator) for a transaction page. Appears as a link in the navigation menu at runtime.

iScript — A specialized PeopleCode function that generates dynamic web content.

See *Enterprise PeopleTools 8.46 PeopleBook: PeopleCode API Reference*, "Internet Script Classes (iScript)".

permission list — A set of access rights to application objects, including processes and reports, weblib functions, and other elements.

See *Enterprise PeopleTools 8.46 PeopleBook: Security Administration*, "Setting Up Permission Lists".

portal registry — A tree structure in which content for a portal is organized, classified, and registered. A portal registry consists of folders, content references, and nodes.

See *Enterprise PeopleTools 8.46 PeopleBook: Internet Technology*, "Understanding Portal Technology," Portal Registry.

Working With the Registration Wizard

After you create your pages and assign them to a component, you can register that component to display the transaction page in the browser. You can do this using the Registration Wizard. The wizard gathers information, then attaches the component to a menu, assigns a permission list to allow security access rights, and places a content reference entry in the portal registry, which displays the component to the user on the navigation menu.

Note. Before running the Registration Wizard, the menu definition, permission list, and folder must exist. The wizard does not create these definitions. Instead it matches existing definitions to one another and creates the content reference.

Registering a Component or iScript

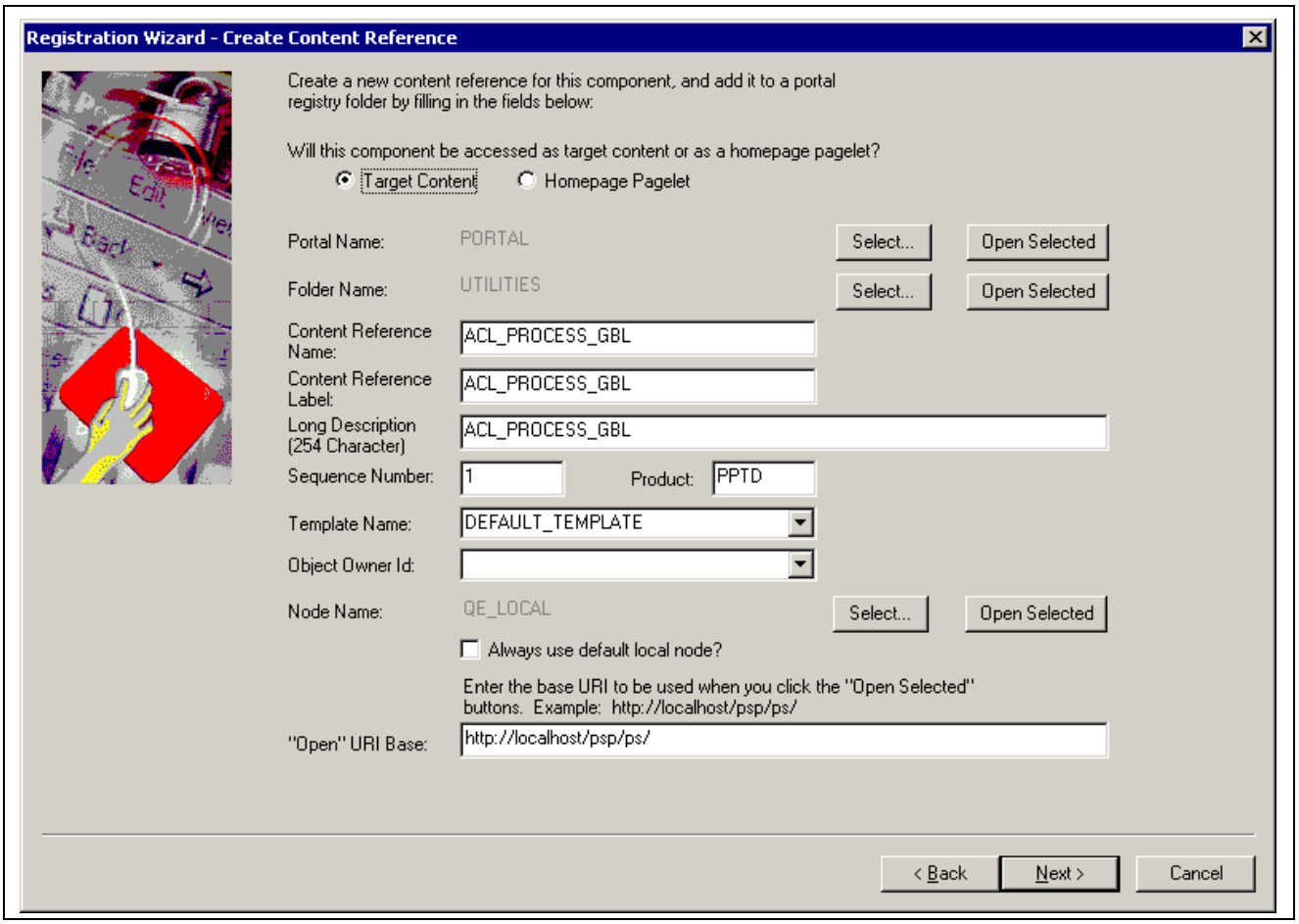
In Application Designer, open the component definition that you want to register. If you are creating a new component, make sure that you save it before opening the Registration Wizard. For iScripts, open the record definition that holds the iScript function. By convention, such records begin with the WEBLIB_ prefix.

You can access the Registration Wizard using any of these methods:

	Click the Register Component or Register iScript icon in the toolbar
Pop-up menu	Select Register Component from the pop-up menu after right clicking on the component.
Tools menu	Select Register Component or Register iScript from the Tools menu.

Note. All settings in the Registration Wizard default to those referenced in the previous wizard session.

The Create Content Reference screen of the Registration Wizard enables you to assign the component to a portal and assign a content reference name.



Registration Wizard - Create Content Reference

Target Content Select this check box to register all forms of target content (excluding homepage).

Homepage Pagelet Select to register a new homepage pagelet. The homepage template will be applied automatically.

Portal Name and **Folder Name** Click the Select button to change the portal or folder name. Click the Open Selected button to launch a browser that will take you to the administration page to create a new folder if necessary. The default values are the last ones referenced by the wizard.

Content Reference Name The name is automatically generated, including the market code as the suffix.

Content Reference Label This is the CREF hyperlink that the user sees as the registry entry.

Long Description Enter the hover text for the CREF link.

Sequence Number Enter a numeral to control the order in which the component appears within the chosen folder.

Product Enter the 2-character product code.

Template Name Specify the template to be used from the drop-down menu.

If you specified that the target content should be accessed as a homepage pagelet, then this field will not be displayed, and the homepage template will be applied automatically.

Object Owner Id Select the application development group that owns the object.

Node Name Click Select to change the Node name, or click the Open Selected button to launch the administration page to view the properties of the node.

Always use default local node Select to always override the selected node name with the specified default local node.

"Open" URI Base Enter the Universal Resource Identifier (URI) that specifies for PeopleSoft Application Designer the location of your PeopleSoft Pure Internet Architecture site. This is for informational purposes only. It is used only for the Open Selected button and not stored to the database.

If you entered a base URI on the Browser tab of the Options dialog box, that value displays in this field.

The URI you enter in this field is reflected on the remaining pages of the Registration Wizard. If you make a change to this field on any page, the change is reflected throughout.

To register a component or iScript:

1. Open the component or iScript you want to register.

   You can also launch the Registration Wizard from the menu definition by right clicking on a menu item that points to a component.

2. Open the Registration Wizard.

   Select Tools, Register in Portal or click the icon on the Toolbar.

   The Start screen of the Registration Wizard gives the option of adding the component to a menu, a portal registry, and/or a permission list. If this is a new component and the first time that you are running the wizard, you should select all three options. If you have already run the wizard on this particular component and just need to add it to an additional permission list or portal, deselect the other options.

   Add this component to a menu Select to add the component to a menu. You must create the menu definition first if it does not already exist. You specify the menu on the following screen of the Registration Wizard. If you do not select this option, you will need to add the component to the menu manually using the Menu designer.

   See Chapter 12, “Creating Menu Definitions,” Creating Custom Component Menus, page 321.

   Add this component to a portal registry Select if you want to create a content reference for the component and adds it to the portal registry you specify on the Create Content Reference screen of the Registration Wizard.

   Add this component to a permission list Select if you want to specify the permission list on the final screen of the Registration Wizard.

   If this is a new component or iScript and the first time that you’ve run the Registration Wizard, you will most likely want all three options selected. If you are rerunning the wizard to simply add the component to an additional permission list or another portal, you would clear the other options.

The wizard remembers the selection that you made the last time that you ran the wizard and selects those values by default.

3. Click Next.

   If you selected to add the component to a menu, the next screen, Add to Menu and Bar, opens.

4. Click the Select button to find the menu name and the drop-down list box to assign the bar name, then click Next.

   These names are not exposed to users, but are required for internal location purposes. Click the Open Selectedbutton to open the menu that you selected in Application Designer. To view the menu definition without closing the wizard, drag the Registration Wizard to the side.

5. On the Create Content Reference screen, select Target Content or Homepage Pagelet.

   If the component is a standard transaction, register it as Target Content.

6. Complete all fields in the Create Content Reference screen and click Next.

7. Click the Select button to find your menu name, then use the drop-down list box to select the name that displays on the bar.

   Menus are used as logical groupings to which you can apply security, PeopleSoft components are addressed by menu name (the URL includes the menu name). To add this component to a menu, specify the menu name and bar name.

   If you did not select the Add this component to a menucheck box on the Prompt page, this page displays the menu name and the Select button only. You then must select the correct menu that already contains the component.

   If you are working with an iScript, you must select the iScript function to register.

8. Click Next.

9. Select Target Content if your component is a standard transaction and complete the appropriate fields.

   The previous term table defines each of these fields.

   If you did not select Add this Component to a Portal Registry on the Prompt page, this page does not display.

10. Click Next.

11. Select the appropriate permission list, select all the actions that you want to grant this component or iScript, and enter the base URI.

    Use the Select button to view and select a permission list.

    If you did not select Add this Component to a Permission List, this page does not display.

12. Click Next.

13. Review the selections made so far. If you need to change anything, use the Back button to edit your entries.

    Select the options in the Add to project area to place your item into an active PeopleTools project. This is cumulative behavior—the more times you run the wizard while the project is active, the more menus, registry structures, and permission lists are added to that project.

14. Click Finish to complete the registry process into the specified portal.

    If you click Cancel all of the entries that you have made in the wizard will be lost and no changes will be made.

See Also

Chapter 12, “Creating Menu Definitions,” page 321

Enterprise PeopleTools 8.46 PeopleBook: Security Administration, “Setting Up Permission Lists”

Registering a Component in Multiple Portals

After you have used the Registration Wizard to register your new component into the portal you may need to register the component in other portals also.

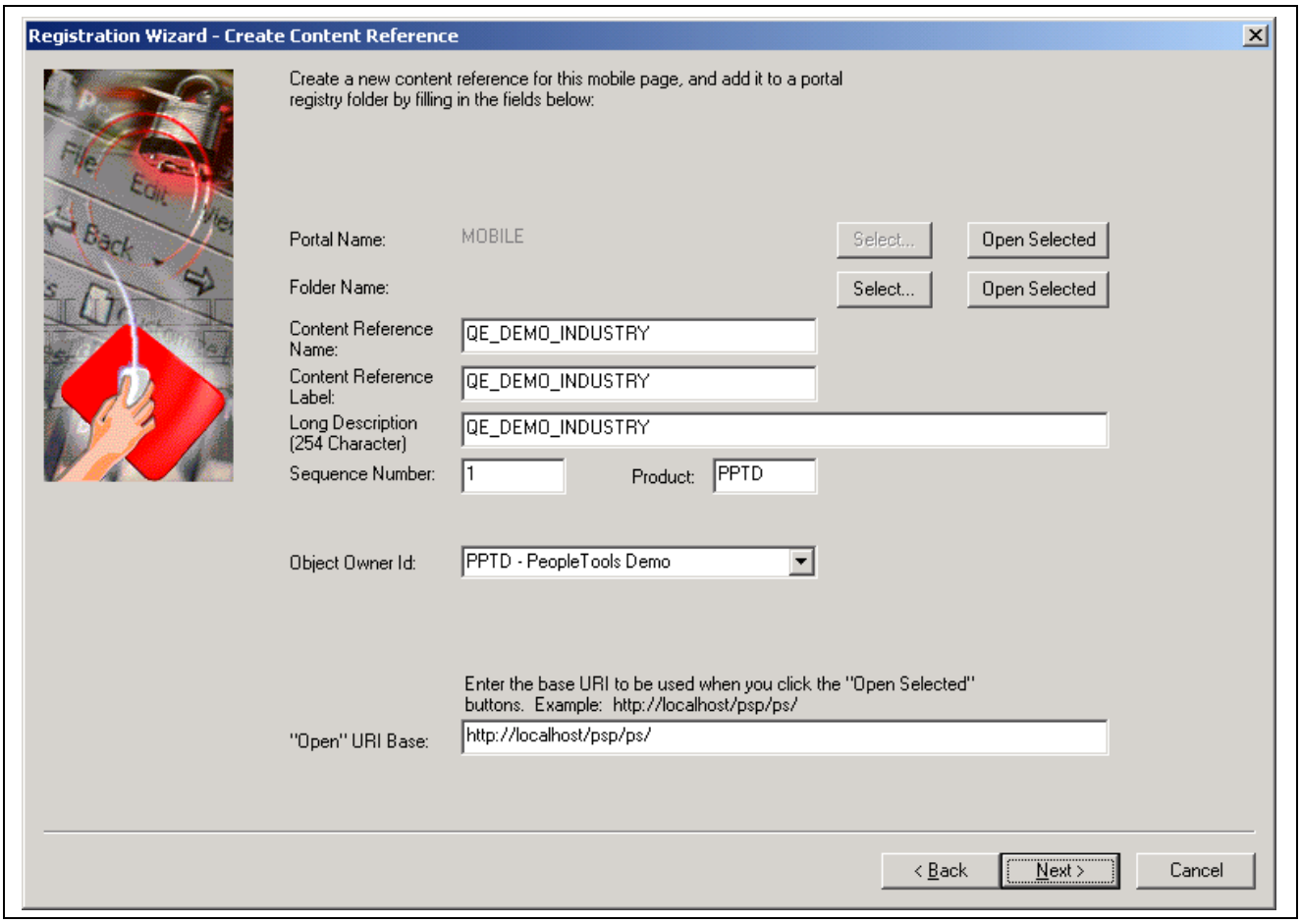
There are two ways to do this.

- You can use the Portal Registration Wizard again. Select only the second option: Add this component to a portal registry. Then reenter the content reference label, long description, and sequence number (if not 1) to match the other portal’s entry.
- You can just copy the component to other portals from portal Administration pages in the web client.

  See *Enterprise PeopleTools 8.46 PeopleBook: Internet Technology*.

Registering a Mobile Page

As with a component or iScript, you can also register a mobile page in the portal using the Registration Wizard, though the wizard is slightly different. This wizard always assigns the mobile page to the MOBILE portal and does not require a node name.



Registration Wizard for mobile page

To register a mobile page in the portal:

1. Open the mobile page that you want to register.
2. Open the Registration Wizard.

   Use any one of three methods to do this:

   - Click the Registration Wizard icon in the toolbar.
   - Select Tools, Register Component from the menu.
   - Select Register Component from the pop-up menu.
3. Set the Folder Name and content reference information.
4. Assign the Sequence Number, Product, and Template Name.
5. Select the object owner ID from the drop-down list box.
6. Click Next.

   The final screen of the wizard opens enabling you to verify the settings that you have selected. The registration wizard also adds your registry entry to the current project. The Registry entry check box is selected by default.
7. Review your settings in the output window and click Finish.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleSoft Mobile Agent, "Creating Mobile Pages"

CHAPTER 14

Creating Style Sheet Definitions

This chapter provides an overview of style sheets and classes and discusses how to:

- Create style sheets.
- Add a new class.
- Set class attributes.
- Change the default style sheet for an application.
- Specify a style sheet for a page.
- Change colors on tabs.

Understanding Style Sheets and Classes

This section discusses:

- Types of classes.
- PSSTYLEDEF

The default styles that PeopleSoft ships with your product come from *style sheets.* A style sheet is a definition, like a record or field definition, that you create in PeopleSoft Application Designer. It is a collection of formatting styles, each of which can be applied to page controls. A style sheet is a standalone definition that can be upgraded, deleted, renamed, and so on.

Style sheets are useful because they enable developers to change the formatting of many page attributes across multiple pages quickly and easily.

Sub Style Sheets

In the same way that PeopleTools supports subrecords, you can define *sub style sheets* to share a common set of classes. A sub style sheet has all of the properties of a style sheet.

Types of Classes

Each style sheet comprises individual *classes* that affect the formatting of each page control. Classes control a broad range of characteristics, including font size, spacing, alignment, border width, weight, and color.

Style sheets have two different types of classes: default and custom. When you create a new style sheet, a series of default classes is included in the definition.

Note. If you change a style attribute for any default classes, you change *every* occurrence of that control throughout an application (unless that control is overridden in the page field properties dialog box).

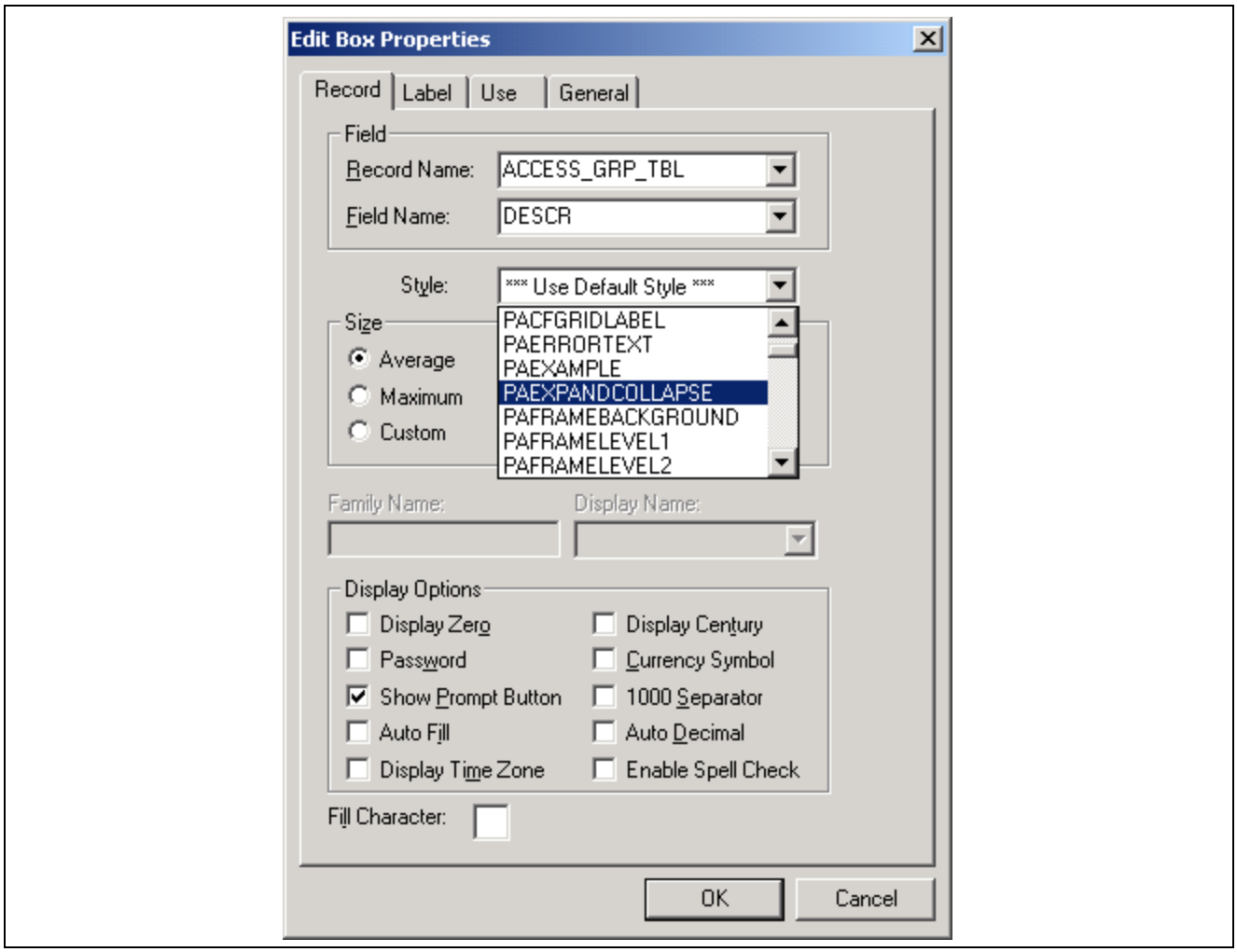
Default Classes

Each type of page control specifies an explicit default class. If the Style drop-down list box of a page element shows *Use Default Style,* the default class controls the formatting of that element on that page. You can override these classes by using the properties dialog box for each specific control.

Custom Classes

Individual page controls do not have to be associated with the default class. By creating new custom classes and overriding the default style, you can have unique pages in an application.

When you select the Style drop-down list box in the properties dialog box for the page control, all of the classes in the style sheet for that page appear.



Edit Box Properties dialog box showing style classes

Overriding Page Styles in a Field

Many page field controls have a style field in their field properties. Using this field property, you can specify a style class other than the default. You can also specify a different style class for a field at runtime using the Style property in PeopleCode.

Note. You can specify only a single style sheet for a page or an application. You can specify different style classes within that style sheet for a control. You cannot specify a page-field control class from a style sheet that is not associated with the page.

Depending on the page control, you can assign a style sheet class to either the label or the control itself. For example, for an edit box, you can specify the color that appears in the edit box *and* the color of the label and its text.

Example of Style Class Assigned at Runtime

To set a style class to a field at runtime, use PeopleCode to define the Style property for a field definition. This example sets a different style class to a field, depending on the value of the field:

```
Local Field &field;

&field = GetField();

If TESTFIELD1 = 1 Then;
   &field.Style = "PSHYPERLINK";
End-If;

If TESTFIELD1 = 2 Then;
   &field.Style = "PSIMAGE";
End-If;
```

Example of a field with PSHYPERLINK style applied

Example of a field with PSIMAGE style applied

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode API Reference, "Chart Class," Style Sheets and Charts

PSSTYLEDEF

PSSTYLEDEF is the default style sheet that is delivered with your PeopleTools software and consists of these sub style sheets:

- PSALTERNATE: Defines application alternatives to PS defaults.
- PAALTERNATE: Defines PeopleSoft Portal Solutions alternatives to PS defaults.
- PTSTYLEDEF: Defines the standard PeopleSoft Pure Internet Architecture and portal defaults.

If you want to change the style sheet, in the PeopleSoft Pure Internet Architecture select PeopleTools, Utilities, Administration, PeopleTools Options; then, select the desired style sheet in the Style Sheet Name field.

You can also change the sub style sheets associated with a style sheet.

See Chapter 14, "Creating Style Sheet Definitions," Inserting a Sub Style Sheet, page 342.

See Also

Appendix C, “Using Default Style Classes,” page 527

Creating Style Sheets

This section discusses how to:

- Create a new style sheet or sub style sheet.
- Insert a sub style sheet into a style sheet.

Creating a New Style Sheet

To create a new style sheet or sub style sheet:

1. Select File, New.
2. Select Style Sheet from the list.

   When you create a new style sheet, the system sets the parent to be the style sheet listed in the PeopleTools Options page (default is PSSTYLEDEF).
3. Select File, Definition Properties.

   The Style Sheet Properties dialog box appears.
4. Specify the style sheet options.

Standard Style Sheet and **Sub Style Sheet**	Select the type of style sheet. Use sub style sheets as you would use subrecords or subpages.
Parent Style Sheet	If this is a standard style sheet, the default style sheet (PSSTYLEDEF) is the parent.

Inserting a Sub Style Sheet

To insert a sub style sheet into a style sheet:

1. Create or open a style sheet.
2. Select Insert, Insert Sub Style Sheet.
3. In the drop-down list box, select the sub style sheet that you want to insert into the style sheet.
4. Click OK.

   If you are replacing sub style sheets, you can delete the existing ones from the style sheet by highlighting the sub style sheet and pressing DELETE.

Adding a New Class

You can add a new style class to a style sheet and use it like any other class.

To add a new class:

1. Open (or create) the style sheet to which you want to add a class.
2. Select Insert, Insert Style Class from the PeopleSoft Application Designer menu.
3. Enter the name of the new class.
4. To copy the class attribute from another style class, select that class from the Copy Values From Style Class drop-down list box.
5. Click OK.

Setting Class Attributes

This section provides overviews of class attributes and fonts and discusses how to:

- Access class attributes.
- Specify fonts.
- Set font attributes for a specific language.
- Specify spacing and alignment.
- Specify background attributes.
- Reference a background image URL.
- Specify border attributes.
- Specify margins.
- Specify miscellaneous attributes.

Understanding Class Attributes

Class attributes are grouped into categories and are displayed in a tabbed dialog box for each class.

Note. PeopleSoft Application Designer does not always reflect the formatting attributes that are specified for a control. You might be able to see only one attribute at runtime. Also, not all browsers support every attribute.

PeopleSoft Pure Internet Architecture supports the attributes that are listed in the World Wide Web Consortium (W3), Cascading Style Sheets, Level 1.

See http://www.w3.org/TR/REC-CSS1

Every class has each of these major attributes, which correspond to a tab in the Class Attribute definition.

Font	Controls the font in which text appears. If more than one font is specified, the browser displays the first font; if it cannot find it, it displays the next font.
Spacing/Alignment	Controls the spacing in addition to the default spacing. You can specify additional spacing between words and between letters. You can also specify the alignment, height, indent, and white space.
Background	Controls the background colors for the page control. If the background is an image, you can select how the image appears.

Border	Controls the border that is displayed around the element. You can specify width, color, and style.
Margins	Controls the margins and padding on each side of the element.
Miscellaneous	Controls the display of list-item markers, URLs, and cursor formats.

Understanding Generic and Installed Fonts

When you add a font, the dialog box provides a choice between *generic* fonts and *installed* fonts.

Generic fonts can be displayed on all browsers. This table displays examples of some of the generic fonts:

Generic Font	Example
Cursive	Zapf-Chancery
Fantasy	Western
Monospace	Courier
Sans serif	Helvetica
Serif	Times Roman

Installed Fonts

Installed fonts are installed on your computer. If you use an installed font for a style class, PeopleSoft recommends that you:

- Verify that *all* users of your application have the same installed font.
- Specify the installed font first, followed by a generic font.

  This way, if the installed font is not available to the user of your application, the generic font can be used.

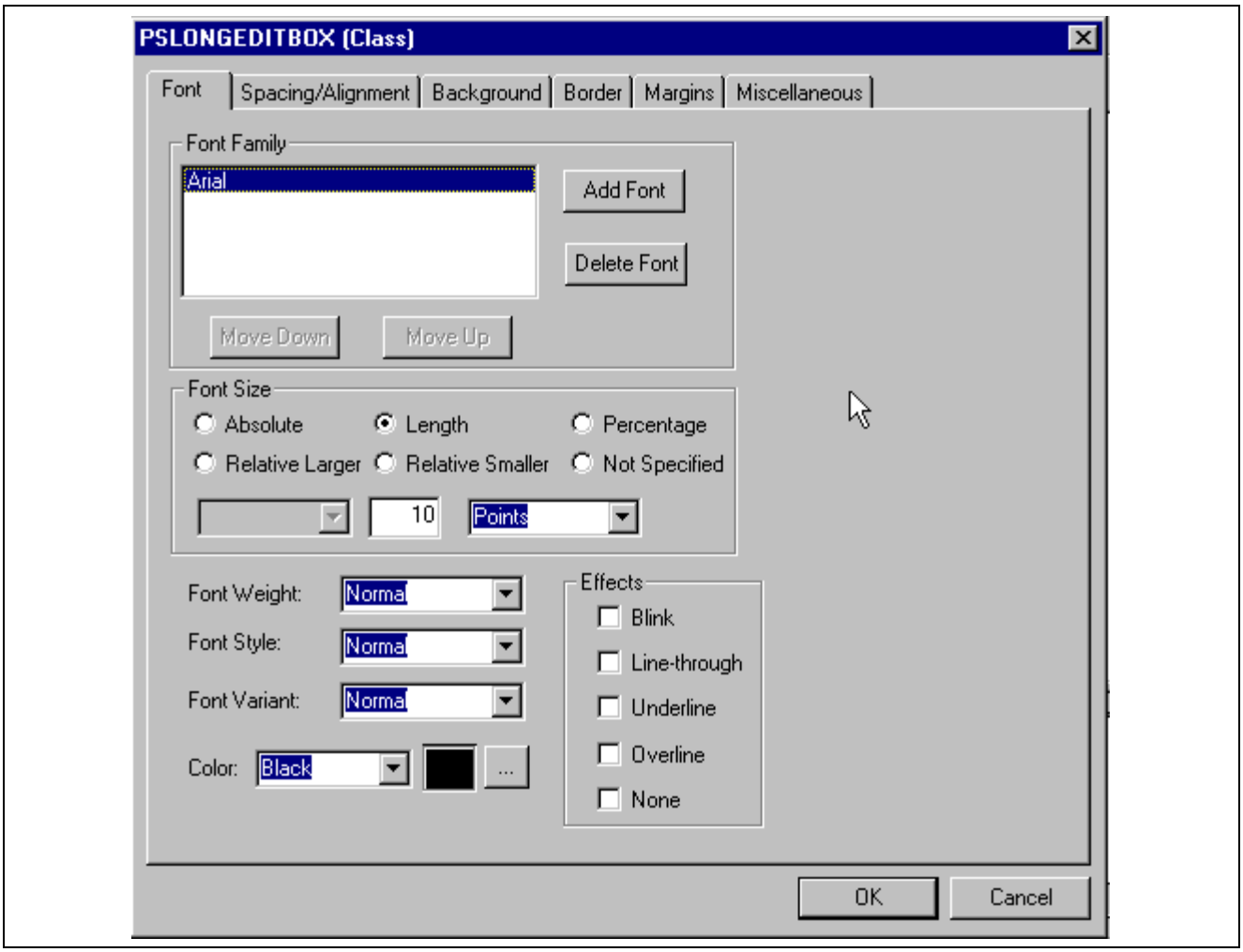
Accessing Class Attributes

To access class attributes:

1. Open a style sheet.
   a. Select File, Open, Style Sheet.
   b. Select the style sheet that you want to access from the Definition Type drop-down list box
2. Double-click the class name.

Specifying Fonts

Access the class dialog box. Select the Font tab.



PSLONGEDITBOX (Class) dialog box: Font tab

Font Family

Specify the font in which you want the text to appear. You can specify more than one font, so that if the browser cannot display the first font, it attempts to display the next font, and so on, until it finds a font that it can use.

Font Size

Absolute	Select to use a size from the drop-down list box (*xx-small, x-small, small, medium,* and so on.) There is a scaling factor of 1.5 between adjacent sizes.
Length	Specify the size with a number, and select the measurement type from the drop-down list box (*em, ex, Pixels, Inches, Millimeters,* and so on).
Percentage	Specify a number, followed by a percent sign (%). Percentage values are always relative to the parent element.
Relative Larger and **Relative Smaller**	Select to interpret the font relative to the table of font sizes and the font size of the parent element. For example, if the parent element has a font size of medium, and you select Relative Larger, this font size is large.
Font Weight	Select the weight of the font. The values *100* to *900* form an ordered sequence, in which each number indicates a weight that is at least as dark

	as its predecessor. The value *Normal* is synonymous with *400,* and *Bold* is synonymous with *700.*
Font Style	Select the style of the font. Values are: *Normal, Italic,* or *Oblique.* These are matched to existing fonts with those names.
Font Variant	Select a variant. Values are: *Normal* or *Small Caps.* In a small caps font, the lowercase letters look similar to the uppercase ones, but they're in a smaller size and with slightly different proportions.
Color	Specify the color or select the color from a color palette.

Setting Font Attributes for a Specific Language

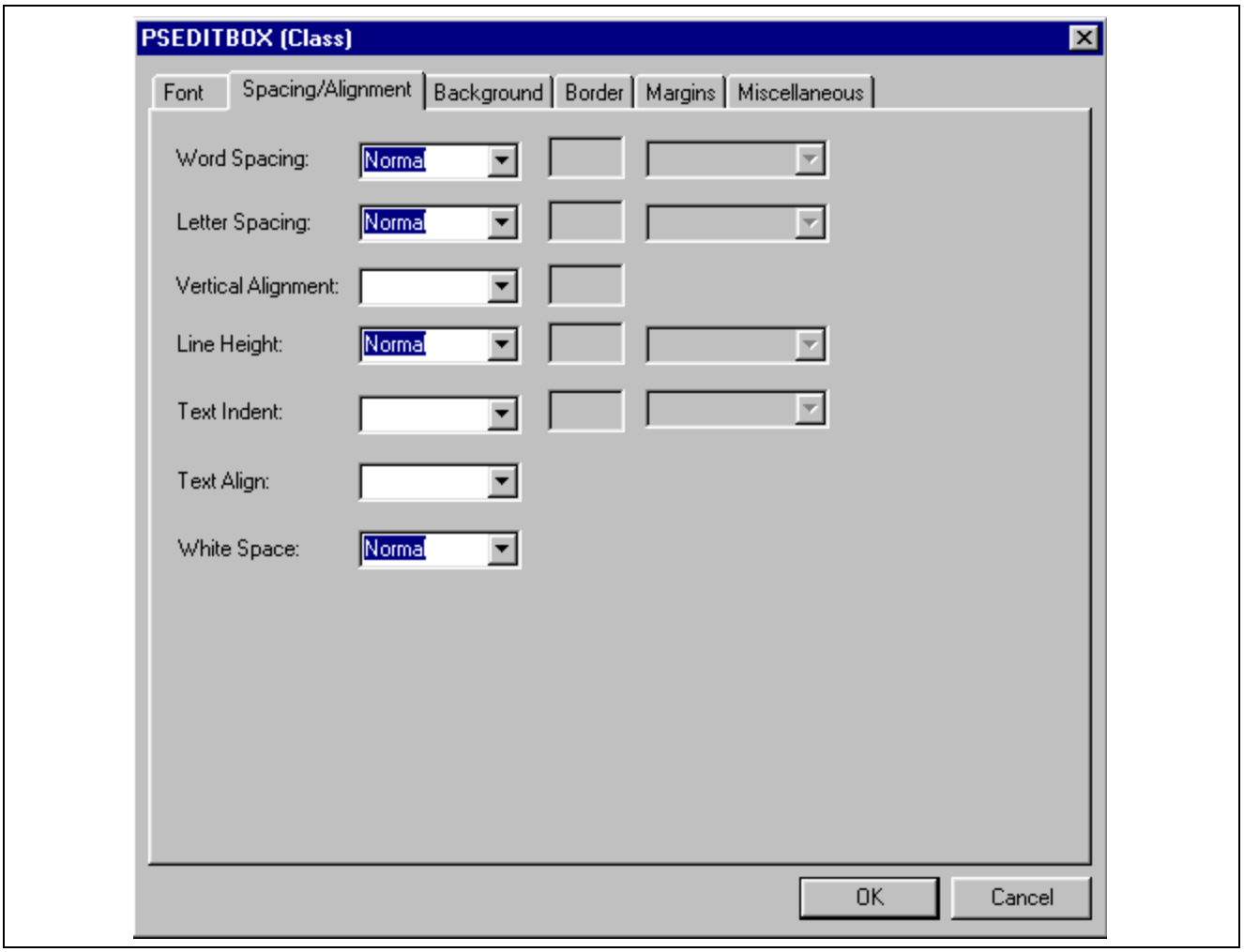
You can change the fonts that are available based on the base language settings. The default for the base language is English, providing generic fonts. If these fonts are not appropriate for a particular language, you must set the language preference before opening a style sheet. You can then set the font name list, font size, or font weight for the selected language.

To set font attributes for a specific language:

1. Select PeopleTools, Utilities, International, Preferences from your browser.
2. Select the appropriate language for the style sheet from the drop-down list box.
3. Save the new selected language as the base language.
4. Open the style sheet definition in which you want to save the font name list, font size, or font weight for the selected language.

Specifying Spacing and Alignment

Access the class dialog box. Select the Spacing/Alignment tab.



PSEDITBOX (Class) dialog box: Spacing/Alignment tab

Word Spacing and **Letter Spacing**

Select *Normal* or *Length.* If you select *Length,* specify a number to indicate an addition to the default space between words or letters. Values can be negative, but there might be implementation-specific limits.

Vertical Alignment

Select the vertical positioning of the element. Values are:

Baseline: Aligns the baseline of the element (or the bottom, if the element doesn't have a baseline) with the baseline of the parent.

Sub: (subscript) Aligns the top of the element with the baseline of the parent element.

Super: (superscript) Aligns the baseline of the element with the top of the parent element.

Top: Aligns the top of the element with the tallest element on the line.

Text Top: Aligns the top of the element with the top of the parent elements font.

Middle: Aligns the vertical midpoint of the element (typically an image) with the baseline plus half of the x-height of the parent.

Bottom: Aligns the bottom of the element with the lowest element on the line.

Text Bottom: Aligns the bottom of the element with the bottom of the parent elements font.

Percentage: Refers to the value of the line-height property of the element itself. It raises the baseline of the element (or the bottom, if it has no baseline) to the specified amount above the baseline of the parent. Negative values are possible. For example, a value of *−100%* lowers the element so that the baseline of the element is where the baseline of the next line should have been. This allows precise control over the vertical position of elements (such as images that are used in place of letters) that don't have a baseline.

Note. Using the top and bottom alignments could cause a loop where there are element dependencies.

Line Height Set the distance between the baselines of two adjacent lines. When a numerical value is specified, the line height is provided by the font size of the current element multiplied with the numerical value. This differs from a percentage value in the way it inherits. When a numerical value is specified, child elements inherit the factor itself, not the resultant value (as is the case with percentage and other units). Negative values are not allowed.

Text Indent Specify the indentation that appears before the first formatted line. This value may be negative, but there might be implementation-specific limits. An indentation is not inserted in the middle of an element that was broken by another.

Text Align Specify how text is aligned in the element. Because Text Align inherits, all block-level elements inside the DIV element with CLASS=center are centered.

Note. Alignments are relative to the width of the element, not the canvas.

White Space Specify how to handle white space inside the element. Values are:

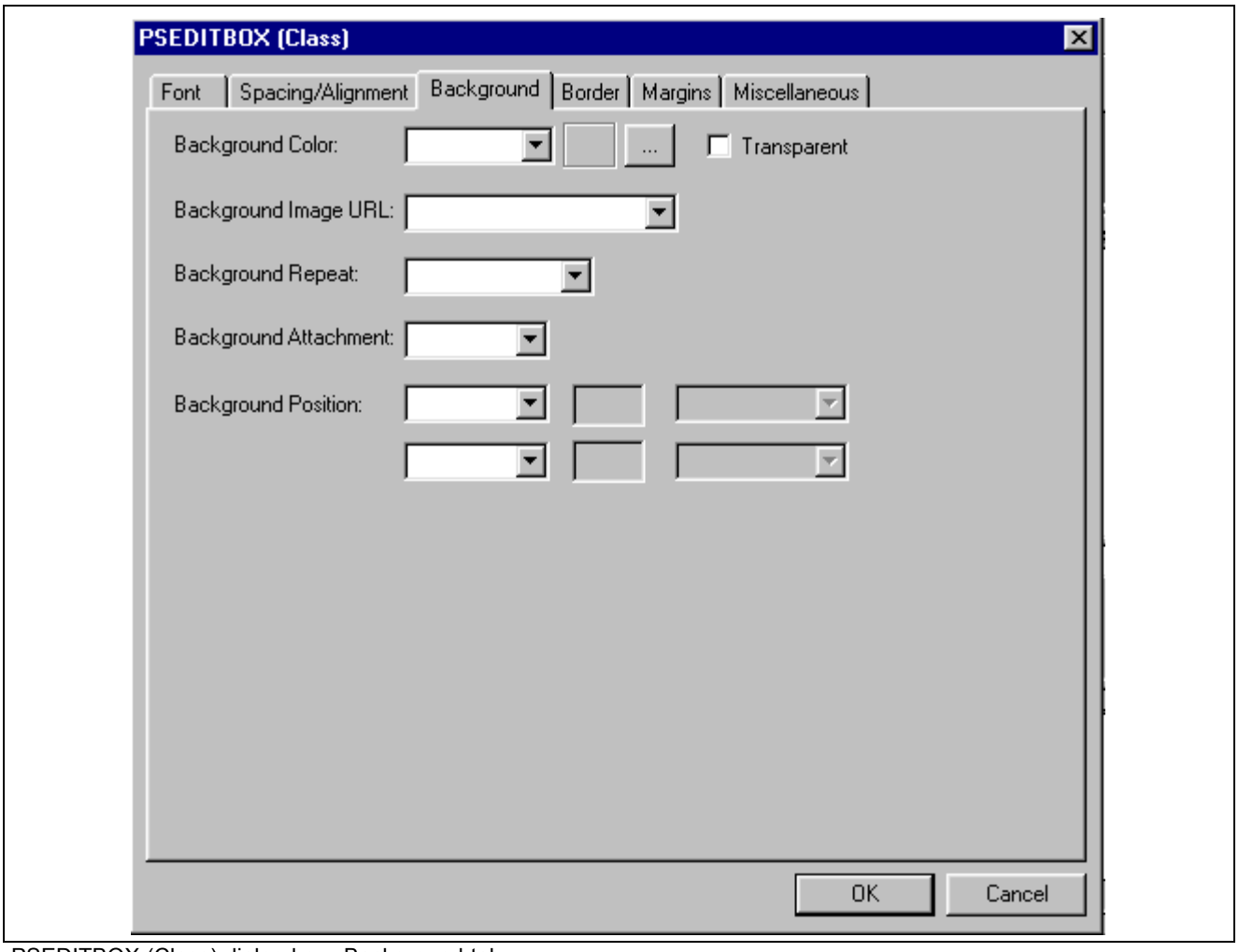
Normal: White space is collapsed.

Pre: Behaves like the PRE element in HTML.

Nowrap: Wrapping is done only through elements having a line break.

Specifying Background Attributes

Access the class dialog box. Select the Background tab.



PSEDITBOX (Class) dialog box: Background tab

Background Color Specify the background color of an element.

Background Image URL Set the background image of an element to an image file that is previously defined. When you set a background image, also set a background color to use when the image is unavailable. When the image *is* available, it appears on top of the background color.

See Chapter 14, "Creating Style Sheet Definitions," Referencing a Background Image URL, page 351.

Background Repeat If you specify a background image, indicate whether the image is repeated, and if it is, how many times.

Background Attachment If you specify a background image, indicate whether it is fixed to the canvas or whether it scrolls along with the content.

Background Position If you specify a background image, set its initial position. Value are:

Top: Aligns the background to the top of the element.

Left: Aligns the background to the left of the element.

Center: Aligns the background to the midpoint of the element (typically an image).

Bottom: Aligns the background to the bottom of the element.

Right: Aligns the background to the right of the element.

Length: Specify the length of the background and the unit of measure.

Percentage: Refers to the value of the line-height property of the background itself. It raises the baseline of the element (or the bottom, if it has no baseline) the specified amount above the baseline of the parent. Negative values are possible. For example, a value of *−100%* lowers the element so that the baseline of the element is where the baseline of the next line should have been. This allows precise control over the vertical position of elements without a baseline, such as images used in place of letters.

Examples of Percentage and Length Value Pairs and Keywords

This table lists background positions, value pairs, and their effect:

Background Position	Value Pairs	Effect
Percentage	0 and 0	Places the upper, left-hand corner of the image in the upper, left-hand corner of the box that surrounds the content of the element (that is, not the box that surrounds the padding, border, or margin).
Percentage	100 and 100	Places the lower, right-hand corner of the image in the lower, right-hand corner of the element
Percentage	14 and 84	Places the point that is 14 percent across and 84 percent down the image at the point that is 14 percent across and 84 percent down the element.
Length	2cm and 2cm	Places the upper, left-hand corner of the image 2 centimeters (cm) to the right and 2 cm below the upper, left-hand corner of the element.
Top Left or Left Top	NA	The same as 0 percent and 0 percent.
Top Center or Center Top	NA	The same as 50 percent and 0 percent.
Right Top or Top Right	NA	The same as 100 percent and 0 percent.

Background Position	Value Pairs	Effect
Left Center or Center Left	NA	The same as 0 percent and 50 percent.
Center and Center	NA	The same as 50 percent and 50 percent.
Right Center or Center Right	NA	The same as 100 percent and 50 percent
Bottom Left or Left Bottom	NA	The same as 0 percent and 100 percent.
Bottom Center or Center Bottom	NA	The same as 50 percent and 100 percent.
Bottom Right or Right Bottom	NA	The same as 100 percent and 100 percent.

Note. If you set only *one* percentage or length value, the system sets the horizontal position only and the vertical position becomes the default 50 percent. If you set two values, the first one is the horizontal position. You can set negative positions and combinations of length and percentage values, for example 50 percent and 2 cm.

Referencing a Background Image URL

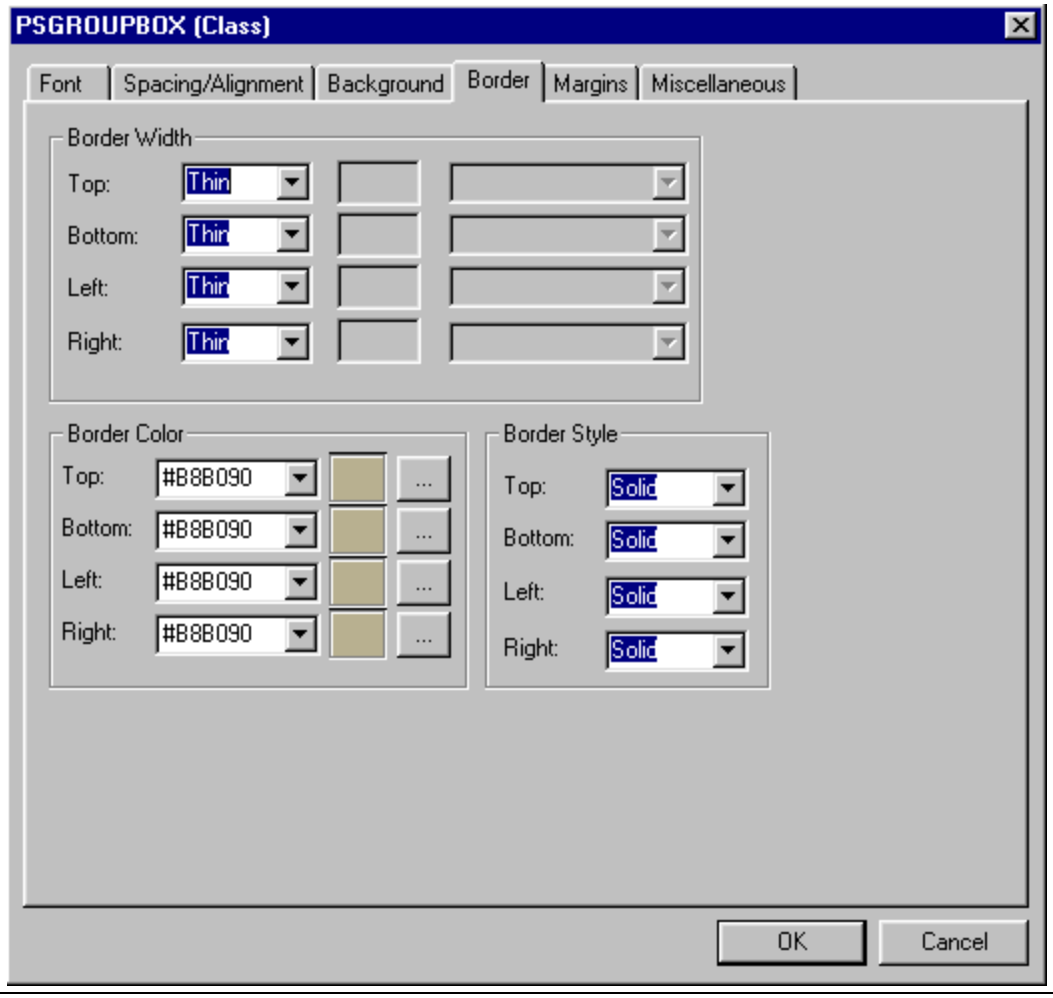
To specify a background image URL, select from a drop-down list box that is populated by entries in the URL Maintenance table. To reference a background image file on a designated server, add its location to the URL Maintenance table.

You reference a background image in the URL Maintenance table in the same way you would register any other URL.

See *Enterprise PeopleTools 8.46 PeopleBook: System and Server Administration*, "Using PeopleTools Utilities," URL Maintenance.

Specifying Border Attributes

Access the class dialog box. Select the Border tab.



PSGROUPBOX (Class) dialog box: Border tab

Border Width Specify the width of each line in the border. Values are: *Thin, Medium,* or *Thick,* or you can specify *Length,* which enables you to specify a font size (with a number) and the measurement type from the drop-down list box (*Pixels, Inches, Millimeters,* and so on).

Border Color Specify the color of each line in the border. You can specify a hexadecimal value for the color or select the color from a color palette.

Border Style Specify the style of line in the border. Values are:

None: No border is drawn (regardless of the <border-width> value).

Dotted: Border is a dotted line that is drawn on top of the background of the element.

Dashed: Border is a dashed line that is drawn on top of the background of the element.

Solid: Border is a solid line.

Double: Border is a double line that is drawn on top of the background of the element. The sum of the two single lines and the space between equals the <border-width> value.

Groove: Border is a three-dimensional groove that is drawn in colors based on the <color> value.

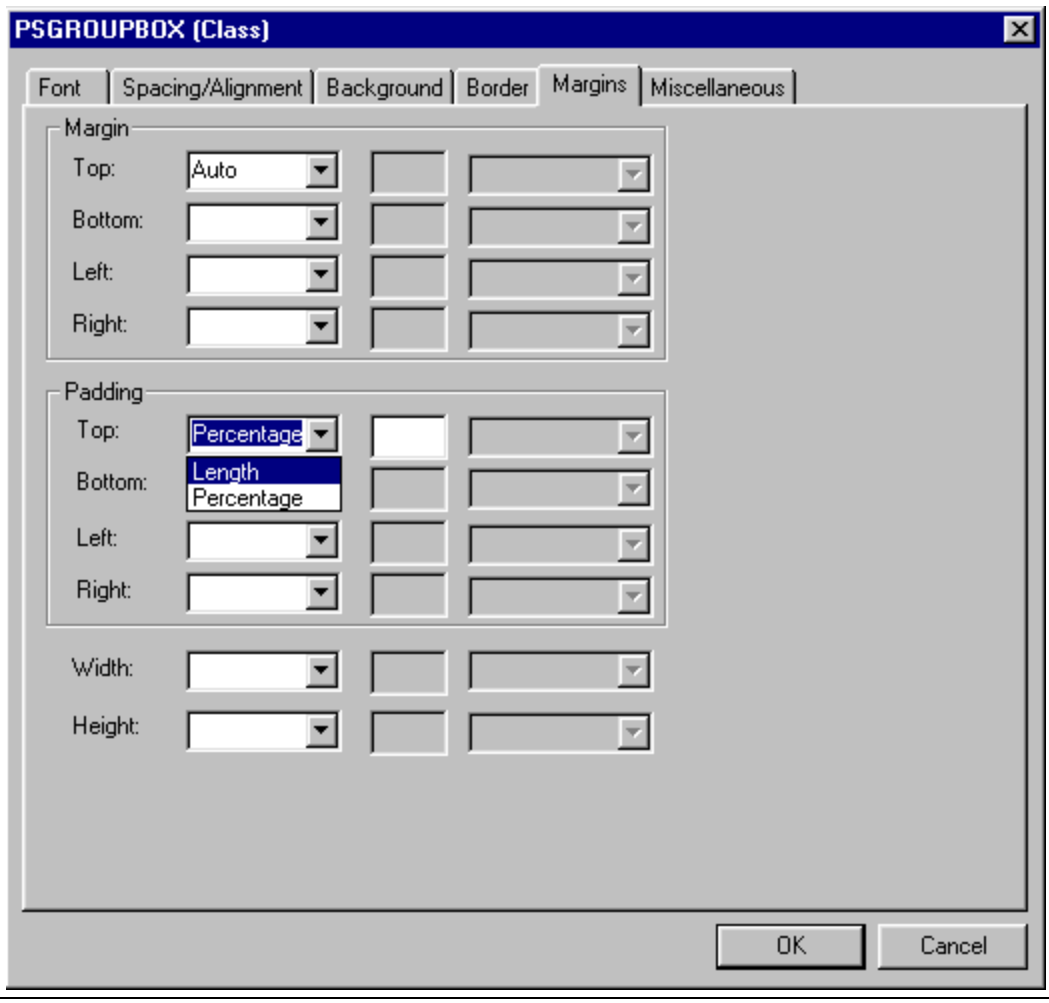
Ridge: Border is a three-dimensional ridge that is drawn in colors based on the <color> value.

Inset: Border is a three-dimensional inset that is drawn in colors based on the <color> value.

Outset: Border is a three-dimensional outset is that is drawn in colors based on the <color> value.

Specifying Margins

Access the class dialog box. Select the Margins tab.



PSGROUPBOX (Class) dialog box: Margins tab

Margin and **Padding** Specify the margin and padding for each side of the element. Values are:

Length: Specify a font size and the measurement type from the drop-down list box (pixels, inches, millimeters, and so on).

Percentage: Specify a number, followed by a percent sign (%). The percentage value is relative to the parent element.

Auto: The system calculates the width.

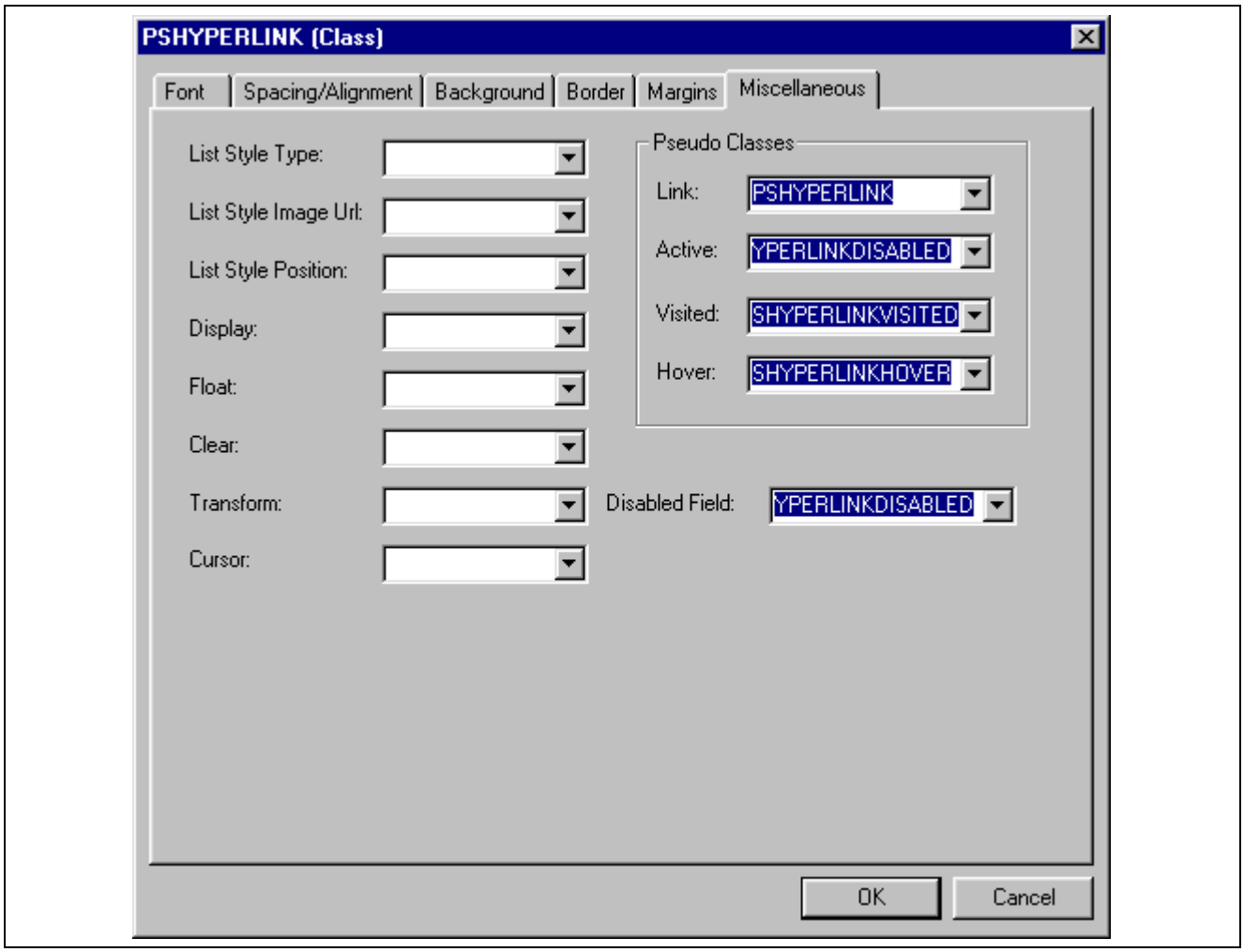
Do not use negative values for padding.

Width and **Height** Set the width and height of text elements. These properties are most useful with replaced elements, such as images. The system scales the image to fit the value that you specify. If you set either property to *Auto,* and the image needs scaling, the system preserves the aspect ratio of the image. Do not use negative values.

Note. If the width and height of a replaced element are both set to *Auto,* the system sets these properties to the intrinsic dimensions of the element.

Specifying Miscellaneous Attributes

Access the class dialog box. Select the Miscellaneous tab.



PSHYPERLINK (Class) dialog box: Miscellaneous tab

List Style Type Specify the appearance of the list-item marker if List Style Image URL is blank or if the system cannot display the image that is referenced by the URL.

List Style Image Url (list style image uniform resource locator) — Specify the URL containing the image to display as the list-item marker.

List Style Position — Specify how the list-item marker is drawn relative to the content. Values are: *Inside* and *Outside*.

Display — Specify how an element is displayed on the canvas (which might be on a printed page or a computer display). Values are:

Block: Opens a new box. The box is positioned relative to adjacent boxes. Typically, elements like H1 and P are block types.

ListItem: Similar to block, except that a ListItem marker is added. In HTML, LI typically has this value.

Inline: Results in a new inline box on the same line as the previous content. The box dimensions are based on the formatted size of the content. If the content is text, it might span several lines, and there will be a box on each line. The margin, border, and padding properties apply to inline elements but do not affect the line breaks.

None: Deactivates the display of the element, including children elements and the surrounding box.

Float — Specify how the element floats with the text. Values are:

None: Causes the element to appear where it appears in the text.

Left and *Right:* Cause the element to move to the left or right, and the text wraps on the right-hand or left-hand side of the element, respectively. With a *Left* or *Right* value, the element is treated as block-level and the Display property is ignored.

Clear — Specify the sides of an element on which floating elements are not accepted. Values are:

Left: An element appears below any floating element on the left-hand side.

None: Floating elements are allowed on all sides.

Transform — Use for text elements only. Values are: *Capitalize, Uppercase, Lowercase,* and *None.*

Cursor — Specify how the cursor displays when passed over the element.

Pseudo Classes

Pseudo classes are mechanisms that extend the expressiveness of style sheets. Using pseudo classes, you can change the style of page links based on whether and when the links have been visited. Pseudo classes do not exist in HTML; that is, they are not visible in the HTML code.

PeopleSoft uses pseudo classes to specify how a browser indicates to a user the status of links in a document that the user is viewing. For example, it is common for a browser to display a document link in a different color than the rest of the text.

Link — Specify how the link should appear normally.

Visited — Specify how the link should appear if it has been visited.

Active — Specify how the link should appear when it is actively selected.

Hover	Specify how the link should appear when it is designated but not activated. For example, when the cursor hovers over a box that is generated by the element.
Disabled Field	Specify how the link should appear when the link (or field) is disabled.

Changing the Default Style Sheets for an Application

You can change the default style sheet for an entire application on the PeopleTools Options page. PeopleSoft Pure Internet Architecture generated pages always default to the style sheet you specify on this page. The system default style sheet is *PSSTYLEDEF*.

To change the default style sheet for the application:

1. From your browser, select PeopleTools, Utilities, Administration, PeopleTools Options.
2. Type in the style sheet name in the Style Sheet Name field.

   Alternatively, click the prompt button to select one from the list of available values.
3. Save the page.

Specifying a Style Sheet for a Page

To specify styles for a page:

1. Open the page in PeopleSoft Application Designer.
2. Access the Page Properties dialog box.
3. Select the Use tab.
4. Select a style sheet from the Page Style Sheet drop-down list box.

   Selecting a different page style sheet for a specific page overrides the style sheet that is selected for the application. If you do not select a different page style sheet (keeping *Use Default Style*), the system uses the style sheet that is specified on the PeopleTools Options page.
5. Select a page background from the drop-down list box.

   Selecting a different page background style class for a specific page overrides the background style of the page style sheet that you just specified. If you keep the *Use Default Style* value, the background of this page is determined by the default background of the page style sheet that you just specified.

Changing Colors on Tabs

This section provides an overview of tab definitions and discusses how to create tab images.

Understanding Tab Definitions

You can change the background colors of folder tabs in a component and tabs in a grid. To change the background colors of tabs, it is helpful to have a basic understanding of how tab definitions are built and stored in the database.

PeopleSoft stores tab definitions as images in an HTML table. Each tab, or image definition, has three parts that are stored as rows in the HTML table:

- Row 1 contains code representing the top border.
- Row 2 contains the tab itself.
- Row 3 contains the bottom border.

Because tabs look different depending on where they are located relative to other tabs and whether they are active, they must be defined in *sets* for a combination of active and inactive tab colors.

Active General tab with inactive tabs

The tab image names reflect the role of the image in the tab row and the colors that it uses. Colors are encoded using the 6-character, hexadecimal RGB value of the color.

When the system displays tabs on a page, it verifies the existence of all of the images that are required for the pair of colors that is specified by the active and inactive tab styles. If these images are found, the tabs are drawn using these colors. If the system cannot find the images, it uses white (FFFFFF) for the active tab and blue (6666FF) for the inactive tab. If the images for these colors are not in the database, then the tabs do not appear at all.

Colors in HTML

Computer colors comprise various combinations of red, green, and blue—known as the RGB scale. The RGB decimal scale of colors are converted to the hexadecimal scale for use on a web page. To define HTML colors using the hexadecimal system, set the first two digits to the amount of red, the next two to the amount of green, and the last two to the amount of blue. In this scheme, 000000 represents black and FFFFFF represents white.

The hexadecimal color representation is always preceded by the # symbol, as shown in this table, which lists 16 named colors:

Color	Hexadecimal Number
Black	#000000
Green	#008000
Silver	#C0C0C0
Lime	#00FF00
Gray	#808080

Color	Hexadecimal Number
Olive	#8080000
White	#FFFFFF
Yellow	#FFFF00
Maroon	#800000
Navy	#000080
Red	#FF0000
Blue	#0000FF
Purple	#800080
Teal	#008080
Fuchsia	#FF00FF
Aqua	#00FFFF

Tab Image Naming Scheme

This section describes in detail how tab images are named. However, to change tab colors, change only the RGB values.

All tab images are named in this format:

PT_TAB*NABBRRGGBB*

- PT_TAB: System-defined image definition name prefix.
- *N:* HTML table row.

  Values are *1, 2,* or *3.* Create images only for *2* or *3.*
- *A:* Location of the tab parts in a tab.

  Values are:

  - *L:* Left end.
  - *B:* Between.
  - *R:* Right end.
  - *M:* Middle of a tab.

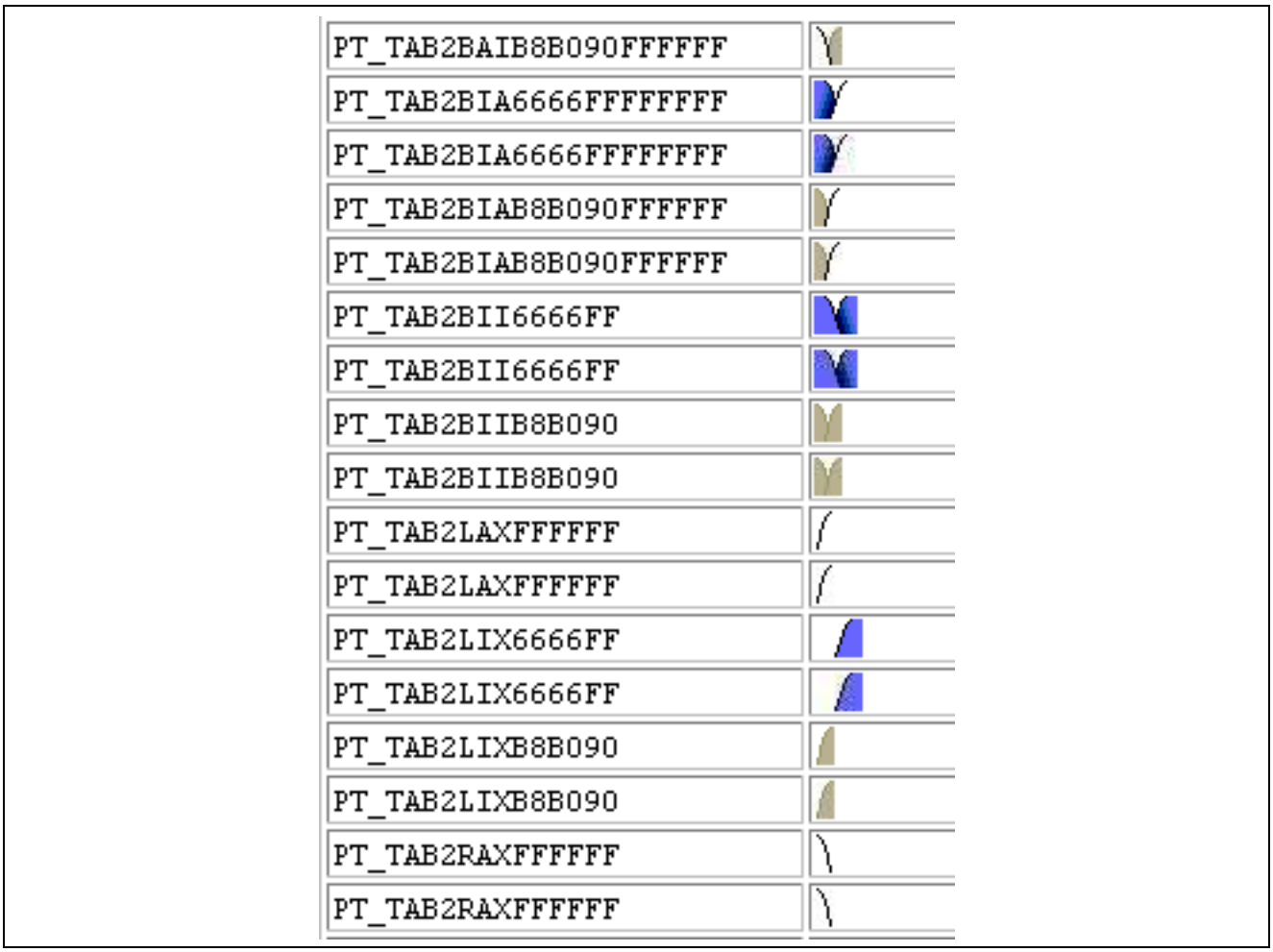
- *BB:* Relative position to other tabs.

  Values are:

  - *AI:* Piece between active and inactive.
  - *IA:* Piece between inactive and active.
  - *II:* Piece between two inactive tabs.
  - *AX:* Piece of an active tab.
  - *IX:* Piece of an inactive tab.

- *RRGGBB* is either omitted (when the tab image does not use any color), or it is one or two 6-character hexadecimal codes for inactive and active tab colors.

  This screen shot shows a partial list of predefined tab images:



Predefined tab images

The first entry in the table is PT_TAB2BAIB8090FFFFFF, which represents a tab (PT_TAB2) part in the second row of the HTML table, BAI (between an active and inactive tab), B8B090 (inactive tab color of beige), and FFFFFF (active tab color of white). When the tab image requires two colors, the inactive tab color is always listed first.

Creating Tab Images

Before you can assign a new background color to the active or inactive tabs, you must create the necessary tab images with that color.

To produce tabs in a different color combination:

1. Open the image definitions for the tabs that you want to change.

   Because you want to change only the color of tabs, open only those image definitions that already contain an RGB color code.

   If you are changing *both* the active and inactive tab color, access these image definitions:

   - PT_TAB2LAXFFFFFF
   - PT_TAB2RAXFFFFFF
   - PT_TAB2LIXB8B090
   - PT_TAB2RIXB8B090
   - PT_TAB2BAIB8B090FFFFFF
   - PT_TAB2BIAB8B090FFFFFF
   - PT_TAB2BIIB8B090
   - PT_TAB3LAXFFFFFF
   - PT_TAB3RAXFFFFFF
   - PT_TAB3MAXFFFFFF
   - PT_TAB3LIXB8B090
   - PT_TAB3RIXB8B090
   - PT_TAB3MIXB8B090
   - PT_TAB3BAIB8B090FFFFFF
   - PT_TAB3BIAB8B090FFFFFF
   - PT_TAB3BIIB8B090

     If you are changing only the inactive color, which is beige, you need only the files that contain the beige color code, B8B090. Similarly, if you are changing only the active tab color, which is white, you need only the files that include FFFFFF. However, for the changes to apply, you must change all those files with that color code. If one file is missed or there is a typographical error in the file name, the default style still applies.

2. To export the files to a directory, select File, Export Image.
3. In the Save Image dialog box, select the directory in which you want to place the images.
4. Use any image editor to alter the image colors.

   Note. Do not change the size or shape of the images, and do *not* replace any of the transparent pixels with solid pixels.

5. In PeopleSoft Application Designer, add the new image definitions by selecting File, New, Image.

Save the new image files under the appropriate name. The new images must have new names reflecting the HTML colors that they represent. For example, replace FFFFFF with the new active tab color, and replace B8B090 with the new inactive tab color. Be careful when naming these images. If the images with the correct colors for the tab style are not in the database, the system automatically applies the default images.

6. Open the appropriate style sheet.

   If you are changing the tab folder colors, use PSSTYLEDEF. If you are changing grid tabs, use PSSTYLEDEF or the style sheet that is associated with the page definition in which the grid is located.

   Note. The grid tab styles can be set for each grid individually using the grid properties. However, for page tabs, you can set the styles using only the default styles in the application style sheet.

   You must access PSACTIVETAB, PSINACTIVE TAB, and any other tab classes that your application uses (for example, PSLEVEL1GRIDACTIVETAB).

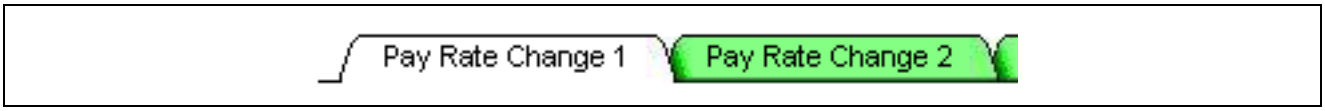
7. For folder tabs, open the PSACTIVETAB class by double-clicking the class name.
8. On the Background tab, select the color of the background of the active tab (matching the color of the tab image that you created).

   Use the drop-down list box to find the color or browse through the color choices.

9. Do the same for the PSINACTIVETAB class (or any others that you need) for folder tabs by double-clicking the class name and selecting the Background tab.
10. For grid tabs, access the style class that is associated with the grid tab.
11. Change the colors as indicated in the previous steps.
12. Save the style sheet.

Examples

This is an example of folder tabs with a green background. In addition, the color of the text on the tabs was changed to black.



Green tabs

In the example, the active tab color stayed the same (FFFFFF). Only the inactive tab color changed. Therefore, only these files were created and added to the list of images:

- PT_TAB2LIX80FF80
- PT_TAB2RIX80FF80
- PT_TAB2BAI80FF80FFFFFF
- PT_TAB2BIA80FF80FFFFFF
- PT_TAB2BII80FF80
- PT_TAB3LIX80FF80
- PT_TAB3RIX80FF80
- PT_TAB3MIX80FF80
- PT_TAB3BAI80FF80FFFFFF
- PT_TAB3BIA80FF80FFFFFF

- PT_TAB3BII80FF80

CHAPTER 15

Creating Image Definitions

This chapter provides an overview of images and discusses how to:

- Create new image definitions.
- Open an image definition.
- Update an image definition.
- Convert images.
- Consolidate images.
- Use the catalog of image definitions.

Understanding Images

Images improve the look and usability for the user. PeopleSoft Internet Architecture comes equipped with several different types of image-related features, each of which serves a different function. The following table provides a brief description of each image type:

Image Type	Description
Image field	Use for storing images in a user-defined format, such as bitmap (BMP) or PostScript (EPS). Image fields cannot be changed at runtime.
ImageReference field	Use to change an image dynamically at runtime by using PeopleCode.
Image definition	Use as the source from which all static images and image fields are taken and used elsewhere in the system.
Image control	Place on a page when you want a variable image that is taken from a record field in the database.
Static image control	Use to place a static image definition on the page, such as on a push button.

Creating New Image Definitions

This section provides an overview of image definitions and discusses how to:

- Create an image definition.
- Set image properties.
- Import and create alternate image types.

Understanding Image Definitions

Image definitions are managed PeopleSoft definitions that you can associate with a variety of page controls. They are primarily for aesthetic purposes, but can also demonstrate a simple function, such as an arrow on a push button. Many organizations store images along with the rest of their employee, customer, and supplier data as part of their ongoing business operations. For example:

- Retailers often store images of each product with the standard merchandise information that they use to manage inventory.

  Online retailers can display product pictures on their customer web sites.
- Many organizations store images of each employee as part of their standard human resources information.
- Consumer banks might store images of their customers' canceled checks.

PeopleSoft Application Designer enables you to create an image definition from any type of image file and store it in a central PeopleTools image catalog. In this process, you convert the image files into image definitions and store them in the image catalog so that you can refer to them from a PeopleTools application. After you create the image definition, it is available for use throughout the system, such as in a static image page control or on a push button or link.

Image Types

When creating new image definitions to use with applications, you might want to use different image types for different purposes. Some developers believe, for example, that JPG is the best format for photographic images because it provides the greatest compression of any bitmap format in common use. However, some believe that JPG is not as effective in compressing text and drawings as it is at compressing photographs. GIF images, on the other hand, seem to be the most widely used format for image storage and continue to be the preferred format for storing text and drawings. Regardless of your image type preferences, PeopleSoft enables you to store all image types in the image catalog.

However, two image types (GIF and WBMP) cannot be viewed in PeopleSoft Application Designer during design time, but they can be viewed through the browser at runtime. By providing an alternate image type of the image, such as JPG, PeopleSoft enables you to import images for viewing purposes only in PeopleSoft Application Designer. The image that you view at runtime in the browser or in the wireless application is still the original GIF or WBMP image.

Creating an Image Definition

To create an image definition from an image file:

1. Select File, New.
2. Select Image.
3. Click OK to access the Open Image File dialog box.

4. Select an image file type.

   You can select from several file types, such as BMP, wireless bitmap (WBMP), device independent bitmap (DIB), Graphics Interchange Format (GIF), and Joint Photographic Experts Group (JPEG). You can create an image definition by using any file type. GIF and WBMP images are considered alternate image types.

   See Chapter 15, "Creating Image Definitions," Importing and Creating Alternate Image Types, page 366.

   Note. Some browsers do not support all image types. For example, Netscape does not support BMP images.

   See Customer Connection, "Troubleshooting Browser Limitations."

5. Select an image file name.

   PeopleSoft Application Designer displays a warning message if the image size is greater than 32 kilobytes. The maximum image size depends on the database platform that you are using. Some database platforms support much larger image sizes while others limit the size.

6. Select Open.

   The image is now open as an image definition in the definition workspace.

7. Select File, Save to save the image definition in the PeopleSoft image repository.

   Upon saving, the Image Properties dialog box appears.

Setting Image Properties

After you create a new image definition, you can set the image properties.

To set image properties:

1. Access the Image Properties dialog box.

   If not already open, select File, Definition Properties.

2. (Optional) Enter a description on the General tab.

3. Select the Use tab to view image use properties.

Image Format	Specify the main and alternate image formats. The main image format, which appears at runtime, is the format in which the image was imported, such as BMP. The alternate format is the optional image format that you can specify if you want a GIF image as the main image format that appears at runtime.
Image URL(image uniform resource locator)	Specify a reference to an image on a web server. This can be used as an alternative to storing an image definition in the database once an image definition is saved. When the user opens a page containing a control that is associated with this image definition, the application retrieves the image from the URL, rather than from the database. Set up URLs in the URL Maintenance utility. See *Enterprise PeopleTools 8.46 PeopleBook: System and Server Administration*, "Using PeopleTools Utilities," URL Maintenance.
Used in Workflow Maps	Select to filter images that appear in a list box for the Change Icon function for PeopleSoft Workflow designers.

Importing and Creating Alternate Image Types

To import a GIF or WBMP image type:

1. Select File, New.
2. Select Image.

   The Open Image File dialog box appears.
3. Select *GIF* or *WBMP* from the Files of Type drop-down list box.
4. Locate the image that you want to import.
5. Click the Open button.

   The Content Repository Interface dialog box appears, prompting you to select an alternate image.
6. Select Yes.

   The Open Alternate Image File dialog box appears, prompting you to select an alternate image type. You must have the same image stored in the directory under a different file type, such as JPG, to view the image in PeopleSoft Application Designer. If you select No, you can still open the GIF or WBMP image definition, but you cannot see it. Instead, you receive a message that the image cannot be viewed in PeopleSoft Application Designer.
7. Select the alternate image format and the appropriate file.
8. Click Open.

   You cannot select a GIF image as an alternate image type for WBMP images, nor can you select a WBMP image as an alternate image type for a GIF image.
9. Select File, Save As.

   Upon saving, the Image Properties dialog box appears. If you select the Use tab, the Image Format group box shows the main image format as GIF (or WBMP) and the alternate as JPG. Now you can view the image in PeopleSoft Application Designer as a JPG image and still display the image at runtime as GIF (or WBMP).

Opening an Image Definition

To open an image definition:

1. Select File, Open.
2. Select *Image* from the Definition drop-down list box.
3. Click Open to view the full list of image definitions and brief descriptions.

Updating an Image Definition

This section discusses how to:

- Update an image definition.
- Change the image display size.

- Specify the image storage format.

Updating an Image Definition

Occasionally, the original image file from which you created an image definition might change. To keep the image definitions current, you might want to update them rather than create entirely new image definitions.

To update an image definition:

1. To change the image for a saved image definition, right-click the open definition and select Update Image.

   The Open Image File dialog box appears, in which you can select the changed image file to replace the open image definition.

2. Click Open.

   This replaces the previous image in the image definition with the new image that you selected.

3. Select File, Save to save the current image definition with the new image.

Changing the Image Display Size

If the image file is smaller than you want it to appear in the open image definition, you can increase the size by zooming in on the definition workspace. This does not alter the size of the image in the image catalog.

To change image definition display size:

1. Open the image.
2. Right-click the image and select Zoom to see the different size ratios.
3. Select a new image display percentage.

   The image automatically changes to that selection.

Specifying the Image Storage Format

You can specify a default format in which image definitions are stored. For example, if JPG is specified as the preferred storage format, then a BMP image is stored as a JPG after it is converted to an image definition.

To specify an image definition storage format:

1. Select Tools, Options to open the Options dialog box.
2. Select the Image tab.

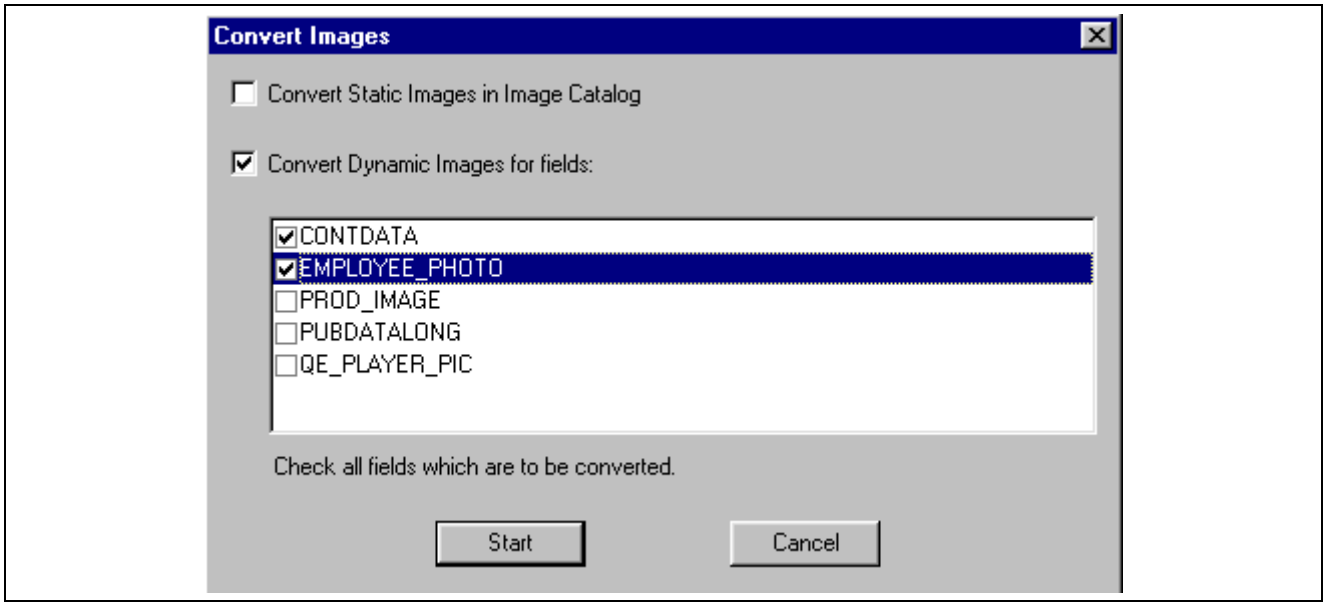
   No conversion Select to import all image definitions in their original formats. This is the default.

   DIB and JPG Select to convert and store imported image definitions as either DIB or JPG in the PeopleSoft Application Designer image catalog. GIF and WBMP images cannot be converted to DIB or JPG.

3. Click OK.

Converting Images

Not all browsers support all image formats, but most browsers support the JPG image type. Therefore, PeopleSoft has a utility to convert all application images to JPG.



Convert Images dialog box

To convert images to JPG format:

1. Select Tools, Upgrade, Convert Images.
2. Select one of these check boxes:

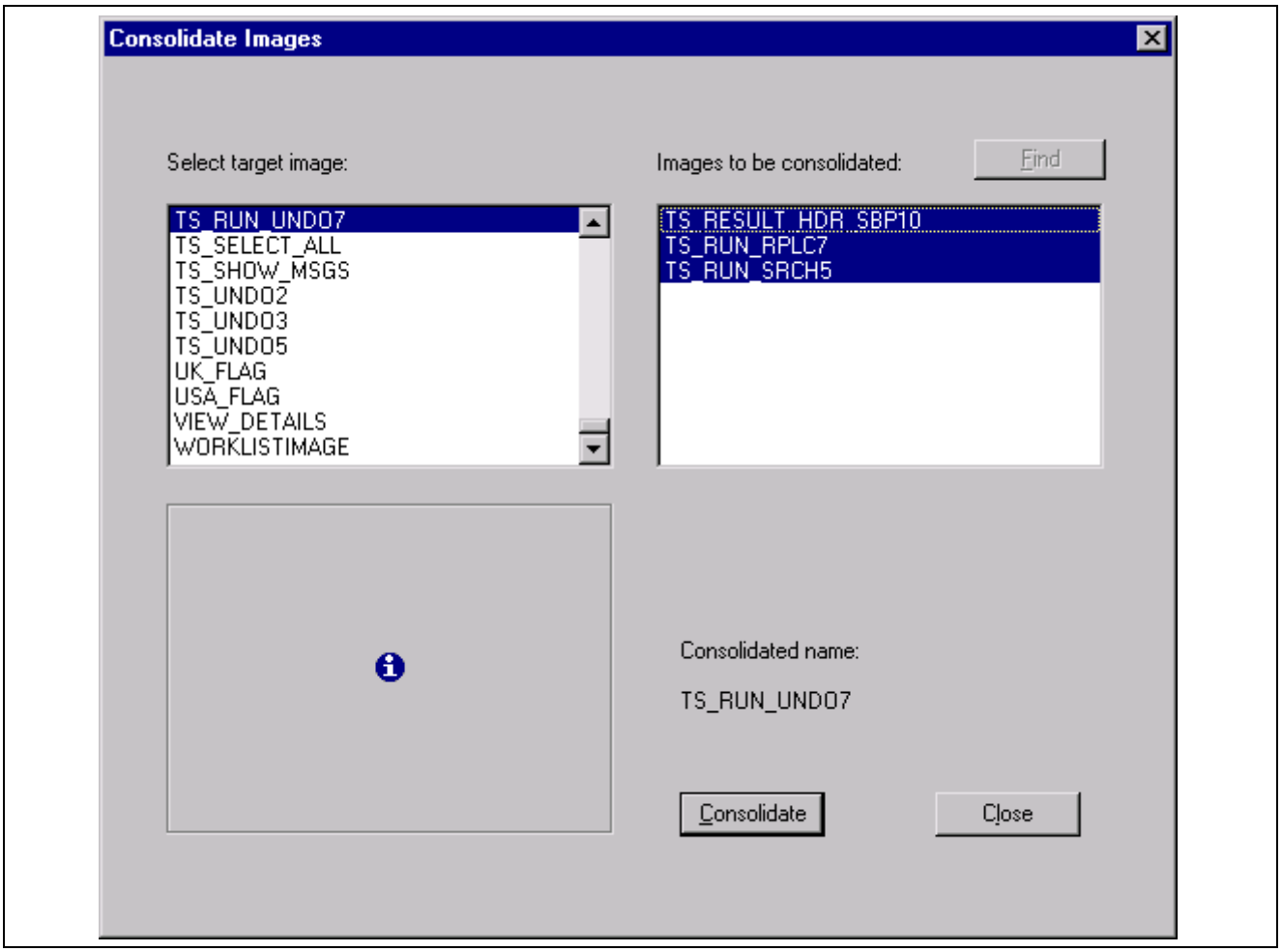
   Convert Static Images in Image Catalog Converts all image definitions that are stored in the image catalog of the PeopleSoft database.

   Convert Dynamic Images for fields Converts all images that are dynamically referenced by PeopleCode to appear in image fields.
3. Select the fields to convert.
4. Click the Start button.

   When the process is complete, a confirmation message appears in the Image tab of the output window.

Consolidating Images

Use this tool if you create custom image definitions and use them in multiple record definitions. Consolidating images helps you avoid having the same image stored in several places. All image definitions that are packaged with the PeopleSoft system have already been consolidated.



Consolidate Images dialog box

To consolidate custom image definitions:

1. Open an existing image definition in the definition workspace.
2. Select Tools, Consolidate Images.
3. Select a target image from the list.
4. Click Find to gather all of the consolidated image candidates.
5. Select all of the images.
6. Click Consolidate.

   The selected image definitions are removed from the Images to be consolidated list box and consolidated into the target image.
7. Click Close.

Using the Catalog of Image Definitions

In addition to the image definitions that you create, the system comes with many predefined image definitions. You can use these images to identify an action that a user must perform on a page or for aesthetic purposes only. For example, you can access an image either by inserting it onto a page as a static image or by specifying it as a label on a push button to accompany a specific function.

The following tables list some of the common image definitions in the image catalog that are used by PeopleTools in the deployment of internet applications. PeopleSoft does *not* recommend changing any of these images. You can also use Structured Query Language (SQL) to view a full list of different images:

```
SELECT DISTINCT CONTNAME FROM PSCONTDEFN WHERE CONTTYPE = 1.
```

For a list of language-dependent versions of images, use the following SQL:

```
SELECT CONTNAME, LANGUAGE_CD, CONTTYPE CONTFMT DESCR FROM
PSCONTDEFNLANG WHERE CONTTYPE = 1
```

Note. Before logging into PeopleSoft Application Designer in a different language, the language support must first be enabled. Use PeopleTools Utilities to enable support.

In general:

- All PeopleTools image definitions start with *PT_*.
- Any image definition with *_D* at the end of the name is the disabled mode of the image.
- All images that start with *PT_TAB* are used for tab construction and colors.

It is important to use these images consistently as you create new pages and update pages in the applications. The images are categorized by function and listed alphabetically by image name.

Note. This list contains a sample of the common images in PeopleSoft Application Designer, but it is not a complete list of PeopleTools images. For a complete list of images, select File, Open, Image. Click Open to see the full list of images.

Toolbar

In previous releases, the entire toolbar button (Save, Next in List, and so on) was an image, including the text in the button. Currently, the button is an HTML button and the text is specified in HTML, only the icon is an image. This enables you to change the color of the button using a style class. Toolbar buttons are rendered as HTML buttons, not images.

Scroll or Grid Actions

Use these images when creating scroll areas, scroll bars, and grids.

PT_ADD: Add a row.

PT_ADD_LARGE: Large add a row button. Alternative to PT_ADD if there is enough room on the page.

PT_DELETE: Delete a row.

PT_DELETE_LARGE: Large delete a row button. Alternative to PT_DELETE if there is enough room on the page.

PT_GRID_NO_TABS: Expand grid columns horizontally so that grid tabs are no longer showing.

PT_GRID_SHOW_TABS: Return an expanded grid to a tabbed grid.

PT_NEXTROW: View the next row.

PT_PREVIOUSROW: View the previous row.

Tab Images

Use these images to change the look of both folder and grid tabs.

PT_TAB_LSCROLL: Scroll left to the previous tab in a page or grid.

PT_TAB_RSCROLL: Scroll right to the next tab in a page or grid.

PT_TABxxx through PT_TABxxxxxxxx: Selection of over 80 images that can be used for creating folder tabs.

Look-up and Search Page Images

Use these images on look-up and search pages.

PT_CANCEL: Cancel a look-up page.

PT_CLEAR: Clear search criteria from the page (appears only on the Advanced Search/Lookup page).

PT_LOOKUP: Begin looking up data.

PT_SEARCH: Start a search on the search page.

General

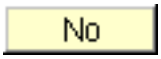
PT_ABORT: Abort a transaction. Used in some PeopleCode message boxes.

PT_APPLY: Applies changes that were made to the database. Usually found when transferring to another page through PeopleCode.

PT_CALENDAR: Opens the calendar prompt.

PT_COPYURL: Used in the pagebar. Copies contents of address bar to the clipboard.

PT_IGNORE: Used in some PeopleCode message boxes.



PT_NO: Used in some PeopleCode message boxes.

PT_OK: Accept the input on a secondary page and return to the main page.

PT_POPUP: Opens a pop-up menu from which the user can select a page to transfer to.

PT_POPUP_SKIP: Use if a pop-up menu has only one menu item to select from, so the user is brought directly to the page.

PT_PRINT: Open the print dialog box for the designated item.

PT_PROCESSING: Appears as flashing text while accessing a server or database.

PT_PROMPT_LOOKUP: Look-up button for a field prompt table.

PT_SPELLCHECK: Opens the spell check page for the current field.

PT_REPORT_DIST_ICN: Usually found on the Process Scheduler Request page, this button takes you to the Distribution Detail page. Use to select roles and users who can access or receive an email of report output.

PT_SEC_RETURN: Return from a secondary page to the main (calling) page.

PT_WF_ACTIVITY: Used for a subprocess of the business task for workflow, consisting of one or more steps.

PT_WF_BUSPROC: Depict a complete business task for workflow.

PT_WF_STEP: Show a discrete step in the business process, corresponding to a single transaction that is performed on an application page or through an external program.

Query Images

PT_QUERY_ADD_CRITERIA: Add criteria to a query.

PT_QUERY_KEY: Denotes a query key field.

PT_QUERY_SORT: Sort query fields alphabetically.

Tree Images

Use these tree images with PeopleSoft Tree Manager.

Tree node and leaf images include:

PSTREEMGR_COL_BRANCH: Identifies the root node for a branch.

PSTREEMGR_COL_NODE: Standard node image.

PSTREEMGR_COL_SKNODE: Tree node that has skipped a level.

PSTREEMGR_END_NODE: Tree node that has no children; that is, a terminal node.

PSTREEMGR_EXP_BRANCH: Root node on a branched tree.

PSTREEMGR_EXP_NODE: Expanded node.

PSTREEMGR_EXP_SKNODE: Expanded node that has skipped a level.

PSTREEMGR_LEAF: Lowest-level detail value of a tree.

Node and leaf command button images include:

PTTREE_ADDCHILD: Add a new child node.

PTTREE_ADDLEAF: Add a new detail value, such as a leaf.

PTTREE_ADDSIB: Add a new node as a sibling to the selected node.

PTTREE_CUT: Cut a node or leaf and place it on the clipboard.

PTTREE_DELETELEAF: Delete a leaf.

PTTREE_DELETENODE: Delete a node.

PTTREE_DISP_AS_ROOT: Redisplay the tree, starting with the currently selected node being displayed as the root node.

PTTREE_EDITDATA: Display the underlying user data page.

PTTREE_MAKEBRANCH: Create a new tree branch, starting with the selected node.

PTTREE_PASTECHILD: Paste the node on the clipboard as a child of the currently selected node.

PTTREE_PASTESIB: Paste the node on the clipboard as a sibling of the currently selected node.

PTTREE_UNBRANCH: Unbranch a branch.

PTTREE_UPDATELEAF: Update the values and properties for a leaf.

PTTREE_UPDATENODE: Update the value or properties for a node.

Portal Images

Use these images to perform a specific action. Additional portal images, such as PT_PORTAL_HEADER_BG, are purely aesthetic. In general, all images that are reserved for the portal contain the word *PORTAL* in the image name, such as PT_PORTAL_SEPARATOR.

PT_PORTAL_DOWN_ARROW_Y: Move a pagelet down when personalizing the portal layout.

PT_PORTAL_IC_CLOSE: Remove a pagelet from the homepage.

CHAPTER 16

Creating HTML Definitions

This chapter provides an overview of HTML definitions and discusses how to:

- Create an HTML definition.
- Open an HTML definition.
- Reference HTML definitions dynamically.

Understanding HTML Definitions

An HTML definition is a blank window where you can enter HTML. Use HTML definitions for storing long strings of HTML text or HTML text that you use repeatedly in your application. You can later access the definition dynamically from an HTML area control by using the GetHTMLText PeopleCode function.

See *Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Language Reference*, "PeopleCode Built-in Functions," GetHTMLText.

You can reference HTML definitions from an HTML area control statically or dynamically. However, the most common usage is to reference HTML definitions dynamically.

Creating an HTML Definition

To create an HTML definition:

1. Select File, New.

   The New Definition dialog box opens enabling you to select the definition you want.
2. Select *HTML* from the scroll area.
3. Click OK to open a new HTML definition.
4. Type or paste the HTML text directly into the open definition window.
5. Select File, Save to save the HTML definition.

   The HTML definition is saved in the current database.

Opening an HTML Definition

To open an HTML Definition:

1. Select File, Open to access the Open Definition dialog box.
2. Select *HTML* from the Definition drop-down list box.
3. Click Open to show all of the HTML definitions that are currently stored in the database.

   You can also enter a letter or word in the Name edit box to filter the display. For example, entering the letter *H* reveals all of the HTML definitions that begin with *H* in the database.

   Naming a group of HTML definitions with the same introductory phrase can help keep them together for easy selecting.

Referencing HTML Definitions Dynamically

To reference an HTML definition dynamically:

1. Add an HTML area control to a page definition.
2. Open the HTML Area Properties dialog box.
3. On the HTML tab, enter the GetHTMLText PeopleCode function for the HTML definition that you want to reference.
4. Click OK.

See Also

Chapter 9, “Using Page Controls,” Populating an HTML Area, page 223

Chapter 10, “Creating Page Definitions,” Adding Page Controls, page 259

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode Developer’s Guide, “PeopleCode and PeopleSoft Pure Internet Architecture,” Using HTML Definitions and the GetHTMLText Function

PART 3

Maintaining Data

Chapter 17
Constructing File Layouts and Performing Data Interchanges

Chapter 18
Using Command Line Parameters

Chapter 19
Using Change Control

CHAPTER 17

Constructing File Layouts and Performing Data Interchanges

This chapter provides an overview of file layouts and discusses how to:

- Construct file layouts.
- Specify file layout, record, and field properties.
- Perform data interchanges.
- Produce a sample file layout.

Understanding File Layouts

This section discusses:

- File layouts.
- Field formats in a flat file.
- Fixed-position (FIXED) format files.
- Comma-separated value (CSV) format files.
- XML-tagged (XML) format files.

Understanding File Layouts

A file layout is a definition that represents the data structure of a flat (text) file to be processed. When reading from or writing to a flat file, the PeopleCode can use a file layout as a template to identify and correctly process the file's records and fields. File layouts work with hierarchical and nonhierarchical data, and they can handle files that combine data records with nondata (audit or control) records.

To access data in a file, you don't have to create a file layout. PeopleTools supports reading and writing to plain text files, as well as to files that have a format based on a file layout.

- If the file is a plain text file, data is read or written by using text strings.
- If the file is based on a file layout, you can use text strings, rowsets, or record objects.

Using a file layout greatly simplifies reading, writing, and manipulating hierarchical transaction data with PeopleCode. It can facilitate transactions between a PeopleSoft application and a third-party system when the third-party system doesn't support PeopleSoft Integration Broker or component interfaces.

Applying File Layouts to Data Interchanges

In addition to manipulating transaction data, you can employ file layouts to move data between a PeopleSoft database and external systems (data interchange) by using flat files as the transmission medium. File layouts enable you to:

- Export hierarchical PeopleSoft data to several flat file formats.
- Map incoming hierarchical file data directly to PeopleSoft tables.
- Preview and troubleshoot the input data and its formatting before importing it.
- Automatically generate the Application Engine and PeopleCode programs that are needed to perform data import.
- Use batch processes to perform large-volume data imports and exports.

See Also

Chapter 17, "Constructing File Layouts and Performing Data Interchanges," Performing Data Interchanges, page 396

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode API Reference, "File Class"

Field Formats in a Flat File

A flat file, in the simplest sense, is a collection of fields in text format. The file must be formatted in a way that enables the PeopleCode to locate each field. PeopleSoft file layouts support three formats:

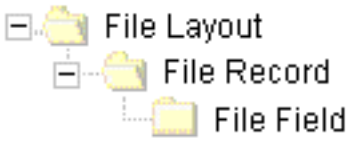
- FIXED: Each field has a starting position and a length that together specify its location in the file.

  This is the default format for new file layouts.
- CSV: Fields are located in the file by their sequence, separated by commas.
- XML: A field is located not by its position or sequence within a record, but by the named XML tags surrounding it.

To preserve relationships between fields, you group fields into logical collections. In relational databases, these collections are records. Each line within a file is a collection of fields.

Note. With some file formats, the logical concept of a record may actually span multiple physical lines, but the concept of collections of fields remains.

The conceptual structure of all three file formats is represented in a file layout as follows:



File layout structure

A file layout is a collection of file records, which in turn are a collection of fields, each of which has a describable location.

Note. To avoid confusion with the standard terms *record* and *field,* when working with a file layout we refer to a collection of fields as a *file record* and to fields as *file fields.*

FIXED Format Files

This is the most common type of flat file that is currently processed by PeopleSoft EDI Manager. Almost all electronic data interchange (EDI) type processing uses this file type where each data element is oriented by a fixed, or column-dependent, position within the file.

The following table describes the properties of FIXED format files:

Property	Description	PeopleSoft EDI Manager Equivalent
File Layout Format	File format (FIXED).	None.
File Record ID	A group of numbers that can be used to identify the file record.	RowID.
ID Start Position	The column starting position of the file record ID.	Treated as a field within each map.
(Record) ID Length	The length of the file record ID.	Treated as a field within each map.
File Record Name	A user-specified name for the file record.	PeopleSoft record name.
File Field	A user-specified name for the file field.	PeopleSoft record's field name.
(Field) Start Position	The column starting position of the file field.	Starting position.
Field Length	The length of the file field.	Length of the field.
Field Format	The formatting options for both inbound and outbound field processing.	Based on the field type.

Considerations for FIXED Format Files

Consider the following when working with FIXED format files:

- Be careful when you change the length or starting position of any file fields, or when you insert a new file field between two existing ones.

  It's possible to overlay fields. Results are unpredictable.

- When you insert a record into a file layout, fields of the Long type are converted to the Character type, with a length of 0.

  You must set the field length to a number greater than 0 before you can save the file layout.

CSV Format Files

In this type of file, each data element is surrounded with a separator, a delimiter, or both. File record IDs can be used to determine which table data is moved to or from; however, in most cases this type of file contains homogenous records.

In the following example, the qualifier is a double quote (") and the delimiter is a comma (,):

```
"NAME","ADDRESS","PHONE"
```

File layout definitions store the file record ID (when used) and the relative sequence number of the field. In the preceding example, "PHONE" is sequence number 3.

The following table describes the properties of CSV format files:

Property	Description	EDI Manager Equivalent
File Format	File format (CSV).	None.
File Record ID	A group of numbers that can be used to identify the file record.	RowID.
ID Sequence Number	The sequence number of the field that contains the file record ID.	Treated as a field within each map.
Qualifier	The character that surrounds a field to mark its extent. This can be set at the file layout, file record, or file field level.	Delimiter.
Delimiter	The character used to separate fields from each other. This can be set at the file layout or file record level.	Separator.
File Record Name	A user-specified name for the file record.	None.
File Record Field	A user-specified name for the file field.	None.
Field Format	The formatting options for both inbound and outbound field processing.	Based on the field type.

Considerations for CSV Format Files

Consider the following when working with CSV format files:

- Both the qualifier and the delimiter accept a blank as a valid value.
- If a field is null, you don’t have to use qualifiers.

In the following example, Field2 is null:

```
Field1,,Field3,Field4. . .
```

- The system automatically pads the decimal places with zeros when amounts do not have values beyond the decimal point.

  For example, 100 is automatically written as 100.00.

Parsing Support for CSV Format Files

The following list summarizes parsing support in preview and runtime for all CSV file types:

- All blank lines are ignored.

  In the past, blank lines came in as empty records.
- All empty fields are returned as empty strings or zeros.
- Fields, including commas or new lines, are surrounded in quotes.
- When a field is in quotes, any embedded quotes must be escaped by two quotes.
- When non-Microsoft Excel format backslashes are embedded within a string, they must be double-backslashes to be interpreted as a backslash; otherwise, they are interpreted as an escape character.

Parsing Support for Microsoft Excel CSV Format

The following table summarizes the differences between Microsoft Excel CSV parsing and non-Microsoft Excel CSV parsing:

Item	Microsoft Excel CSV Parsing	Non-Microsoft Excel CSV Parsing
White space	Leading and trailing white space is significant for strings.	Leading and trailing whites paces are ignored, including converted tabs.
Backslashes	Not interpreted as special characters, except for new lines.	Interpreted.
Quotes inside quoted strings	Double-quoted.	Escaped.
Tabs	Converted to a single space.	Interpreted as tabs and ignored.

XML Format Files

This type of file contains data that is represented in a hierarchical or tree-type structure. A tag surrounds each data element. A file record tag might group multiple entries.

File layout definitions tie the identifier along with parent and child relationships to the file record and file field.

There is no PeopleSoft EDI Manager equivalent for this format.

The following table describes the properties of XML format files:

Property	Description
File Format	The file format (XML).
File Record ID	The tag name representing the file record.
Field Identifier	The tag name representing the file field.
Field Format	The formatting options for both inbound and outbound field processing.
File Record Name	A user-specified name for the file record.
Field Name	A user-specified name for the file field.

Considerations for XML Format Files

Consider the following when working with XML format files:

- The XML input file must contain *at least* the fields that are specified in the file layout definition that you're using.

  If the file is missing any fields, the input rowset doesn't contain any data.
- If the XML input file contains extra fields that aren't specified in the file layout definition, the ReadRowset method ignores the extra fields.
- When you insert a record into a file layout, fields of the Long type are converted to the Character type, with a length of 0.

  You must set the field length to a number greater than 0 before you can save the file layout.
- The system automatically pads the decimal places with zeros when amounts do not have values beyond the decimal point.

  For example, 100 is automatically written as 100.00.

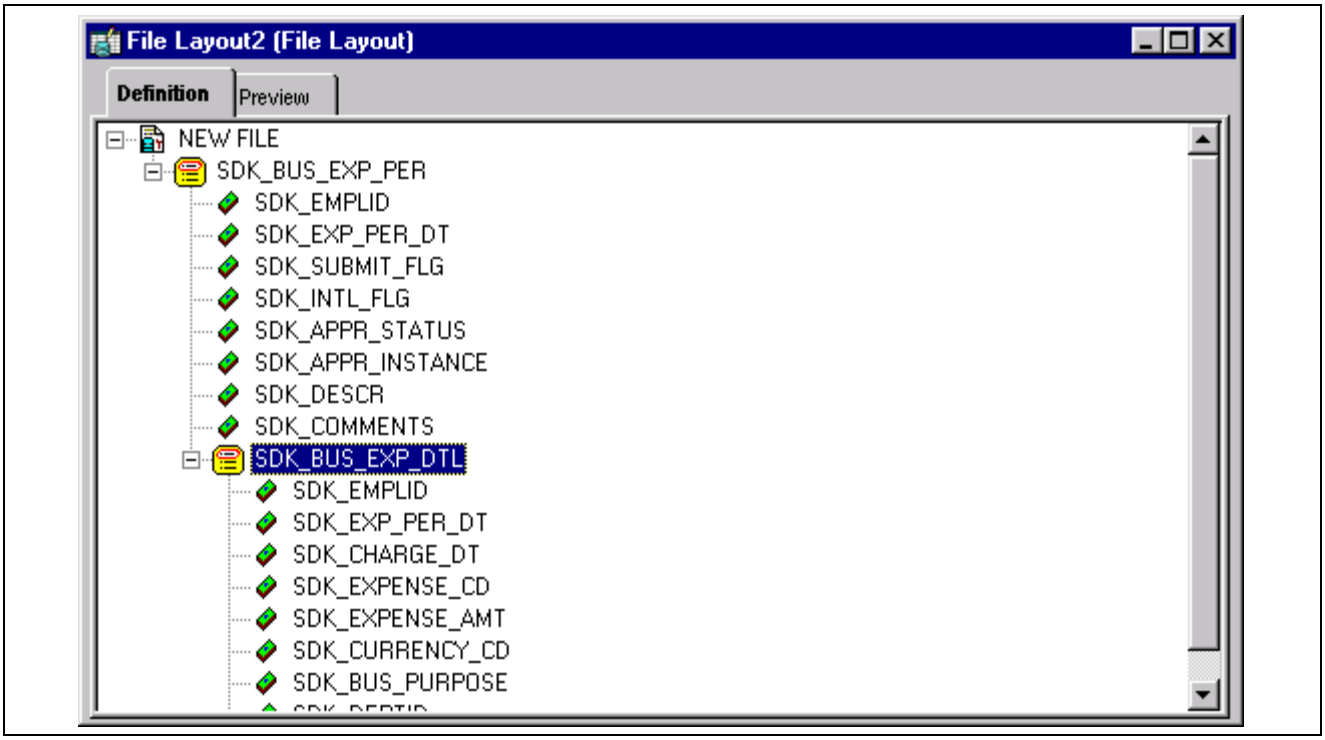
Constructing File Layouts

This section discusses how to:

- Create a new file layout definition.
- Add file records and file fields.
- Reorder file layout nodes.
- Name file layouts, records, and fields.
- Apply field formats.

Creating a New File Layout Definition

In PeopleSoft Application Designer, select File, New, File Layout.



File layout with two records in a hierarchy

A new file layout contains only one element—the root node, to which file records are attached. The default root node name is NEW FILE.

Save the new file layout definition. You're prompted to name the file layout, which also becomes the name of the root node.

Note. The default file layout format is FIXED.

See Also

Chapter 17, "Constructing File Layouts and Performing Data Interchanges," Specifying File Layout Properties, page 389

Adding File Records and File Fields

You can add file records and file fields to your file layout in two ways:

- Base them on existing record and field definitions in the database.
- Construct them directly in the file layout, without reference to any database records or fields.

  A file record that you construct in this way is added as a *segment,* but the result is an ordinary file record.

You can use both methods in any combination when creating file records and file fields in a file layout definition. Each file record and file field is generically referred to as a *node.*

Important! Regardless of the method that you use, file records and file fields exist only as definitions within a file layout and have no connection with any database record or field. Even with file records based on records in the database, a change to the database record definition is *not* reflected in the file layout.

Using a Segment Instead of a Record

Suppose that in the file that is provided to you, some of the file records contain new data and must be inserted, while others contain data that updates existing data. You can add a segment with a single field (like AUDIT_ACTION) that indicates whether the file record is new or changed. When you process the file, you can use PeopleCode to look at this field and, based on its value, perform the appropriate action.

As another example, suppose that you want to include two fields from the PERSONAL_DATA table in the file, but not all of the other fields. You have two choices: insert the PERSONAL_DATA table and manually delete all of the unwanted fields, or insert a segment, name it PERSONAL_DATA, and then insert the two fields that you want.

Using Segments in Data Interchanges

If you're creating a file layout for a data interchange, you can use segments, but each file record must correspond to a record with the same name in the PeopleSoft database, and its file fields must have the same names and data formats as the database record's fields. The file record may contain a subset of the fields in the corresponding database record. It may also contain a subset or a superset of the fields that are provided in the corresponding file data.

Adding File Records

To add a file record to the file layout definition, use one of the following methods:

- Drag and drop a database record.

  Drag a record definition from the Project window into the file layout's Definition window, dropping it on the root node or on any existing file record or file field. The new file record appears at the same level as the node that you dropped it on, following all of the other file records at that level. All of the record's constituent fields are inserted, as well.

- Insert a database record.

  With the root node or a file record highlighted, select Insert, Record. When you select a record, the new file record appears following the highlighted file record, at the same level. All of the record's constituent fields are automatically inserted, as well.

- Insert a segment.

  With the root node or a file record highlighted, select Insert, Segment, and enter a file record name. When you click OK, the new file record appears following the highlighted file record, at the same level.

- Insert a child segment.

  With a file record highlighted, select Insert, ChildSegment, and enter a file record name. When you click OK, the new file record appears one level below the highlighted file record, before any others at that level.

Note. When you add a file record at the root level, it appears immediately below the root node, before all of the other file records.

Adding File Fields

To add a file field to the file layout definition, use one of the following methods:

- Drag and drop a database field.

  Drag a field definition from the Project window into the file layout's Definition window, dropping it on any existing file record or file field. Confirm the field name or enter a different one, and click OK. The new file field appears following the node that you dropped it on.

- Insert a database field.

  With a file record or file field highlighted, select Insert, Database Field. Confirm the field name or enter a different one, and click OK. The new file field appears following the highlighted node.

- Insert a file field.

  With a file record or file field highlighted, select Insert, FileField, and enter a file field name. When you click OK, the new file field appears following the highlighted node.

Note. Each file field must have a unique name within its parent file record, but file fields in different file records can have the same name.

Reordering File Layout Nodes

The file layout definition provides a set of directional arrow buttons in the toolbar, which you can use to reposition any file record within the hierarchy of the file layout or any file field within its parent file record.

The up and down arrows don't change the level of the selected item, just its order among other items at that level. The right and left arrows move the selected item lower and higher in the file layout hierarchy.

Note. When you reposition a file record in the file layout, its child records are also repositioned, and their child records are repositioned, and so on.

Naming File Layouts, Records, and Fields

File layout names can be 30 characters in length, and file record and file field names can be 15 characters in length. All names should follow PeopleSoft naming standards.

Each file record within a file layout must have a unique name, but one file record can have the same name as the file layout. Each file field within a given file record must have a unique name, but file fields in different file records can have the same name.

Using WriteRecord, ReadRowset, and WriteRowset

If you use the WriteRecord, ReadRowset, or WriteRowset file layout methods for writing to or reading from records, the application record and the file record *must* have the same name, and the application record fields and the file fields *must* have the same names. These methods write only to like-named records and like-named fields within a given record. If you rename a record or a field after you use it to create a file layout definition, you must rename the file record or file field to the exact same name.

In a file layout definition containing more than one record, records and fields that aren't like-named are ignored. Like-named records don't have to contain all of the same fields, and like-named fields don't have to be the same length. Like-named fields should, however, be of the same type.

See Also

Chapter 6, "Creating Record Definitions," Naming Record Definitions, page 107

Applying Field Formats

You must consider several issues when specifying field formats.

Outputting Numbers to FIXED Files

When you write numeric data to a FIXED format flat file, all numbers are right-justified in the file field. Numbers with decimal places specified are written with zeros padding the unused decimal places.

For example, a sequence of records with numbers of varying precision is written this way:

```
001    53.2700BUY
002  2174.0933SELL
003   108.0000SELL
```

Date, Time, and Datetime Field Considerations

In accordance with the International Organization for Standardization (ISO) 8601 standards, the field lengths for date, time, and datetime fields are fixed in the file layout, regardless of the file format:

- Date fields have a fixed length of 10.
- Time fields have a fixed length of 20.
- Datetime fields have a fixed length of 31.

Considerations for Using Dates with the ReadRowset Method

Single digits in dates in the form MMDDYY or MMDDYYYY must be padded with zeros. That is, if the date in the data is February 3, 2002, the format must be:

- 02/03/2002
- 02/03/02

The format 2/3/02 is *not* valid.

When using the date format DDMMYY, single digits should also be padded with zeros and the month value should be in all capitals. For example, if the date in the data is February 2, 2003, the format must be 02-FEB-03; 2-Feb-03 is *not* valid.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode API Reference, "File Class," File Layout Error Processing

Specifying File Layout, Record, and Field Properties

This section discusses how to:

- Specify file layout properties.
- Specify file record properties.
- Specify file field properties.

Note. Some properties are available only for a specific file layout format. For example, a file definition tag is available only for an XML format file. When a property is available only for a particular format, the format is noted in parentheses after the name of the property (such as File Definition Tag [XML]).

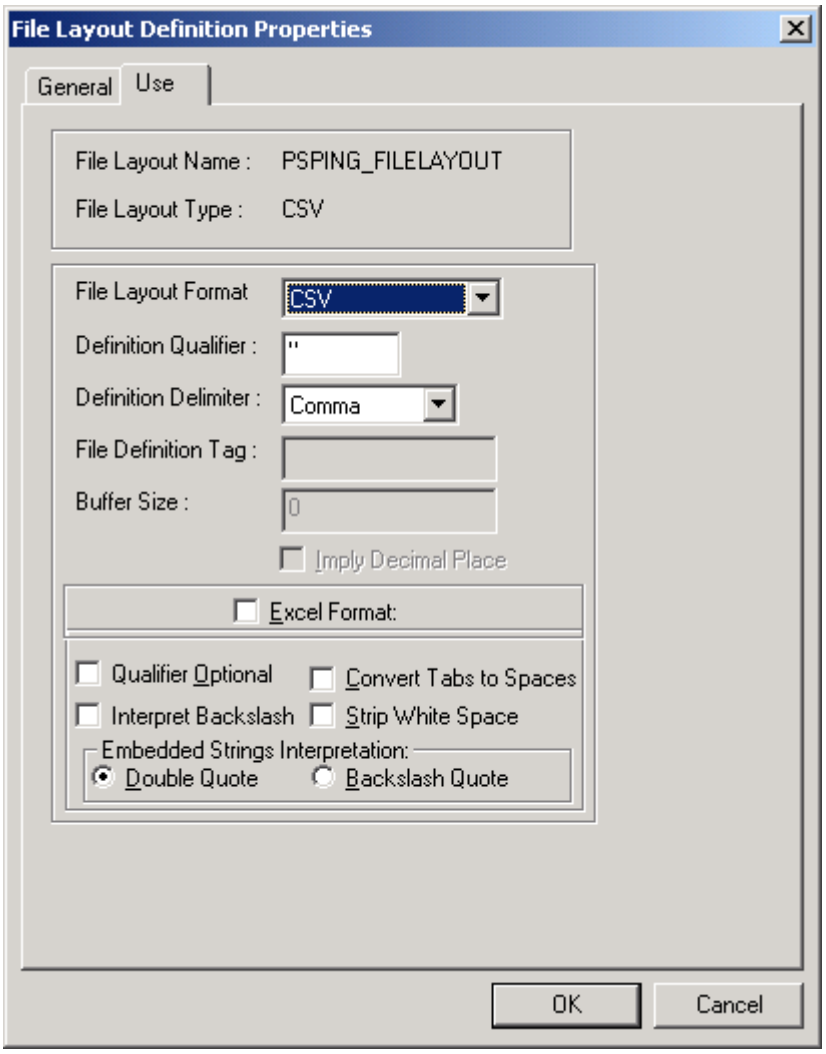
Specifying File Layout Properties

The File Layout Definition Properties dialog box contains all of the information that is stored at the file layout (root) level.

Access the dialog box by using one of the following methods:

- Select File, Object Properties.
- Press ALT+ENTER.
- Double-click the topmost (root) node of a file layout definition.
- Right-click an open file layout, and select Data Object Properties.

The General tab of the dialog box contains description information for the file layout. The Use tab contains specific information for the file layout.



File Layout Definition Properties dialog box: Use tab

File Layout Format Displays the type of file layout. Values are *FIXED, CSV,* and *XML.*

Definition Qualifier Select a qualifier to surround each field in the file record in this layout. You can override this value at the file record and file field levels.

This field is active when the file layout format is CSV.

Definition Delimiter Select the default delimiter between each field in the file record in this layout. You can override this value at the file record level. The default value is *Comma.* If you specify *Other,* a blank field appears so that you can enter a delimiter.

This field is active when the file layout format is CSV.

File Definition Tag Enter the XML tag name that is associated with this layout (or transaction). This tag can be 30 characters in length. This tag must be unique in the file layout.

This field is active when the file layout format is XML.

Buffer Size Displays the size of the input buffer that is used at runtime.

This field is active when the file layout format is XML.

Note. Do not edit this value directly.

Imply Decimal Place Select to automatically add a decimal place based on the decimal value that is specified in the field definition when importing a file into a PeopleSoft database and no decimal place is specified for numeric values in the file.

If you select this option, make sure that the length that you specify for the Number field includes the decimal point, even though it is not visible. In this case, the decimal point is counted as a space.

This field is active when the file layout format is FIXED.

Excel Format Select to parse the field by using Microsoft Excel CSV specifications.

This field is active when the file layout format is CSV.

Qualifier Optional Select to parse the field based on delimiters. When a qualifier exists, the field is parsed by using a closing matched qualifier. All characters are ignored before and after the qualifier.

This field is active when the file layout format is CSV.

If you do not select this check box, the field *must* have qualifier pairs. All characters are ignored before and after the qualifier.

Convert Tabs to Spaces Select to convert all tabs within the field to spaces. If you do not select this option, all tabs are ignored.

This field is active when the file layout format is CSV.

Note. If the Strip White Space option is also selected, the system removes trailing and leading tabs.

Interpret Backslashes Select to interpret backslashes within field data as escape characters.

The following characters have special meanings:

- \t represents a tab.
- \n represents a new line.

If you do not select this check box, backslashes are considered regular text data.

This field is active when the file layout format is CSV.

Strip White Space Select to remove all leading and trailing white space within field data from the output data.

This field is active when the file layout format is CSV.

Note. If you select this option, trailing and leading tabs are also removed, regardless of whether you have selected the Convert Tabs to Spaces option.

Double Quote Select to interpret two double quotes (" "), as one double quote (") in output data.

For example, if you enable this option, `abc""def"` is interpreted as `abc"def.`

This field is active when the file layout format is CSV.

Backslash Quote Select to interpret backslash quotes (\") as one double quote (") in output data.

For example, if you enable this option, `"abc\"def"` is interpreted as `abc"def.`

This field is active when the file layout format is CSV.

See Also

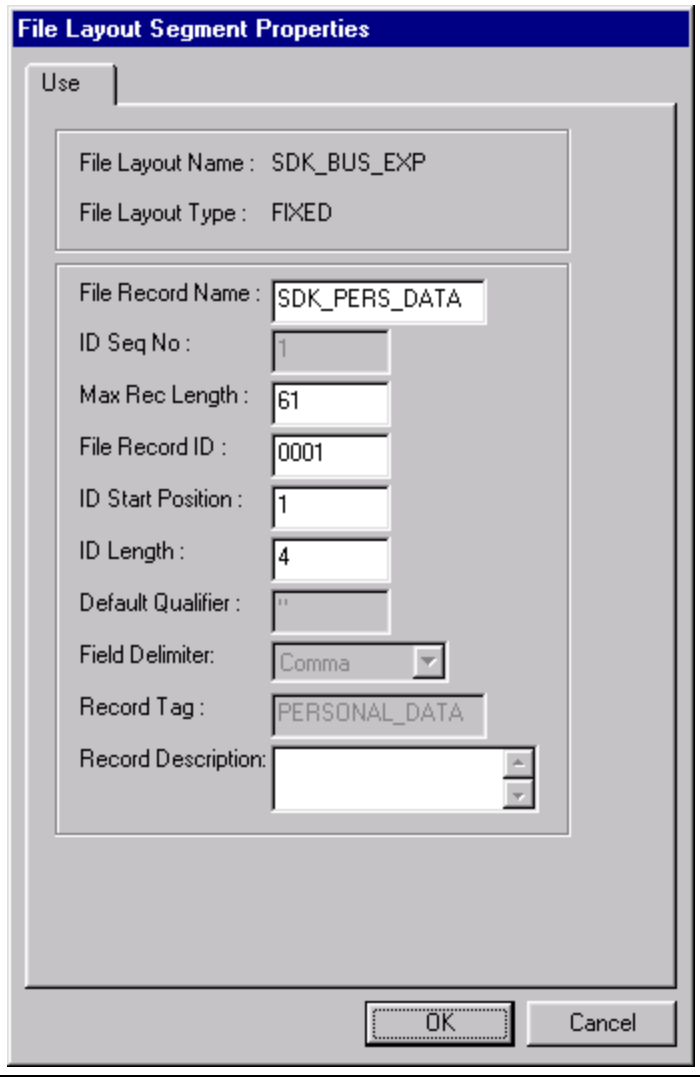
Chapter 17, "Constructing File Layouts and Performing Data Interchanges," Understanding File Layouts, page 379

Specifying File Record Properties

The File Layout Segment Properties dialog box contains information that is stored at the file record level.

Access the dialog box by using one of the following methods:

- Double-click the file record node.
- Right-click the file record node, and select Selected Node Properties.



File Layout Segment Properties dialog box

File Record Name Enter a file record name that is associated with this file record. This name is used when accessing the file record from PeopleCode. Every file record in a file layout must have a unique name.

ID Seq No. (CSV)(identification sequence number) Enter a sequence number for the field that contains the file record ID.

Max Rec Length(maximum record length) Displays the default maximum length of the combined field sizes of the record. This value is automatically updated.

Warning! Any inbound or outbound data is truncated beyond this value.

File Record ID Enter a number to uniquely identify the file record in the file layout. You can use this number in processing the file. This number is automatically written to the file if you use the WriteRecord or WriteRowset methods and if the file type is FIXED or CSV.

ID Start Position (FIXED) Enter the column or starting position in the file record where the file record ID starts.

ID Length (FIXED, CSV) Displays the length of the file record ID. This number is automatically generated when you enter the file record ID.

Note. This value shouldn't be edited directly.

Default Qualifier (CSV) Enter a qualifier that is used for the file record ID and as the default for fields when no field qualifier is specified. This value overrides the definition qualifier that is specified in the File Layout Definition Properties dialog box. When you first create a file layout, this property is blank.

Field Delimiter (CSV) Enter a delimiter that is used for all fields in the file record. This overwrites the definition delimiter that is specified on the File Layout Definition Properties dialog box.

Record Tag (XML) Enter an XML tag name for this file record. The default value is the file record name.

Note. Although each record name in a file layout must be unique, record tags do not have to be unique.

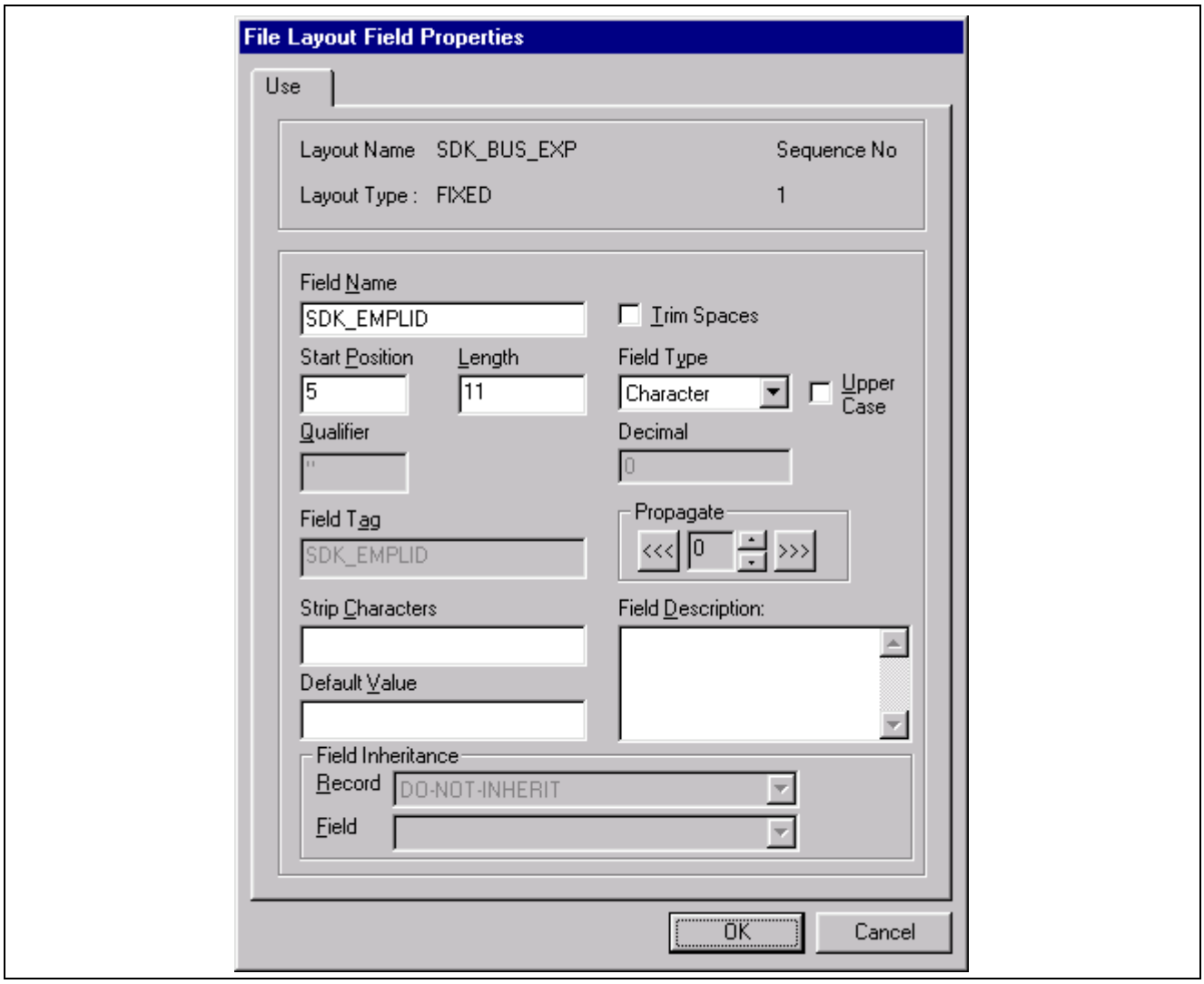
Record Description Enter a description of the record for documentation purposes only.

Specifying File Layout Field Properties

The File Layout Field Properties dialog box contains information that is stored at the file field level.

Access the dialog box by using one of the following methods:

- Double-click the file field node.
- Right-click the file field node, and select Selected Node Properties.



File Layout Field Properties dialog box

Most individual properties are usable by all field types. However, some are specific to a particular field type—for example, the Upper Case check box is applicable for character fields only, while the Date Separator field is applicable for date fields only, and so on. The preceding dialog box shows the properties for a character type of field. However, the following descriptions include all possible properties.

Field Name Enter the name that is associated with this file field. This name is used when accessing the file field from PeopleCode. Every field within a file record must have a unique name; however, two different file records can contain the same file field.

UpperCase (Char) Select to convert lowercase text to uppercase during inbound processing. This is used primarily when customer data may be in lowercase and the PeopleSoft software requires the data to be in uppercase.

Field Type Select the data type of the file field.

Date Format (Date) Select a date format, such as MMDDYY, DDYYMM, and so on.

Date Separator (Date) Enter a character that is used to separate date values. The default value is /.

Decimal Position Enter the number of decimal positions (to the right) of the decimal point. This property is valid only for fields that are defined as number or signed number.

Note. You're allowed only 31 characters plus a decimal point.

Field Length Enter the maximum number of characters of this field.

Note. You're allowed only 32–character precision for number and signed number fields, that is, a total of 32 characters both to the right and left of the decimal. Other fields, such as character fields, can be longer.

You can't set the field length for Date, Time, and Datetime type fields. These field lengths are automatically set to the ISO standards for such fields.

Start Position (FIXED) Enter the starting position (column) of the field within the file record.

Important! If you specify a start position for a field that overwrites a previous field, no data is written to the file. Use Propagate to change the start positions for your file fields.

Propagate (FIXED) If a field position or length is changed, enter an amount here to increment (positive number) or decrement (negative number) the current field and all fields before it (<<<) or after it (>>>).

Field Qualifier (CSV) Enter the qualifier for the field, that is, the character that surrounds this field, separating it from other fields. Specifying this value overwrites the value that is specified in the file layout properties and file record properties.

Field Tag (XML) Enter an XML tag name to be used around the field. The default value is the name of the field.

Note. Although each field name in a file record must be unique, each field tag does not have to be unique.

Strip Characters Specify any characters to be removed from the input buffer. Use this to preprocess input strings. For example, if a field in the input file contains hyphens, but you want to remove the hyphens before processing the field, you can enter a hyphen here, and it is stripped out while being read. You can specify more than one character to be stripped out. Be sure to not separate the strip characters. For example, the following strips out all semicolons and hyphens:

```
;-
```

The following strips out all semicolons, hyphens, and spaces:

```
; -
```

Trim Spaces Select to remove trailing spaces only from the input string. This option is active only for FIXED and CSV formats.

This is different from the Strip Characters field, which removes all spaces from the entire input field if you specify a space.

Field Description Enter a description of the field for documentation purposes only.

Field Inheritance

Optionally select a parent file record and field, from which the current field's value is to be inherited. If you're writing to a file, this means that the value is written only in the parent file record, not in the child (inheriting) file record (that is, the value isn't written more than once to a file). If no value is present in the parent field, the default value that is specified here is used.

For example, the following file sample shows both the EMPLID (8113) and EFFDT (08/06/1999) written only once to a file, though these fields are repeated in the third file record (with a file record ID of 102):

```
100 8113 Frumman,Wolfgang
101      08/06/1999     000001   219 Going to London office
102                 100 000015 I 08/06/1999
102                 200 000030 I 08/06/1999
102                 300 000009 I 08/06/1999
102                 400 000001 I 08/06/1999
102                 500 000011 I 08/06/1999
```

Note. Numbers that contain thousand separators (as in "," or ".") are not accepted by PeopleSoft. For example, if you exchange data with Microsoft Excel, you need to disable the "Use 1000 Separator (,)" property.

See Also

Chapter 4, "Creating Field Definitions," page 59

Performing Data Interchanges

This section provides an overview of the import process and discusses how to:

- Preview input data.
- Generate and run the import program.
- Export data.

Understanding the Import Process

To help you troubleshoot and import flat file data, the file layout definition provides a data preview page. It can also generate an Application Engine program with the associated PeopleCode that is necessary to import the data.

Data Import Activities

Importing data by using a file layout requires the following sequence of activities:

1. Provide the import data in a properly formatted flat file.

   Each record in the file must correspond to a record with the same name in the PeopleSoft database, and its fields must have the same names and data formats as the database record's fields. Each record in the file must end with a new line character.

2. Create a file layout definition to match the record and field structure of the data.

Insert the appropriate record definitions into the file layout, then reposition the file records and file fields to match the record and field positions in the file.

3. Preview and troubleshoot the input data format and content.
4. Generate the data import Application Engine program and PeopleCode.
5. Run the Application Engine program to import the data.

Field Inclusion and Exclusion

The fields in the data file's records can be a subset of the database record's fields—define your file layout with only the file fields that you expect to receive.

The fields in the data file's records can be a superset of the database record's fields; you must define your file layout to suppress or ignore the extra fields. For FIXED files, don't define a field at the corresponding position in the file layout definition. For CSV files, the file layout must have the same number of fields in each record as there are in the corresponding file record—for each field that you don't want to import, define a field in the file layout at that position that *doesn't* correspond to any field in that database record. For XML files, any extra fields are ignored automatically.

Your data file can contain a subset or a superset of the records that are defined in the file layout. Only a file record with a matching file record ID in the file layout is imported.

Record Hierarchy

In theory, you can ignore rowset hierarchy when importing file data, because the PeopleSoft database stores each record independently of the others, and rowsets aren't used in the import process. However, many records are designed with hierarchical dependencies in mind. The input file might omit inherited field values or order the data records in a way that reflects such dependencies.

If the input file omits inherited field values, make sure that the inheriting fields' records in the file layout are children of the ones from which they inherit their values, and make the appropriate Field Inheritance settings.

If the records to be imported contain key fields that reflect a rowset hierarchy, they might be in an order in the file that also reflects the hierarchy. Make sure your file layout reflects that hierarchy, as well.

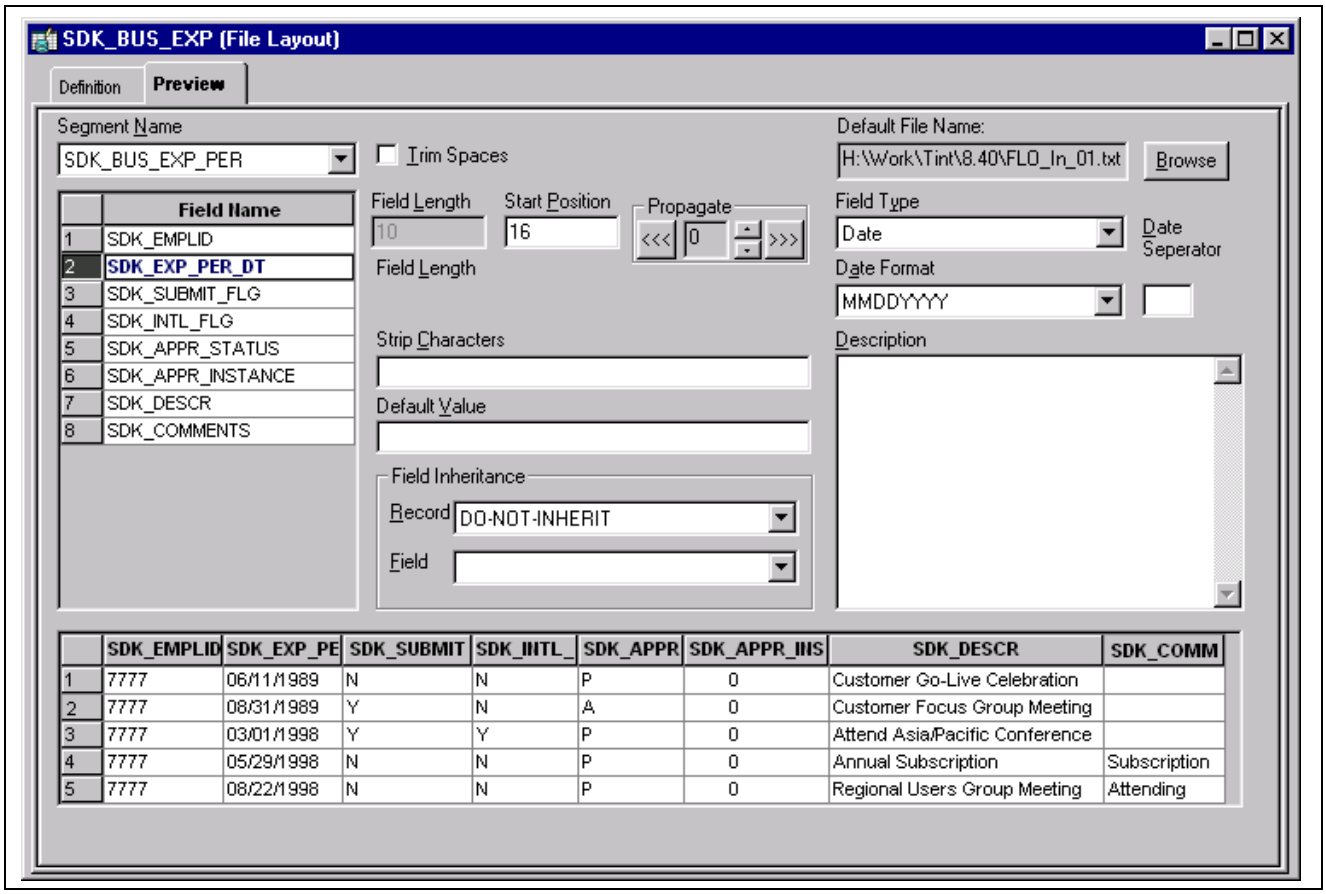
Important! The completed file layout must have exactly one file record at the root level; all other file records must be below that level.

See Also

Chapter 17, "Constructing File Layouts and Performing Data Interchanges," Reordering File Layout Nodes, page 387

Previewing Input Data

In PeopleSoft Application Designer, select File, New, File Layout, Preview.



File layout preview

Initially no information is displayed on the preview tab.

Note. With an XML file, the data can't be previewed, although you can still generate and run an import program.

To preview the input data:

1. Click Browse and select the import file.

   The name of the import file appears in the Import File text box.

2. Select a file layout segment from the Segment drop-down list box.

   The file layout fields corresponding to the selected segment appear in the list below the segment name. This list comes from the file layout definition, and does not depend on you selecting a valid import file.

3. Click the Refresh button on the toolbar to refresh the preview data.

   At the bottom of the window, a preview of the first five rows of the selected segment in the selected import file appears in the grid.

   You can also select View, Automatically Read Preview Data. While this menu item is selected, the file layout refreshes the preview automatically; when it's cleared, you need to click the Refresh Preview Data button to see the effects of changes you make to the property settings or data.

Note. Preview file data is available only for FIXED and CSV file layouts. The preview data appears only if you've selected an import file, if the file format matches the format specified for the file layout definition, and if it contains a file record ID that matches the file record ID of the selected segment.

4. Select one of the fields on the Field Name list.

   The properties of the field that you selected appear in the appropriate display fields. These properties are actually the field's file layout field properties; you can change all field property settings from this view.

Note. Only the field properties that are appropriate to the file layout format that you specified in the File Layout Definition Properties dialog box are visible in this view; for example, the Start Position and Field Length fields are available only for a FIXED format file layout.

Examining the Input Data for Errors

The following table shows some examples of input data errors:

Symptom	Possible Reason	Solution
The preview grid doesn't appear.	The input file's format doesn't match the file layout format that you specified in the File Layout Definition Properties dialog box. A CSV file doesn't use the definition qualifier you specified in the File Layout Definition Properties dialog box.	Change the file layout format to match the input file. Change the definition qualifier to match the one that is used in the input file.
Only the first column of the preview grid is populated.	A CSV file doesn't use the definition delimiter you specified in the File Layout Definition Properties dialog box.	Change the definition delimiter to match the one that is used in the input file.
The preview grid appears for some records, but not for others.	The file's record IDs for the missing records don't match their file record IDs specified in the File Layout Segment Properties dialog box.	Specify file record IDs that match the input file records.
Data for a field appears truncated in the preview grid.	With a FIXED file, the field length that you specified in the File Layout Field Properties dialog box is too short to accommodate the field data.	Increase the field length to accommodate the input data.
A field appears to start in the middle of the data.	With a FIXED file, the start position you specified in the File Layout Field Properties dialog box is too great to include the start of the field data.	Decrease the start position and adjust the field length to match the input data start position and length.

Generating and Running the Import Program

This part of the process imports the file data.

To generate and run the import program:

1. After you preview the file layout and examine the input data, click the AE button on the toolbar.

   This generates the Application Engine import program with its associated import PeopleCode.

2. Enter a name for the Application Engine program, and click OK.

   The program is automatically saved and is ready to run as soon as its definition appears in PeopleSoft Application Designer.

3. Click the Run Program button on the toolbar.

   The file data is imported into the database.

Exporting Data

The method that you use to export data from the PeopleSoft system depends on the target application's requirements. To export data to a flat file, you create a file layout definition, then write PeopleCode to transfer the data to a file. The PeopleCode can be initiated from Application Engine or from any event. It should populate text strings, rowset objects, or record objects, and it should apply the WriteRecord or WriteRowset method from the File class to transfer the data to the file by using the file layout definition to position the records and fields as required by the target application.

Note. To generate valid XML files, be sure to use the Close method in the File class when you finish writing to the file.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode API Reference, "File Class"

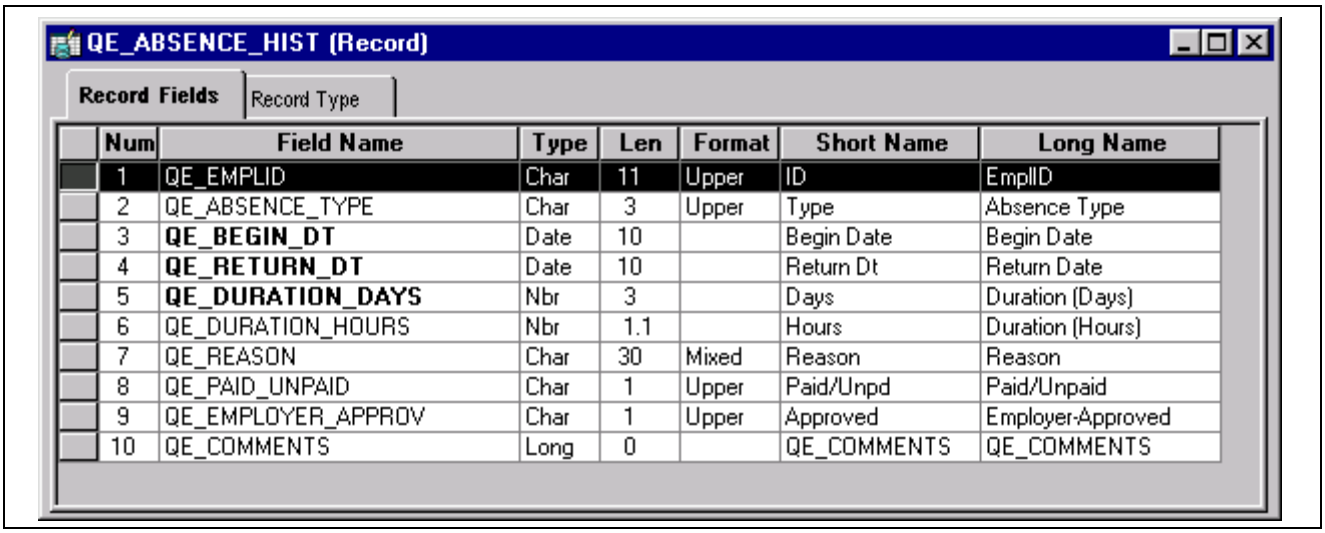
Producing a Sample File Layout

This section describes how to:

- Create the file layout definition.
- Adjust file layout properties.
- Insert a segment and a field.

Creating the File Layout Definition

This example illustrates how to create a file layout that can be used with the QE_ABSENCE_HIST record:



QE_ABSENCE_HIST (Record)

Record Fields | Record Type

Num	Field Name	Type	Len	Format	Short Name	Long Name
1	QE_EMPLID	Char	11	Upper	ID	EmplID
2	QE_ABSENCE_TYPE	Char	3	Upper	Type	Absence Type
3	**QE_BEGIN_DT**	Date	10		Begin Date	Begin Date
4	**QE_RETURN_DT**	Date	10		Return Dt	Return Date
5	**QE_DURATION_DAYS**	Nbr	3		Days	Duration (Days)
6	QE_DURATION_HOURS	Nbr	1.1		Hours	Duration (Hours)
7	QE_REASON	Char	30	Mixed	Reason	Reason
8	QE_PAID_UNPAID	Char	1	Upper	Paid/Unpd	Paid/Unpaid
9	QE_EMPLOYER_APPROV	Char	1	Upper	Approved	Employer-Approved
10	QE_COMMENTS	Long	0		QE_COMMENTS	QE_COMMENTS

QE_ABSENCE_HIST record definition

For simplicity, suppose that each row in the FIXED format file has the following structure:

```
888 A
000 8001 VAC  1981-09-12 1981-09-26 14   .0                    P Y
888 A
000 8001 VAC  1983-03-02 1983-03-07 5    .0                    P Y
888 A
000 8001 VAC  1983-08-26 1983-09-10 13   .0                    P Y
888 A
000 8516 MAT  1986-06-06 1986-08-01 56   .0                    P Y
888 C
000 8516 SCK  1988-08-06 1988-08-07 1    .0                    P Y
888 A
000 8516 VAC  1987-07-14 1987-07-28 14   .0                    P Y
888 A
000 8553 JUR  1990-12-12 1990-12-17 5    .0  Local Jury Duty    P N
888 A
000 8553 MAT  1992-02-20 1992-10-01 224  .0  Maternity Leave    U N
888 A
000 8553 MAT  1994-08-19 1995-03-01 194  .0  Maternity          U Y
888 A
000 8553 PER  1993-04-15 1993-04-19 4    .0                    U N Personal
Day required
888 C
000 8553 SCK  1987-01-28 1987-01-30 2    .0  Hong Kong Flu      P N
888 A
000 8553 SCK  1988-08-02 1988-08-03 1    .0  Sick               P N
888 A
000 8553 SCK  1995-09-12 1995-09-13 1    .0                    P N
888 C
000 G001 MAT  1991-07-02 1991-09-28 88   .0  3-month Maternity  P Y Maternity will
be paid as 80% of Claudia's current salary.
```

000 is the file record ID for ABSENCE_HIST, and each field appears in the same order as in the ABSENCE_HIST database record. 888 is the file record ID for an extra segment called CHANGE_ACTION, containing an AUDIT_ACTION field with the following meanings:

- A: Row inserted.
- C: Row updated, but no key fields changed.

Note. The end of file (EOF) character must be on a separate line and not on a line containing data for any incoming file, regardless of the file type. Each data line needs to be terminated with an end of line (EOL) character, which is different from an EOF.

To create a file layout definition:

1. Use the QE_ABSENCE_HIST record definition as a template for the file layout.

   Create a new file layout, then drag the QE_ABSENCE_HIST record into the open file layout.

2. Save the file layout.

   Save it with a name of ABS_HIST.

   The name of the first node changes from NEW FILE to ABS_HIST.

Adjusting File Layout Properties

In the file layout definition, open the file layout, record, or field properties as appropriate for each step in the following procedure.

To adjust layout, record, and field properties:

1. Change the file layout properties.

   Double-click the topmost node in the file layout, ABS_HIST, to display the file layout properties.

   Enter a short and long description of the file layout you're creating. For this example, we're creating a FIXED file layout, so you don't need to make any changes on the Use tab.

2. Change the file record properties.

   Double-click the QE_ABSENCE_HIST file record to display its properties. Enter a record ID of *000,* and a starting position of *1*. The ID length is automatically set.

   When you click OK, you see a message asking if you want to increment the start positions for all fields.

   Click Yes. This automatically increments the start position numbers for every field to take the length of the file record ID that you just added into account. If you don't click Yes, you must manually increment the start position for all fields.

   You've just created the file record ID for the QE_ABSENCE_HIST record:

```
000 8001       VAC  1981-09-12 1981-09-26 14  .0                    P Y
000 8001       VAC  1983-03-02 1983-03-07 5   .0                    P Y
```

3. Change the file field properties.

   When a record definition is used as a template for a file layout, the default starting position for each field is based on the order in which it appears in the record as well as its length.

   Double-click the QE_EMPLID file field to display its properties.

The start position is automatically incremented to 4 (because the file record ID is three characters long). However, in the example there's an extra space between the end of the file record ID and the first field. Therefore, you need to change the start position of this field and all of the fields after this field. This increments the starting position of this field and all fields following this field by 1.

To do this:

- Click the up arrow under Propagate to change that number from 0 to 1.
- Click the button with the arrows pointing right (>>>).

4. (Optional) Adjust other fields.

The last field (QE_COMMENTS) has a length of 0 because it's based on a Long field type.

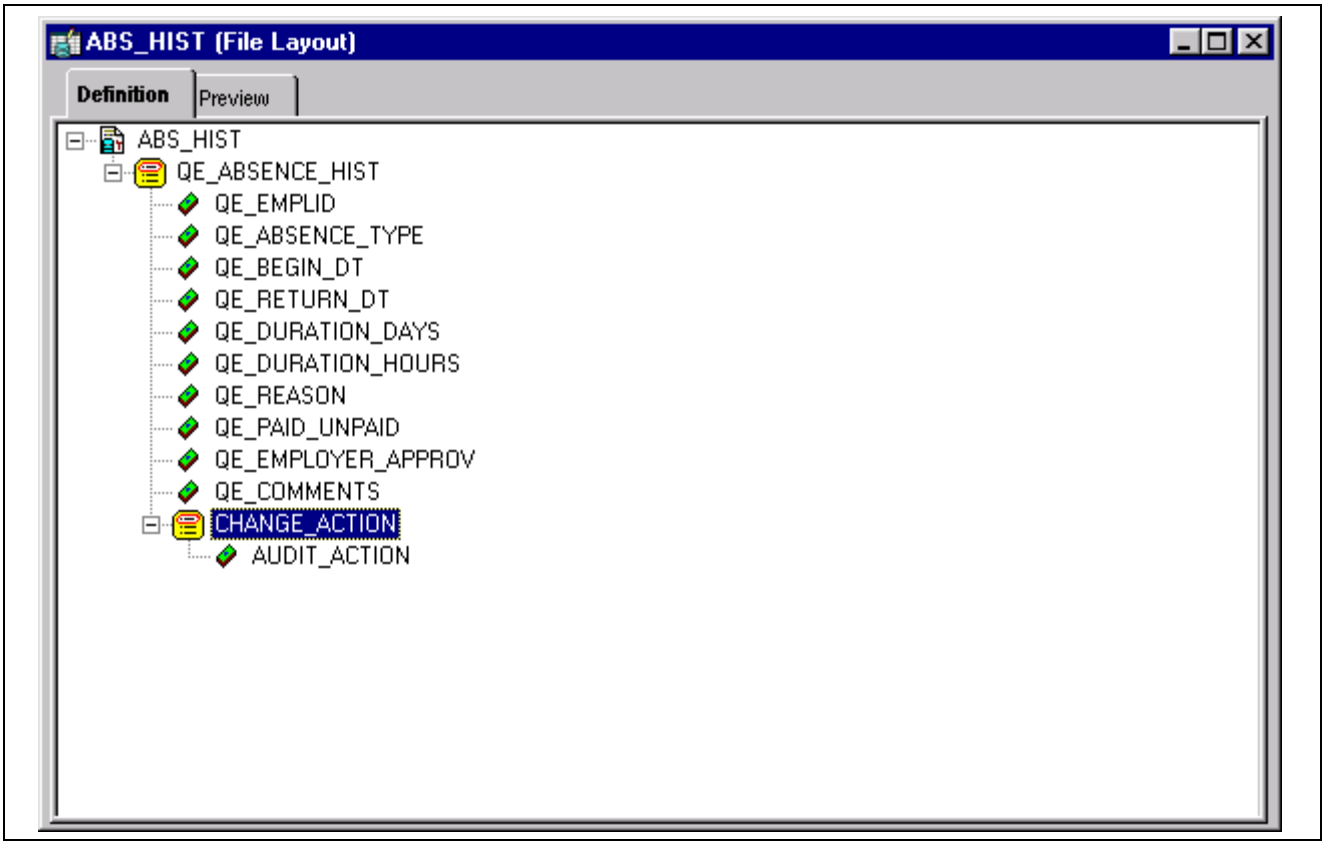
Note. When a Long field is inserted into a file layout, it's converted to a Character field with a length of 0.

Because the format for this file layout is FIXED, you have to change the field length of that file field so it's long enough to accommodate the data that you expect from the file.

You don't have to propagate this change because this is the last field in the record.

Inserting a Segment and a Field

Open the file layout definition based on the ABS_HIST record.



File layout with new segment and field added

To insert a segment and a field in that segment:

1. Insert a segment.

Insert a segment that is a sibling, (that is, at the same level), as the QE_ABSENCE_HIST record. Insert a segment by selecting Insert Segment from the pop-up menu, or by selecting Insert, Segment. The Insert New Segment dialog box appears.

This dialog box is identical to the File Layout Segment Properties dialog box. Enter the file record name, file record ID, and ID start position. When you click OK, the segment is inserted.

Note. If you provide a Record File ID when adding a segment to a file layout that is either CSV or fixed, the system prepends this Record File Id to every row of data that gets written.

---

2. Insert a file field.

   Insert a file field by selecting Insert FileField from the pop-up menu. The Insert New Field dialog box appears. It's identical to the File Layout Field Properties dialog box. Enter the field name, start position, and field length; then click OK.

   Note. The start position isn't automatically set when you add a file field to the file record; for this example the AUDIT_ACTION field requires a start position of 5.

   ---

3. Save your work.

   Be sure to save the changes that you've made to the file layout by selecting File, Save, or clicking the save icon in the toolbar.

   Now that you've created and saved a file layout, you must use PeopleCode to access the data. File layouts rely solely on PeopleCode as the engine behind the actual data access and movement.

See Also

Enterprise PeopleTools 8.46 PeopleBook: PeopleCode API Reference, "File Class"

CHAPTER 18

Using Command Line Parameters

This chapter provides an overview of PeopleSoft Application Designer command line parameters and discusses how to:

- Start PeopleSoft Application Designer and PeopleSoft Data Mover.
- Build projects.
- Copy definitions.
- Compare definitions.

Understanding PeopleSoft Application Designer Command Line Parameters

PeopleSoft Application Designer offers a variety of command-line parameters that you can use to control the database to which it connects. By using these parameters, you can automatically navigate to the part of the system that you need.

Use the values from the following tables when specifying certain parameters.

Syntax

The following command line syntax applies to all actions identified in this chapter:

PSIDE [-parameter value [-parameter value . . .]]

You can include as many or as few parameters as you need.

Each parameter starts with a hyphen (-) or a forward slash (/). The value for each parameter follows the hyphen or slash, separated by zero or more spaces. In general, the value doesn't need to have quotation marks around it, even if it has internal spaces—the system treats all text following the parameter as part of the value, up to the next parameter or the end of the command line.

Note. You must enclose a value in quotation marks only when it includes a hyphen or forward slash, or to include leading or trailing spaces. If the value itself includes a quotation mark character, precede the double quote with a backslash (\).

See Also

Enterprise PeopleTools 8.46 PeopleBook: Data Management, "Using PeopleSoft Data Mover," Using the PeopleSoft Data Mover Command-Line Interface

Starting PeopleSoft Application Designer Command Line Interface

Use the command line syntax and available parameters to start PeopleSoft Application Designer.

Command Line Syntax

Use the command line syntax described previously to start PeopleSoft Application Designer.

See Chapter 18, "Using Command Line Parameters," Understanding PeopleSoft Application Designer Command Line Parameters, page 405.

Available Parameters

The available parameters for PSIDE.EXE fall into two general categories:

- Parameters providing login information.
- Parameters setting general options.

This table lists all of the available parameters:

Parameter	Value	Description
-CT	Database type	Enter the type of database to which you are connecting. Valid values are ORACLE, INFORMIX, SYBASE, MICROSFT, DB2ODBC, and DB2 UDB for Linux, UNIX, and Microsoft (note the spelling of MICROSFT).
-CS	Server name	Enter the name of the database server for the database that you're connecting to. This setting is required for some database types.
-CD	Database name	Enter the name of the database to which you are connecting, as you would enter it into the PeopleSoft Login dialog box.
-CO	User ID	Enter the PeopleSoft user ID to log in with.
-CP	Password	Enter the password for the specified user ID.
-CI	Connect ID	Enter the ID that is used to connect to the database server.

Parameter	Value	Description
-CW	Password	Enter the password for the specified connect ID.
-SS	NO	Use to suppress the display of the PeopleSoft splash screen. Any other value causes the splash screen to display.
-SN	NO	Use to suppress the sound that plays when you sign in to the PeopleSoft system. Any other value causes the sound to play.
-QUIET	(none)	Use to run in quiet mode, so that no message boxes appear. The system writes messages to the log file or trace file depending on whether you also use the -LF parameter. Quiet mode is recommended for use with processes that require no human interaction.
-HIDE	(none)	Use to hide the PeopleSoft Application Designer interface.
-LF	Log file path name	Path to the log file when used in conjunction with the -QUIET parameter. If used, the system writes any messages generated during processing to the log file.
-FP	Filename	(PeopleSoft Data Mover only) Enter the name of the Data Mover script to run.

Example

This command line statement starts PeopleSoft Application Designer and signs in to the DEP7TST database:

PSIDE -CT MICROSFT -CS SEPNTDB05 -CD EP7TST -CO VP1 -CP VP1

Building Projects

Use the same command line syntax as identified previously to build a project.

See Chapter 18, "Using Command Line Parameters," Understanding PeopleSoft Application Designer Command Line Parameters, page 405.

Use the command line statement for the project build to:

- Connect the project to the source database.
- Use the build settings from the Windows registry to generate the SQL script for the create or alter processes.

Before running the build command line, verify that:

- The project's system components are created and loaded.
- The build options are set in the Windows registry.

Available Parameters

This table lists all of the available parameters for the project build statement:

Parameter	Description	Error Handling
-HIDE	Use to hide the PeopleSoft Application Designer interface. Always use this parameter when performing a command line Copy process.	Required for all project command line processes.
-CT	Database type. Enter the type of the database to which you are connecting (MICROSFT, ORACLE, SYBASE, and so on).	Required. If you do not supply this parameter, the last database type is taken from the registry. If it fails, the process stops and error messages are written to the log file.
-CS	Server name. Enter the name of the source database server for the database to which you are connecting.	Required for some database types. If you do not supply this parameter, the process stops and error messages are written to the log file.
-CD	Database name. Enter the name of the source database to which you are connecting, as you would enter it into the PeopleSoft Login dialog box.	Required. If you do not supply this parameter, the process stops and error messages are written to the log file.
-CO	User ID. Enter the PeopleSoft user ID that is needed to sign in to the source database.	Required. If you do not supply this parameter, the last database type is taken from the registry. If it fails, the process stops and error messages are written to the log file.

Parameter	Description	Error Handling
-CP	User password. Enter the password for the specified user ID for the source database.	Required. If you do not supply this parameter, a PeopleSoft Login dialog box appears for the user to enter a valid user password. If the password fails, the process stops and error messages are written to the log file.
-PJB	Project name. Enter the name of the project to be built. This project should be available in the database before starting the command line project build.	Required. This is the main parameter and is used internally to decide whether the user can build a project. If you do not supply this parameter and if you supply all of the source database login parameters, the program only starts the application.

Example

For this example, assume that the:

- Project name is CJR1.
- Database type is Microsoft.
- Database name is CJR810G.
- User ID is PTDMO.
- Password is PTDMO.
- Path name of the SQL script file is c:\temp\psbuild.sql.
- Path name of the log file is c:\temp\psbuild.log in the Windows registry.

For this example, you would enter the following at the command line:

PSIDE.EXE −CT MICROSFT −CD CJR810G −CO PTDMO −CP PTDMO −PJB CJR_PRJ -HIDE -QUIET

Copying Definitions

Use the same command line syntax as identified previously to copy definitions.

See Chapter 18, “Using Command Line Parameters,” Understanding PeopleSoft Application Designer Command Line Parameters, page 405.

Use the command line statement for Upgrade Copy processes to:

- Connect to the source database.
- Connect to the target database.
- Copy the project and its objects from the source database to the target database.

If the same project already exists in the target database, you can set the option to overwrite the older project with the new project.

Available Parameters

The following table lists all available parameters for the upgrade copy statement:

Parameter	Description	Error Handling
-HIDE	Use to hide the PeopleSoft Application Designer interface. Always use this parameter when performing a command line Copy process.	Required for all project command line processes.
-CT	Source database type. Enter the type of source database to which you are connecting (for example, ORACLE, SYBASE, and so on).	Required. If the process stops, error messages are written to the log file (if the log file name parameter is specified).
-CS	Source server name. Enter the name of the source database server for the database to which you're connecting.	Required for some database types. If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-CD	Source database name. Enter the name of the source database to which you're connecting, as you would enter it into the PeopleSoft Login dialog box.	Required. If you do not supply this parameter, the process stop and error messages are written to the log file (if the log file name parameter is specified).
-CO	Source user ID. Enter the PeopleSoft user ID to use to sign in to the source database.	Required. If you do not supply this parameter, the user ID is taken from the registry. If it fails, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-CP	Source user password. Enter the password for the specified user ID for source database.	Required. If you do not supply this parameter, the PeopleSoft Login dialog box prompts the user to give the valid password. If it fails, the process stops and error messages are written to the log file (if the log file name parameter is specified).

Parameter	Description	Error Handling
-TS	Target server name. Enter the name of the target database server for the database to which you're connecting.	Required for some database types and for a Database Copy process (but not used for a Copy To File or Copy From File process). If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-TD	Target database name. Enter the name of the target database to which you're connecting, as you would enter it into the PeopleSoft Login dialog box.	Required for a database Copy process (but not used for a Copy To File or Copy From File process). If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-TO	Target user ID. Enter the PeopleSoft user ID to use to sign in to the target database.	Required for a Database Copy process (but not used for a Copy To File or Copy From File process). If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-TP	Target user password. Enter the password for the specified user ID for the target database.	Required for a Database Copy process (but not used for a Copy To File or Copy From File process). If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-LF	Log file name. Enter the name of the file in which error messages are logged during the command line Upgrade Copy process.	Not required. If you do not supply this parameter, a file is created with the specified path and name, and all of the processing and error messages are written to that file.
-PJC	Source project name. Enter the name of the project that is to be copied from the source database to the target database. This project should be available in the source database before starting the command line Upgrade Copy process to target database.	Required for a Database Copy process. This is the main parameter that is used internally by the executable file to identify an Upgrade Copy process. If you do not supply this parameter and if you supply all of the source database login parameters, the executable file starts the application.

Parameter	Description	Error Handling
-PJTF	Copy Project To File project name. Enter the name of the project to be copied from the source database to the file.	Required for a Copy To File process. Do not include the file path to the project with this parameter. Use -FP to specify the file path.
-PJFF	Copy Project From File project name. Enter the name of the project to be copied from the file into the source database.	Required for a Copy From File process. Do not include the file path to the project with this parameter. Use -FP to specify the file path.
-FP	Project file path. Enter the path to the project for a Copy to File or Copy From File process.	Required for a Copy To File or Copy From File process (but not for a Database Copy process). For the Copy From File process, the directory must exist. For the Copy To File process, any project with the same name is overwritten unless you use the -OVW parameter. A directory specification is created if it does not exist. Do not include the name of the project in the file path. Use -PJTF or -PJFF to specify the project name.
-OVD	Override dependencies (0 or 1). Enter 1 to override the checks for unapplied dependency incidents during the Copy From File process and to perform the copy even if the project's dependency incidents have not been applied to the source database.	Not required, and not applicable for processes other than the Copy From File process. The default is 0. When you enter the default and if the project's dependency incidents have not been applied to the source database, an error message is written to the log file listing which incidents need to be applied. The Copy From File process also stops. When you enter 1, a warning message is written to the log for unapplied incidents and processing continues.
-CL	Commit limit. Enter the Commit limit (a number greater than 0) for the number of objects to be copied or compared before a commit is issued. Example: -CL 150	Not required. The default is 50 if the user does not set this parameter.

Parameter	Description	Error Handling
-AF	Audit flags on records (0 or 1). Enter 1 to keep the target audit flags as is. Enter 0 to take them from the source database. Example: -AF 0	Not required. The default is 1.
-DDL	Data definition language (DDL) on records and indexes (0 or 1). Enter 1 to keep the target database DDL flags as is. Enter 0 to take them from the source database. Example: -DDL 0	Not required. The default is 1.
-PPL	Portal registry structures permission list references. Enter 1 to keep the target portal registry permission list references as is. Enter 0 to take them from the source database.	Not required. The default is 1.
-EXP	Export project definition (0 or 1). Enter 1 to export the project definition to the target database when using the Database Copy process. Not applicable for Copy Project to File process.	Not required. The default is 1. Any project with the same name is overwritten with the new project definition.
-OBJ	Object types to copy List the object types as numbers with commas as delimiters. For example, if you choose records and indexes alone for copying, use the appropriate numbers for records and indexes from the Definition Type Selection table. For records, the number is 0, and for the indexes, the number is 1. Example: -OBJ 0,1 See Appendix B, "Referencing Selections for Command Line Parameters," Definition Type Selections, page 519.	Not required. If you do not supply this parameter, then all of the objects are copied by default.
-RST	Reset done flags (0 or 1). Enter 1 to reset the done flags before initiating the Copy process. Enter 0 to not reset them. Example: -RST 0	Not required. The default is 1.

Parameter	Description	Error Handling
-OVW	Overwrite existing project (0 or 1). Enter 1 to overwrite any existing projects with the same name in the specified path during the Copy Project To File process, or in the database in the Copy Project From File process. Enter 0 to not overwrite existing projects. This applies to the Copy Project To and From File processes only.	Not required. The default is 1.
-LNG	Copy languages. List the language codes with commas as delimiters, or enter ALL to select all available languages. For new languages that are not listed in the Language Selection table, use the xlat short name from the LANGUAGE_CD field in the translate table. For example, if you choose English and Spanish for copying, enter the appropriate codes for English and Spanish from the Language Selection table. For English, the code is ENG, and for Spanish, the code is ESP. Example: -LNG ENG,ESP See Appendix B, "Referencing Selections for Command Line Parameters," Language Selections, page 524.	Not required. If you do not supply this parameter, then the languages that are already set in the project are used as the default. The COMMON language code refers to nonlanguage attributes that are not translated. Translated attributes can be copied separately from nontranslated attributes. If you do not specify the COMMON code when using -LNG, you copy only the translated language attributes. Changing languages on the command line changes the values that are stored with the project definition. Subsequent Copy and Compare processes on the modified project use the new values unless they are explicitly changed again in the upgrade options.

Parameter	Description	Error Handling
-CFD	Keep Target ChartField PageField Display Size. (Number 1 or 0). This parameter indicates whether or not the target chartfield page field display size attributes are to be kept, or whether they should be set from source during copy. See Upgrade Options for more information. Enter 1 to keep the target chartfield page field display size attributes. Enter 0 to set these attributes from the source values.	Not required. Default is 1
-CFF	Keep Target ChartField Field Format. (Number 1 or 0) This parameter indicates whether or not the target chartfield field format attributes are to be kept, or whether they should be set from the source during Copy. See Upgrade Options for more information. Enter 1 to keep the target chartfield field format attributes. Enter 0 to set these attributes from the source values.	Not required. Default is 1

Example: Database Copy Process

These are some command line statements for the Database Copy process:

- Copy the project PPLTOOLS from the source Microsoft SQL Server database, PTDMO, to the target database, PTTST.
- Log process and error messages to c:\temp\copy.log.
- Set the commit limit to 150.

  Copy the audit flags and record and index DDLs from the source database.
- Copy only records, indexes, pages, queries, and process definitions from the project.
- Do not reset the done flags before initiating the Copy process.
- Copy only English and Spanish translations.

PSIDE.EXE −HIDE -PJC PPLTOOLS -CT MICROSFT -CD PTDMO -CO PTDMO -CP PTDMO -TD PTTST -TO PTDMO -TP PTDMO -QUIET -LF C:\TEMP\COPY.LOG -CL 150 -AF 0 -DDL 0 -OBJ 0,1,5,10,20 -RST 0 -LNG ENG, ESP

Example: Copy To File Process

These are some command line statements for the Copy to File process:

- Copy the PPLTOOLS project from the Oracle database, PTDMO, by using the PTDMO user ID, to the local directory c:\temp\export.

  A directory named PPLTOOLS is created in c:\temp\export.

- Log progress and error messages to c:\temp\copy.log.

PSIDE.EXE −HIDE -PJTF PPLTOOLS -FP c:\temp\export -CT ORACLE -CD PTDMO -CO PTDMO -CP PTDMO -QUIET -LF c:\temp\copy.log

Example: Copy From File Process

These are some command line statements for the Copy From File process.

- Copy the PPLTOOLS project to the DB2 UDB for Linux, Unix, and Windows database, PTDMO, by using the user ID PTDMO, from the local directory c:\temp\export.

  A directory named PPLTOOLS must exist under c:\temp\export.

- Log progress and error messages to c:\temp\copy.log.

PSIDE.EXE −HIDE -PJFF PPLTOOLS -FP c:\temp\export -CT DB2UNIX -CD PTDMO -CO PTDMO -CP PTDMO -QUIET LF c:\temp\copy.log

Comparing Definitions for Upgrade Using the Command Line

Use the same command line syntax as identified previously to compare definitions.

See Chapter 18, “Using Command Line Parameters,” Understanding PeopleSoft Application Designer Command Line Parameters, page 405.

Use the command line statement for an Upgrade Compare process to:

- Connect to the source database.
- Connect to the target database.
- Perform a project or database compare (based on parameters).
- Create compare reports in the specified output directory.

Available Parameters

This table lists all of the available parameters for the upgrade compare statement:

Parameter	Description	Error Handling
-HIDE	Use to hide the PeopleSoft Application Designer interface. Always use this parameter when performing a command line Compare process.	Required for all project command line processes.
-CT	Source database type. Enter the type of source database to which you're connecting (for example, ORACLE, SYBASE, and so on). Choose from the Database Type Selection table. See Appendix B, "Referencing Selections for Command Line Parameters," Database Type Selections, page 519.	Required. If the process stops, error messages are written to the log file (if the log file name parameter is specified).
-CS	Source server name. Enter the name of the source database server for the database to which you're connecting.	Required for some database types. If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-CD	Source database name. Enter the name of the source database to which you are connecting, as you would enter it into the PeopleSoft Login dialog box.	Required. If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-CO	Source user ID. Enter the PeopleSoft user ID to use to sign in to source database.	Required. If you do not supply this parameter, the user ID is taken from the registry. If it fails, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-CP	Source user password. Enter the password for the specified user ID for source database.	Required. If you do not supply this parameter, the PeopleSoft Login dialog box prompts the user to enter the valid user password. If the password fails, the process tops error messages are written to the log file (if the log file name parameter is specified).

Parameter	Description	Error Handling
-TS	Target server name. Enter the name of the target database server for the database to which you're connecting.	Required for some database types. If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-TD	Target database name. Enter the name of the target database to which you are connecting, as you would enter it into the PeopleSoft Login dialog box.	Required. If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-TO	Target user ID. Enter the PeopleSoft user ID to use to sign in to the target database.	Required. If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-TP	Target user password. Enter the password for the specified user ID for the target database.	Required. If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-LF	Log file name. Enter the name of the file in which error messages are logged during the command line Upgrade Compare process.	Not required. If you do not supply this parameter, a file is created with the specified path and name, and all of the error messages are written to that file.
-PJM	Source project name. Enter the name of the project that is to be compared from the source database to the target database. This project should be available in the source database before starting the command line Upgrade Compare process to the target database.	Required. This is the main parameter that is used internally by the executable file to identify an upgrade compare. If you do not supply this parameter and if you supply all of the source database login parameters, this executable file starts the application.
-CL	Commit limit Enter the Commit limit (a number greater than 0) for the number of objects to be copied or compared before a commit is issued. Example: -CL 150	Not required. The default is 50.

Parameter	Description	Error Handling
-AF	Audit flags on records (0 or 1). Enter 1 to keep the target audit flags as is. Enter 0 to take them from the source database. Example: -AF 0	Not required. The default is 1.
-PPL	Portal registry structures permission list references. Enter 1 to keep the target portal registry permission list references as is. Enter 0 to take them from the source database. Example: -PPL 0	Not required. The default is 1.
-DDL	DDL on records and indexes (0 or 1). Enter 1 to keep the target database DDL flags as is. Enter 0 to take them from the source database. When keeping the target database DDL, no differences are shown on the compare report. Example: -DDL 0	Not required. The default is 1.
-CFD	Chartfield PageField Display Size (0 or 1). Enter 1 to keep the target database chartfield pagefield display size attributes. Enter 0 to take them from the source database. When keeping target database attributes, no differences are shown on the compare report for these attributes. Example -CFD 0	Not required. The default is 1.
-CFF	Chartfield Field Format (0 or 1). Enter 1 to keep the target database chartfield field format attributes. Enter 0 to take them from the source database. When keeping target attributes, no differences are shown on the compare report for these attributes. Example: -CFF 0	Not required. The default is 1.
-CMT	Compare type: project (1) or database (0). Example: -CMT 0	Not required. The default is 1.
-TGT	Target Orientation: PeopleSoft vanilla (0) or keep personalization (1).	Not required. The default is 0.

Parameter	Description	Error Handling
-CBY	Comparison By: To compare by release, enter REL, followed by the release number. To compare by date, enter DAT, followed by a date in the following format: YYYY-MM-DD-HH.MM.SS.sss. Release numbers are included in the Available Release Numbers list. Example: 2002-02-01-12.00.00.000	Not required. The default is REL.
-ROD	Report Output Directory. Enter the report output directory location. Example-ROD c:\temp\upgreports	Not required. If you do not supply this parameter, the system uses the Report Output Directory value from the Tools, Options General tab.
-OBJ	Definition type to compare List the definition types to compare as numbers with commas as delimiters, or enter All. Example: -OBJ 0,1 See Appendix B, "Referencing Selections for Command Line Parameters," Definition Type Selections, page 519.	Not required. If you do not supply this parameter, then all of the definitions are compared by default. For a project comparison, this refers to all definitions in the project. For a database comparison, this includes all definitions in the database. For example, If you choose records and indexes alone for copying, use the appropriate numbers for records and indexes from the Definition Type Selection table. For records, the number is 0, and for the indexes, the number is 1.

Parameter	Description	Error Handling
-LNG	Compare languages. List the language codes with commas as delimiters, or enter ALL to select all available languages. For new languages that are not listed in the Language Selection table, use the xlat short name from the LANGUAGE_CD field in the translate table. For example, if you choose English and Spanish for comparing, enter the appropriate codes for English and Spanish from the Language Selection table. For English, the code is ENG, and for Spanish, the code is ESP. Example: -LNG ENG,ESP See Appendix B, "Referencing Selections for Command Line Parameters," Language Selections, page 524.	Not required. If you do not supply this parameter, then the languages that are already set in the project are used as the default. The COMMON language code refers to nonlanguage attributes that are not translated. Translated attributes can be compared separately from nontranslated attributes. If you do not specify the COMMON code when using -LNG, you compare only the translated language attributes. Changing languages on the command line changes the values that are stored with the project definition. Subsequent Copy and Compare processes on the modified project use the new values unless they are explicitly changed again in the upgrade options.
-CMXML	Generate browser reports (0 or 1). This command enables you to enable the option of generating browser reports written to your report output directory. This is equivalent to setting the Generate Browser Reports options on the Report Options tab on the Upgrade Options dialog box. Enter 1 to enable this option, and enter 0 to disable this option. Example: -CMXML 1 See Chapter 21, "Comparing Source and Target Definitions," Working with Browser Reports, page 471.	Not required. The default is 0.

Example: Running an Upgrade Compare Process

Use this example as a guide for running an Upgrade Compare process:

- Run a database Compare process against the source Microsoft SQL Server database, PTDMO, and the target database, PTTST.
- Log process and error messages to c:\temp\compare.log.
- Set the commit limit to 150.
- Show the audit flag and DDL differences between databases.

- Compare records, indexes, pages, queries, and process definitions.
- Compare only English and Spanish translations.
- Set the database compare type.
- Set the target orientation to keep the customizations.
- Compare by release 8.40.00.000.
- Generate compare reports to the c:\temp\upgreports directory.

PSIDE.EXE −HIDE -CT MICROSFT -CD PTDMO -CO PTDMO -CP PTDMO -PJM PPLTOOLS -TD PTTST -TO PTDMO -TP PTDMO -QUIET -LF C:\TEMP\COMPARE.LOG -CL 150 -AF 0 -DDL 0 -OBJ 0,1,5,10,20 -LNG ENG, ESP -CMT 0 -TGT 1 -CBY REL Core 8.40.00.000 -ROD C:\TEMP\UPGREPORTS

CHAPTER 19

Using Change Control

This section provides overviews of Change Control features and implementation considerations and discusses how to:

- Set up Change Control.
- Use projects.
- Use Change Control.

Understanding Change Control Features

The Change Control feature has three main functions to help you manage and track development. You can enable one or all of these functions to control how much access each user has to the Change Control commands.

This section discusses:

- Change Control locking
- Change Control history
- Change Control stamping

Change Control Locking

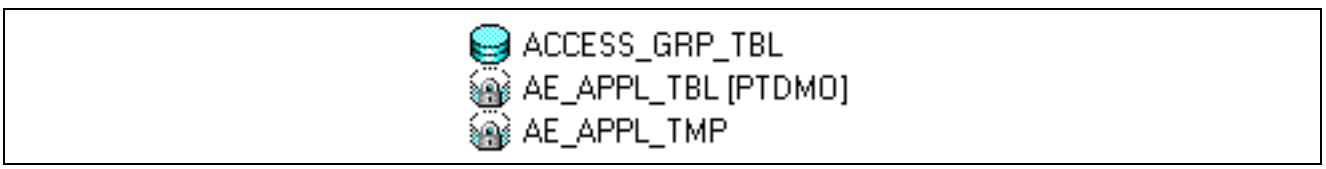
Change Control locking is keyed by PeopleSoft user IDs. When a definition is locked, it cannot be modified by anyone other than the user ID who locked it, and it can be unlocked only by that same user or by a Change Control administrator.

A locked definition is identified by:

- A small padlock icon above the definition in the project workspace (development view) of PeopleSoft Application Designer.
- The user ID of the person who locked the definition, which appears next to the name of the definition.

  Your user ID is not displayed for definitions that *you* have locked.

For example, the following icons seen in the project workspace display two locked and one unlocked record definitions.



Locked and unlocked record icons

The top record is unlocked; the middle record is locked by another user ID (PTDMO), and the bottom record (with no ID displayed) is locked by you, the current user.

Note. Standard Change Control locking is supported only for definitions that you can modify with PeopleSoft Application Designer. Other PeopleSoft definitions can be added to a project for upgrading, but they cannot be locked by developers. If you are a Change Control administrator, you can lock all upgradable database definitions—both PeopleSoft Application Designer development definitions and other types. However, for non-PeopleSoft Application Designer definitions, this action prevents unauthorized upgrading only—not unauthorized development.

Locking Projects

With Change Control, projects are treated like all other PeopleSoft Application Designer definitions—you must lock them before you can modify them. However, locking a project does *not* lock the definitions in the project, and modifying a definition in a project does not modify the project itself.

A project definition includes a name and a list of definitions. When you lock a project definition, other users cannot add or remove definitions from the project, and they cannot rename or delete the project. However, locking does *not* restrict access to the definitions that are named in the project definition. Likewise, modifying a definition has no effect on the definition of any project to which the definition might belong.

Note. PeopleSoft Application Designer provides an option to load the last open project on startup. If this option is enabled on your machine and Change Control locking is activated, you might receive an *open in read-only mode?* message at startup if you hadn't locked the project before, or if someone else has the project locked. In either case, you can open the project in read-only mode. Remember, this does not restrict your access to definitions in the project.

Locking Compared to Version Control

Change Control locking is not the same as version control. With a version control system, you check out a copy of a definition and make your changes to the copy. After you check in the changed version, you can always undo your changes. This is not the case with change control locking.

Locking a definition prevents other users from modifying it. However, any changes that you save are written directly to the database, overlaying or replacing the existing definition. There is no way to restore a previous version of a definition.

Locking and Upgrades

When preparing to upgrade a database, it's crucial that all development ceases in the source database. This assures that the Compare process is dealing with a static environment. It also assures that changes aren't made to any definitions between the time that you set the upgrade defaults and the time that you copy the definitions.

You can freeze all development by using the Change Control Administrator dialog box to lock *all* database definitions. When the upgrade is done, use the same dialog box to unlock all definitions. However, be aware that this action *permanently* removes all previous lock settings from all definitions. Developers have no way of resetting their locks except by manually relocking. When you lock definitions in this way, it is not reflected in the Locked Objects dialog box or in the project workspace. If a developer has unsaved changes when you lock all definitions, the developer cannot save those changes.

For all of these reasons, it's imperative that you inform developers that you plan to lock all definitions and that you give them time to save their changes, perhaps even to view the Locked Definitions dialog box and to print the screen.

Locking definitions with the Change Control Administrator dialog box doesn't actually mark every definition as locked. Instead, it adds a single row at the top of the locking table. The presence of this row indicates to the system that full database locking is in effect, and it stores the user ID of the administrator who enabled the locking.

Full database locking also plays a role in the target database during the upgrade copy process. During a copy, the system always checks the locking status of the target database definitions to see if they're locked and by whom. If they've been locked by a user ID other than the one performing the copy, those definitions aren't modified.

In major upgrades, checking the locking status of each definition before copying severely impacts performance. To prevent this, use the Change Control Administrator dialog box to lock all target database definitions before copying. During the copy process, if the entire target database is locked, the system verifies that the user ID performing the copy process is the same user ID that locked the database. If these conditions are true, the system assumes that it was locked for the purpose of the upgrade and that it can safely copy all definitions without checking each one individually.

Note. When you copy a project, the system doesn't check the locking status of the definitions in the source database. However, you should keep your definitions locked until the copy is complete.

Change Control History

When Change Control history is enabled, you can enter comments about the modifications that you made to PeopleSoft Application Designer development definitions. History entries contain a common set of information, including who created the entry, when, and the type of action that is associated with the entry. For example, when a user locks a definition, a history entry is automatically created containing the user ID, the data and time, and an action value of Add. This entry can also contain a project name, incident ID, and comment.

Automated History Prompting

Although you can always insert history entries manually, there are many situations in which PeopleSoft Application Designer automatically inserts history entries and prompts you for comments. In addition, there are special circumstances when entries are added without a prompt. For example, an action history provides some idea of what has happened to a definition, even if no comments were entered. Possible action entries are:

Action Entry	Description
Lock and Unlock	Whenever a definition is locked or unlocked, you are automatically prompted for a comment, after which a Lock or Unlock action entry is added to the definition history.
Rename	When you rename a definition, you're prompted for a comment, after which a Rename action entry is added to the definition history. PeopleSoft provides a default comment of <name1> renamed to <name2>: • <name1> is the previous name of the definition. • <name2> is the new name that you gave it. **Note.** If the definition is locked when you try to rename it, the system unlocks it before renaming and relocks it afterward. In this case, three history entries are added: one for unlocking, one for renaming, and one for relocking.

Action Entry	Description
Delete	When you delete a PeopleSoft Application Designer definition, its history is retained. During the deletion, PeopleSoft Application Designer prompts you to add a final comment into the definition history, after which a Delete action entry is added to the definition history. **Note.** If Change Control locking is enabled, you can only delete locked definitions. After a locked definition is deleted, it is automatically unlocked and an Unlock action history entry is added. You are not prompted for comments for this unlock event.
Add	When you create a new definition, PeopleSoft Application Designer creates a history entry with an Add action. You are not prompted for comments.
Copy	If Change Control history is enabled in the target database when you perform an upgrade copy, a Copy action entry is inserted into the histories for any added, replaced, or deleted definitions. You are not prompted for comments.

History and Upgrades

Change Control history is not copied along with its associated definition during an upgrade. However, if history is enabled in the source database, then the history of each affected target definition is updated with a comment noting when the copy was performed and by whom.

This behind-the-scenes history updating occurs for all target definitions that are affected by the copy process—even non-PeopleSoft Application Designer definitions with histories that can't be updated or viewed—regardless of whether Change Control history is enabled in the source database.

Change Control Stamping

Change Control stamping is always in effect, regardless of whether locking and history are also enabled. For every definition in the database, PeopleTools maintains a last updated stamp, which denotes the date and time of the last update and the user ID of the person who saved the definition. When PeopleSoft delivers a new database, all of the definitions are stamped with a PeopleSoft proprietary ID: PPLSOFT.

Stamping and Upgrades

Change Control stamping provides critical information during an upgrade comparison. Because the system tracks the user ID of whoever last changed each definition, you can easily identify your adaptations. (Any definition that is stamped with a user ID that isn't the PeopleSoft proprietary ID is considered an adaptation.) Whether you made an adaptation before or after the last update is irrelevant. The adaptation is always identified as such.

During a comparison, definitions that you last modified are given a status of Custom Changed (if they've changed since the compare date), or Custom Unchanged (if they haven't changed since the compare date). Definitions that PeopleSoft last modified are given a status of either Changed or Unchanged.

Understanding Implementation Considerations

When deciding how to implement Change Control, consider:

- The level of development control that you want to maintain.
- The amount of freedom that developers need.

- The security requirements of the site.

How to Implement	Advantage	Disadvantage
Individual Control	For maximum control of the development environment, use both locking and history, and assign each developer a unique user ID. Then, definitions can be modified by only one developer (user ID) at a time, and developers are always prompted for comments when they lock and unlock definitions.	Developers can share ownership of their definitions only by unlocking them after each change.
Group Control	For flexibility, use locking and history, but assign developers who work on the same project a common ID. Then, developers can share definitions with the other members of their group, but not with members of other groups. Administering security is also easier, as there are fewer user IDs to maintain.	There is decreased protection from simultaneous development on definitions. History is harder to track, unless developers always include their names in their comments.
History Only	Provides the least restricted Change Control environment. In this situation, all definitions can be shared among all developers.	Developers aren't automatically prompted for comments. They can all share the same ID. If you have a very small development team, this might be a good option.

Setting Up Change Control

This section provides an overview of Change Control security and discusses how to:

- Appoint a Change Control administrator.
- Enable or disable Change Control.

Understanding Change Control Security

Using the Security component, you can assign users one of three Change Control access levels, depending on how much authority you want them to have:

Change Control Access Level	Description
Restricted access	Restricts users from locking or unlocking definitions. When Change Control locking is enabled, users with restricted access can open PeopleSoft Application Designer development definitions in read-only mode only. Users are also unable to view or update definition histories.
Developer access	Allows users to lock any unlocked definitions and to unlock any definitions that they have locked. They can then manipulate definitions, as they are allowed in their security profile. Users can also view and enter definition history comments.
Supervisor access	Allows users to unlock any locked definitions, regardless of who locked them. They can also access the Change Control Administrator dialog box, in which you lock and unlock all definitions at one time and enable and disable Change Control locking and history.

If Change Control locking is disabled, these access levels have no security value. If history is disabled, users with developer and supervisor access can still view the History dialog box—users with restricted access cannot.

Remember that Change Control is based on user IDs. If developers all share the same user ID, Change Control offers no advantage in control because each developer can modify definitions that are locked by others.

Appointing a Change Control Administrator

Appoint Change Control administrators by giving certain users supervisor-level access to Change Control. When users have this access level, they can enable and disable Change Control.

See *Enterprise PeopleTools 8.46 PeopleBook: Security Administration*, "Setting Up Permission Lists," Setting PeopleTools Permissions.

Enabling or Disabling Change Control

To enable or disable Change Control:

1. In PeopleSoft Application Designer, select Tools, Change Control, Administrator.

   The Change Control Administrator dialog box appears.

2. Specify the System Wide Options and access control:

   Use change control locking Select to require that PeopleSoft Application Designer definitions be locked before they can be modified.

   Use change control history Select to enable PeopleSoft Application Designer developers to insert comments about open definitions.

   If both Use change control locking and Use change control history check boxes are selected, developers are prompted for comments when locking and unlocking definitions.

   Note. Because these are system-wide settings, if you change them, all users must log off and on again for the changes to take effect.

Lock all definitions Select or clear to lock or unlock all definitions in the database. Usually, you lock all definitions only before a major upgrade, because it permanently removes all individual developer locks.

Using Projects

This section provides an overview of projects and discusses how to:

- Use multiple databases for development.
- Use distributed development environments.

Understanding Projects

You can use all levels of Change Control with or without also using projects. If you decide not to use projects, you rely on the Locked Objects dialog box, rather than the project workspace, to identify locked definitions. The dialog box provides a better overall view of locking status because it shows all of the PeopleSoft Application Designer definitions in the database, not just those in the current project.

Use projects to track the definitions that are changed as part of a change or feature request. This set of definitions is commonly referred to as the change set. The Options dialog box has an option to insert a definition into a project when it is modified and saved. If you start with an empty project, this option provides an easy way of tracking the change set for this incident. When the change request is completed, the project contains everything that is associated with the change. It's also a good idea to use the Comments field in the Project Properties dialog box to list any external definitions like COBOL or Structured Query Report (SQR) modules that must be migrated with this change.

Using Multiple Databases for Development

Managing change in a single database environment is straightforward, but very few PeopleSoft users operate in a single database environment. The classic development model uses three databases: development, test, and production. You apply all changes to the development database. After you unit-test the change, migrate the change set to the test database, where it goes through more rigorous testing. Usually, you would run one or more regression test suites to ensure that you resolve the issue that you intended to resolve with no unwelcome side effects. Finally, that change set is migrated into the production database. If you find a problem at any stage in the process, the incident is sent back to development and the process begins again.

This model assumes that the development database is the master database. You can use the Change Control locking feature to lock down the modules on which you and other developers are working. When the changes are completed in the development database, the Change Control administrator is notified and uses the upgrade copy facility to copy the change set into the test environment. As long as you use the technique that is described previously in this section, the project should contain the entire change set. The system tracks all of the documentation for the change in the development database. The only information that appears in the test and production databases is a history line indicating it was copied. Definitions move only in one direction in this model: from development to test, then from test to production.

Note. The only case in which you can copy a definition back to development from either test or production is if a problem must be re-created and another change has already been made to the affected definition. Do this with extreme care because upgrade copies are destructive and cannot be undone if you discover that you overlaid another developer's change. For this reason, you should only apply changes directly to test or production databases very rarely.

Note. This is just one Change Control model that you can use. This is provided to give you an idea of how you can implement Change Control in your environment. While you do not need to follow this model exactly, it is important that you implement a Change Control model that enables you to track changes to the system and prevent developers from overwriting each other's changes.

Using Distributed Development Environments

It is good idea to use a master development database, even if each development team works on its own copy of the database. Developers should lock down the definitions on which they intend to work in the master development database, then copy those modules to their private databases. This ensures that no other developer makes a change to those definitions while they are checked out.

When the developer is ready to copy changes back to the master development database, check the Change Control history of the locked definitions in the master development database. Do this before using upgrade copy to migrate them back, just in case a Change Control administrator has overridden a lock and made a change while the definitions were checked out.

Note. Change Control administrators should always notify the developer who has a lock on a definition before they override to avoid unexpected surprises later.

Using Change Control

This section discusses how to:

- Lock and unlock definitions.
- View locked definitions.
- Insert comments.
- View Change Control history.
- Report Change Control information.

Locking and Unlocking Definitions

You can lock and unlock definitions manually. You can also have PeopleSoft Application Designer lock unlocked definitions for you each time that you open them.

You must have developer or supervisor access to Change Control to lock and unlock definitions. If you have supervisor access, you can also lock all definitions at once. This can be helpful when performing upgrades to ensure that definitions aren't modified in the middle of the process.

This section discusses how to:

- Lock or unlock an unopened definition in the current project.
- Unlock an unopened definition that is not in the current project.
- Lock or unlock an open definition.
- Lock definitions automatically when you open them.
- Lock or unlock all definitions at once.

Locking or Unlocking an Unopened Definition in the Current Project

To lock or unlock an unopened definition in the current project:

1. In the project workspace, select the Development tab at the base of the workspace window to activate the development view.
2. Select the definitions that you want to lock or unlock.
3. Right-click any of the selected definitions and select Lock Definition or Unlock Definition.

Unlocking an Unopened Definition Not in the Current Project

To unlock an unopened definition that is not in the current project:

1. Select Tools, Change Control, View Locked Definitions.

   The Locked Definitions dialog box appears.

   Note. The View Locked Definitions menu item is not available if you have restricted access to Change Control.

2. Select the definition type and user.

   You can view all locked definitions of the specified type by selecting (*all*) from the User drop-down list box.
3. Select the definitions to unlock.
4. Right-click any selected definition and select Unlock Definition.

   If Change Control history is enabled, you're prompted for comments.

Locking or Unlocking an Open Definition

To lock or unlock an open definition:

1. Activate the definition.
2. Select Tools, Change Control, and then select either Lock Definition or Unlock Definition.

Locking Definitions Automatically When You Open Them

To lock definitions automatically when you open them:

1. Select Tools, Options, Change Control.
2. Select Lock definition when it is opened.

   Now, whenever you open a definition it is locked automatically, unless you have only restricted access to Change Control. In this case, you're notified that you have restricted access and asked whether you want to open the definition in read-only mode

   Note. Like all settings in the Application Designer Options dialog box, this setting controls the behavior on your workstation only. Also, definitions cannot be unlocked automatically. You must always unlock them manually.

Locking or Unlocking All Definitions at Once

To lock or unlock all definitions at once:

1. Select Tools, Change Control, Administrator.

The Change Control Administrator dialog box appears.

2. Select Lock all definitions to lock all definitions, or clear it to unlock all definitions.

   Locking all definitions applies a database-wide lock that is tagged with your user ID.

   Warning! Selecting this check box removes individual locks from all database definitions. You should proceed with this step only if you've informed all of your developers and given them an opportunity to save any unsaved work.

3. Click OK.

   If you're locking all definitions, you're warned that this action permanently cancels existing locks. Click Yes.

Viewing Locked Definitions

At times you may want to see a definition even if it is locked.

To view locked definitions:

1. Select Tools, Change Control, View Locked Definitions.

   The Locked Definitions dialog box appears.

2. Select the user whose locked definitions you want to view.
3. Select the type to display.

   You can view only one definition type at a time. You can also unlock definitions in this dialog box.

Inserting Comments

When Change Control history is enabled, you can insert comments about an open definition at any time. To help ensure that you insert new comments with each modification, you can instruct PeopleSoft Application Designer to prompt you for a comment every time you save a definition, every time you lock or unlock a definition, or both.

This section discusses how to:

- Insert a comment for an unopened definition in the current project.
- Insert a comment for an open definition.
- Enable a prompt for comments when saving a definition.

Inserting a Comment for an Unopened Definition in the Current Project

To insert a comment for an unopened definition in the current project:

1. In the project workspace, select the Development tab at the base of the workspace window to activate the development view.
2. Select the definition for which you want to insert comments.

   You cannot insert comments for more than one definition at a time.

3. Right-click the selected definition and select Insert Comment.

   The Insert Comment dialog box appears.

4. Enter the necessary information:

Project Displays the name of the current project by default, but you can delete or replace this value.

Incident ID Denote the incident to which your development corresponds.

Comments Include information about why and how you're modifying the definition.

If you click OK, the information is inserted into the definition history and the dialog box closes. If you click Apply, your comments are inserted, but the dialog box remains open. You can then enter comments for another history entry. When you click OK or Apply, these new comments are inserted as a new history entry; they do not replace the previous entry.

Inserting a Comment for an Open Definition

To insert a comment for an open definition:

1. Use the list in the Window menu to navigate to the definition.
2. Select Tools, Change Control, Insert Comment.
3. Enter the name of the project and incident ID.
4. Enter your comments.
5. Click OK or Apply.

Enabling a Prompt for Comments When Saving a Definition

To be prompted for comments when saving a definition:

1. Select Tools, Options, Change Control.

   The Change Control page appears.
2. Select Prompt for comments when definition is saved.

   Whenever you save a definition, the system prompts you to insert history comments.

Note. This setting affects the behavior on your workstation only. One possible drawback to using this setting is that a definition might be saved many times as part of a single change and you're prompted for comments at every save.

Viewing Change Control History

For every PeopleSoft Application Designer development definition in the database, you can view its Change Control history.

To view Change Control history:

1. Select Tools, Change Control, View History.

   The History dialog box appears.
2. Select a definition type and name.

   The Definition Name list contains only the names of PeopleSoft Application Designer definitions that have at least one history entry. Click the Refresh button to ensure that you're viewing the most recent listing of locked definitions.

   The history table contains these columns:

   Date Displays when each entry was added.

User	Displays who added the entry.
Action	Displays why the comment was entered. Five of these Action types—*Lock, Informational, Unlock, Rename,* and *Delete*—represent actions that you perform in PeopleSoft Application Designer, and for which you're prompted for comments.
Add	Denotes an automatic history entry that PeopleTools inserts when a new definition is created. In this case—and whenever the system performs a behind-the-scenes lock or unlock—you aren't prompted for comments. The Comment column contains the text *System Generated.*

Note. PeopleSoft Application Designer performs automatic locks and unlocks under certain situations. For example, when you rename a locked definition, that definition must be unlocked before the rename and relocked afterward. Likewise, when you delete a locked definition, the definition is automatically unlocked after the deletion. The system does not prompt you for comments during any of these unlock or relock actions, but corresponding history entries are added automatically.

Copy	This type of history entry is added automatically when a definition is copied into the current database. In this case, the Project value is the name of the copied project in the source database, and no comments are added.
Project, Incident ID,and**Comment**	Displays the project name, incident ID, and relevant comments from the Insert Comments dialog box.

3. Double-click a row in the grid to open a history entry, if necessary.

   The History Details dialog box appears. This dialog box is a read-only version of the Insert Comments dialog box. You cannot update the information that is displayed in this dialog box.

Reporting Change Control Information

Currently, PeopleSoft doesn't deliver predefined reports for retrieving Change Control information. However, you can create your own reports by querying the Change Control tables.

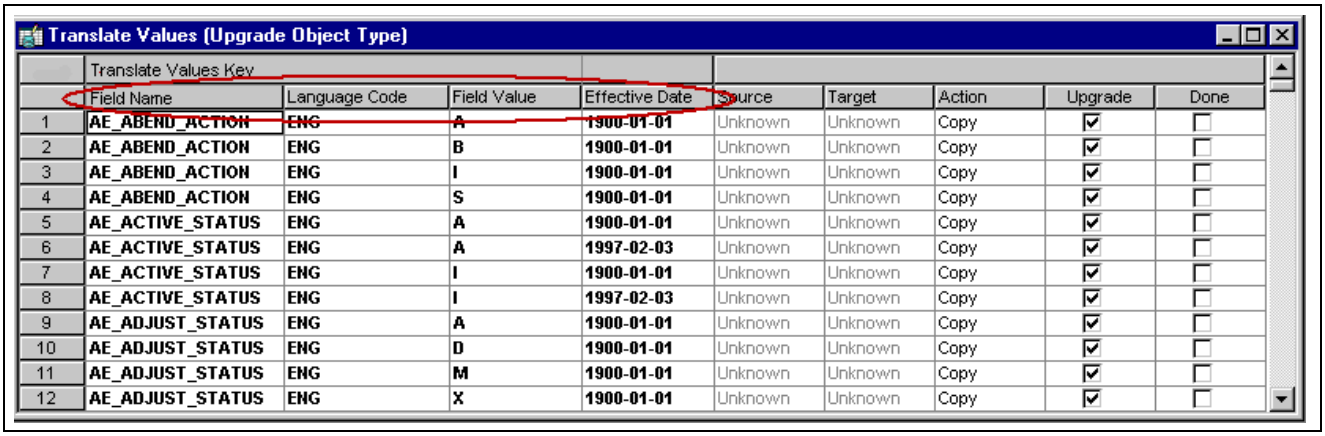
The two tables that you can use for reporting are the Change Control History table (PSCHGCTLHIST) and the Change Control Locking table (PSCHGCTLLOCK). These tables have an almost identical column structure:

Num	Field Name	Type	Len	Format	H	Short Name	Long Name
1	OPRID	Char	8	Mixed		Operator	Operator Id
2	OBJECTTYPE	Nbr	5	Raw B		ObjectType	Object Type
3	OBJECTID1	Nbr	5	Raw B		Object Id 1	Object Id 1
4	OBJECTVALUE1	Char	30	Mixed		Object Value 1	Object Value 1
5	OBJECTID2	Nbr	5	Raw B		Object Id 2	Object Id 2
6	OBJECTVALUE2	Char	30	Mixed		Object Value 2	Object Value 2
7	OBJECTID3	Nbr	5	Raw B		Object Id 3	Object Id 3
8	OBJECTVALUE3	Char	30	Mixed		Object Value 3	Object Value 3
9	OBJECTID4	Nbr	5	Raw B		Object Id 4	Object Id 4
10	OBJECTVALUE4	Char	30	Mixed		Object Value 4	Object Value 4
11	DTTM_STAMP	DtTm	26	Scnds		Date/Time	Date/Time Stamp
12	CHGCTRL_ACTION	Char	1	Upper		Action	Change Control Action
13	PROJECTNAME	Char	30	Upper		Project	Project Name
14	INCIDENT_ID	Char	18	Mixed		Incident	Incident ID
15	DESCRLONG	Long	0			Descr	Description

Structure of PSCHGCTLHIST

The main difference between these two tables is that PSCHGCTLHIST contains a CHGCTRL_ACTION field, while PSCHGCTLLOCK does not.

Each PeopleSoft definition in these tables is uniquely identified by numeric codes (DEFINITIONID columns) and names (DEFINITIONVALUE columns). The different DEFINITIONID and DEFINITIONVALUE column pairs correspond to the various definition key types and values for each kind of definition. You can see these definition keys when you view the upgrade definition window. For example, translate values have four keys—Field Name, Field Value, Language Code, and Effective Date, as in this example:



Viewing definition keys

In the Change Control tables, the row containing the first translate value in the preceding example has the following field values:

DEFINITIONVALUE1	DEFINITIONVALUE2	DEFINITIONVALUE3	DEFINITIONVALUE4
AE_ABEND_ACTION	A	ENG	1900-01-01

When reporting on a particular definition type, you want to retrieve definition values, but you must limit the query by using the definition IDs for the definition type. The following tables list all of the upgradable definition types, their corresponding definition ID codes, and the type of value that each ID represents (in parentheses).

PeopleTools Definition Types

This table lists PeopleTools definition types and their definition IDs:

Definition Type	DEFINITIONID1	DEFINITIONID2	DEFINITIONID3	DEFINITIONID4
Access Groups	17 (name)	0	0	0
Activities	18 (name)	0	0	0
Application Engine Programs	66 (name)	Not applicable (NA)	NA	NA
Application Engine Sections	66 (name)	77 (section)	NA	NA
Application Package	104 (name)	NA	NA	NA
Approval Rule Sets	85 (name)	21 (effective date)	NA	NA
Business Interlink	64 (name)	NA	NA	NA
Business Processes	7 (name)	NA	NA	NA
Colors	19 (name)	25 (user ID)	0	0
Components	10 (name)	39 (market)	NA	NA
Component Interfaces	74 (name)	NA	NA	NA
Cube Definitions	54 (name)	55 (description)	NA	NA
Cube Instance Definitions	56 (name)	57 (description)	NA	NA
Dimensions	51 (name)	52 (dimension type)	53 (description)	0

Definition Type	DEFINITIONID1	DEFINITIONID2	DEFINITIONID3	DEFINITIONID4
Fields	6 (name)	0	0	0
Field Formats	23 (family name)	0	0	0
File Layout Definitions	71 (name)	NA	NA	NA
HTML	90 (name)	95 (type)	NA	NA
Images	91 (name)	95 (type)	NA	NA
Indexes	1 (name)	24 (index ID)	0	0
Job Definitions	27 (name)	NA	NA	NA
Menus	3 (name)	0	0	0
Message Catalog Entries	48 (message set number)	48 (message number)	16 (language code)	50 (description)
Message Channels	61 (name)	NA	NA	NA
Message Definitions	60 (name)	NA	NA	NA
Mobile Page	111 (name)	NA	NA	NA
Message Nodes	62 (name)	NA	NA	NA
Pages	9 (name)	NA	0	0
PeopleCode	See PeopleCode Definition Types	NA	NA	NA
Problem Type	109 (name)	NA	NA	NA
Process Definitions	29 (process type)	28 (name)	0	0
Process Type Definitions	29 (name)	26 (operating system)	20 (database type)	NA

Definition Type	DEFINITIONID1	DEFINITIONID2	DEFINITIONID3	DEFINITIONID4
Queries	30 (name)	25 (user ID)	0	0
Records	1 (name)	2 (RecField name)	0	0
Recurrence Definitions	31 (name)	NA	NA	NA
Roles	32 (name)	0	0	0
Server Definitions	33 (name)	NA	NA	NA
SQL (Structured Query Language)	65 (name)	81 (SQL type)	NA	NA
Styles	35 (name)	0	0	0
Style Sheets	94 (name)	NA	NA	NA
Translate Values	6 (database field name)	22 (value)	21 (effective date)	NA
Trees	34 (setID)	68 (user key value)	36 (tree name)	21 (effective date)
Tree Structures	37 (name)	0	0	0

PeopleCode Definition Types

This table lists PeopleCode definition types and their definition IDs:

Definition Type	DEFINITIONID1	DEFINITIONID2	DEFINITIONID3	DEFINITIONID4
Application Engine	66 (PeopleSoft Application Engine program)	77 (section, market, database type, effective date)	78 (step)	12 (method)
Application Package	104 (application package)	NA	NA	NA
Component Interface	74 (business component)	12 (method)	NA	NA

Definition Type	DEFINITIONID1	DEFINITIONID2	DEFINITIONID3	DEFINITIONID4
Menu	3 (menu)	4 (bar)	5 (item)	12 (method)
Message	60 (message)	12 (method)	NA	NA
Page	9 (panel)	16 (language code)	12 (method)	NA
Page Field	9 (panel)	16 (language code)	67 (field)	12 (method)
Component	10 (panel group)	39 (market)	12 (method)	NA
Component Record	10 (panel group)	39 (market)	1 (record)	12 (method)
Component Record Field	10 (panel group)	39 (market)	1 (record)	2 (fieldname, method)
Record	1 (record)	2 (field)	12 (method)	NA
Subscription	60 (message)	87 (subscription)	12 (method)	NA

Change Control Supported Definition Types

These are the supported definition types for change control:

- Activity
- Application Engine Program
- Approval Rule Set
- Business Interlink
- Business Process
- Component
- Component Interface
- Field
- File Layout
- HTML
- Image
- Menu
- Message
- Message Channel
- Mobile Page

- Problem Type
- Page
- Project
- Record
- SQL
- Style Sheet

When reporting on Change Control history, consider one other field: CHGCTRL_ACTION. This field stores the one-letter code for the various actions that Change Control history tracks:

- A (Add)
- C (Copy)
- D (Delete)
- I (Informational)
- L (Lock)
- R (Rename)
- U (Unlock)

Here's an example of a SQL query to report on all deleted definitions:

```
select oprid, definitionvalue1, definitionvalue2,
definitionvalue3, definitionvalue4, dttm_stamp, projectname,
incident_id, descrlong
from pschgctlhist
  where chgctrl_action = 'D'
  order by oprid, definitionvalue1
```

Note. Full history tracking is supported only for PeopleSoft Application Designer definitions—business processes, business process maps, fields, menus, panels, panel groups, projects, and records. Other definition types have history entries only when the CHGCTL_ACTION field value is *C,* and only if they've been upgraded.

PART 4

Performing Updates and Upgrades with PeopleSoft Application Designer

Chapter 20
Upgrading with PeopleSoft Application Designer

Chapter 21
Comparing Source and Target Definitions

Chapter 22
Working with Text Definitions During Upgrades

Chapter 23
Copying Projects and Definitions

CHAPTER 20

Upgrading with PeopleSoft Application Designer

This chapter provides an overview of a PeopleSoft application upgrade and discusses how to:

- Use the upgrade workspace.
- Prepare projects for an upgrade.
- View upgrade messages.

Understanding a PeopleSoft Upgrade

This section discusses:

- PeopleSoft Application Designer upgrade features.
- Definition types that you can upgrade.

PeopleSoft Application Designer Upgrade Features

PeopleSoft Application Designer streamlines the migration of database definitions—such as records, pages, projects, and PeopleCode—from one PeopleSoft database to another. You can perform a complete database upgrade or you can upgrade only the definitions included in a particular project. This chapter focuses mainly on project upgrades, and the PeopleSoft upgrade documentation focuses on complete database upgrades, which are typically performed when upgrading from one version of a PeopleSoft application to another.

While this chapter does not discuss the specific procedures for an enterprise-wide upgrade for a specific platform, there are basic steps to perform in PeopleSoft Application Designer regardless of the type of upgrade, which include:

- Updating your PeopleSoft software.
- Identifying the source and target database. The source can be a file, a project, or an entire database.
- Comparing the source and target database to determine changed definitions.
- Copy any new or changed definitions into your database and adjust all your system components—such as application data, SQL tables, indexes, views, and so on—accordingly.

Updating the PeopleSoft software is covered in the installation documentation for Enterprise PeopleTools and Enterprise applications. This chapter focuses on comparing your source with your target and copying the definitions from the source to the target.

When comparing your source and target you can view results in the upgrade workspace, in reports, in your browser, and side-by-side (for pages and text definitions, such as PeopleCode). When copying definitions into the target database you can use the PeopleSoft Application Designer interface or a command line interface. For text definitions you can use the merge feature.

Note. The complexity of these tasks performed depends on the type of upgrade you are performing. For example, if you are copying brand new definitions from a small project into a source database this is a relatively uncomplicated task, as comparisons are not required and you can immediately begin a copy. However, if you are upgrading an entire database or a large project containing numerous changed definitions it is likely that the compare, merge, or copy process will require more analysis.

Note. To use the PeopleSoft Application Designer upgrade features, you must have full access to projects and upgrade access in the target database. To run a compare you only need read-only upgrade access.

See Also

Enterprise PeopleTools 8.46 PeopleBook: Security Administration, "Setting Up Permission Lists," Setting PeopleTools Permissions

The upgrade documentation for your application and platform.

Definition Types That You Can Upgrade

PeopleSoft Application Designer has the following levels of upgrade support for PeopleSoft definitions:

Upgrade Support	Description
Compare and copy	This is referred to as "Full support." You can compare this definition between source and target and copy it to the target.
Copy to and from file	You can copy the definition to the database and to a file.
Copy only	You can copy the definition to the target, but you can not compare definition versions between the source and target.

This table displays the upgrade support for each PeopleSoft definition for which upgrade is available.

Definition Type	Compare and Copy	Copy to and from File	Copy Only
Access Groups	No	No	Yes
Activities	Yes	Yes	No
Analytic Model	Yes	Yes	No
Application Engine Programs	Yes	Yes	No
Application Engine Sections	Yes	Yes	No
Application Packages	Yes	Yes	No

Definition Type	Compare and Copy	Copy to and from File	Copy Only
Approval Rule Sets	Yes	Yes	No
Archive Objects	Yes	Yes	No
Archive Templates	Yes	Yes	No
Business Interlink	Yes	Yes	No
Business Processes	Yes	Yes	No
Colors	Yes	Yes	No
Component Interfaces	Yes	Yes	No
Components	Yes	Yes	No
Cube Definitions	No	No	Yes
Cube Instance Definitions	No	No	Yes
Dimensions	No	No	Yes
Diagnostic Plug-Ins	Yes	Yes	No
Field Formats	Yes	Yes	No
Fields	Yes	Yes	No
File Layout Definitions	Yes	Yes	No
File References	Yes	Yes	No
File Type Codes	Yes	Yes	No
HTML	Yes	Yes	No
Images	Yes	Yes	No

Definition Type	Compare and Copy	Copy to and from File	Copy Only
Indexes	Yes	Yes	No
Java Portlet User Preferences	Yes	Yes	No
Job Definitions	Yes	Yes	No
Menus	Yes	Yes	No
Message Catalog Entries	No	No	Yes
Message Channels	Yes	Yes	No
Message Nodes	Yes	Yes	No
Messages	Yes	Yes	No
Mobile Pages	Yes	Yes	No
Optimization Models	Yes	Yes	No
Pages	Yes	Yes	No
PeopleCode—Application Engine	Yes	Yes	No
PeopleCode—Application Package	Yes	Yes	No
PeopleCode—Component	Yes	Yes	No
PeopleCode—Component Interface	Yes	Yes	No
PeopleCode—Component Interface Property	Yes	Yes	No
PeopleCode—Component Record	Yes	Yes	No

Definition Type	Compare and Copy	Copy to and from File	Copy Only
PeopleCode—Component Record Field	Yes	Yes	No
PeopleCode—Menu	Yes	Yes	No
PeopleCode—Message	Yes	Yes	No
PeopleCode—Page	Yes	Yes	No
PeopleCode—Page Field	Yes	Yes	No
PeopleCode—Record	Yes	Yes	No
PeopleCode—Subscription	Yes	Yes	No
Permission Lists	Yes	Yes	No
Portal Registry Definition	Yes	Yes	No
Portal Registry Structures	Yes	Yes	No
Portal Registry User Favorites	Yes	Yes	No
Portal Registry User Homepages	Yes	Yes	No
Problem Types	Yes	Yes	No
Process Definitions	Yes	Yes	No
Process Type Definitions	Yes	Yes	No
Queries	Yes	Yes	No
Records	Yes	Yes	No
Recurrence Definitions	Yes	Yes	No

Definition Type	Compare and Copy	Copy to and from File	Copy Only
Relationships	Yes	Yes	No
Roles	No	No	Yes
Server Definitions	Yes	Yes	No
SQL	Yes	Yes	No
Style Sheets	Yes	Yes	No
Styles	Yes	Yes	No
Translate Values	Yes	Yes	No
Tree Structures	Yes	Yes	No
Trees	No	No	Yes
URL Definitions	Yes	Yes	No
WSRP Cloned Portlet Handles	Yes	Yes	No
WSRP Remote Portlets	Yes	Yes	No
WSRP Remote Producers	Yes	Yes	No
XSLT	Yes	Yes	No

Note. Certain definition types that are specified as compare and copy or copy only (for example, Cube Dimensions) do not appear on the Development tab because you cannot edit them in PeopleSoft Application Designer.

Note. PeopleSoft delivered definition types (such as pages, Application Engine programs, iScript PeopleCode, and so on) cannot be copied across product lines. For example, you cannot copy a definition from PeopleSoft Human Capital Management to PeopleSoft Customer Relationship Management. License codes for these definitions are specific to the product line in which the definition is delivered. If a PeopleSoft delivered definition is copied to a different product line, it may be inaccessible on the target database.

Using the Upgrade Workspace

This section discusses:

- Switching to the upgrade view.
- Viewing upgrade attributes by definition type.
- Working with upgrade definition columns.
- Using the upgrade menu actions.
- Setting upgrade options.

Switching to the Upgrade View

When you perform an upgrade with PeopleSoft Application Designer, select the Upgrade tab at the bottom of the project workspace to switch to the upgrade view.

The upgrade view of the project workspace shows all of the definition types in the project that are available for upgrade—not only those that PeopleSoft Application Designer can modify, as in the development view. The upgrade definition window displays the definitions in the project and their upgrade settings. One definition type appears at a time.

Displayed here are the upgrade attributes for all record definitions in the selected project:

Records (Upgrade Definition Type)

	Records Key						
	Record Name	Field Name	Source	Target	Action	Upgrade	Done
1	ACCESS_GRP_LANG		Unknown	Unknown	Copy	☑	☐
2	ACCESS_GRP_TBL		Unknown	Unknown	Copy	☑	☐
3	ACCESS_GRP_WRK		Unknown	Unknown	Copy	☑	☐
4	ACLCOMPCREF_VW		Unknown	Unknown	Copy	☑	☐
5	ACLCOMPONENT_V2		Unknown	Unknown	Copy	☑	☐
6	ACL_PAGES_VW2		Unknown	Unknown	Copy	☑	☐
7	ACTIONAME_VW		Unknown	Unknown	Copy	☑	☐
8	AEAPPL_AUX		Unknown	Unknown	Copy	☑	☐
9	AEAPPL_LNG_VW		Unknown	Unknown	Copy	☑	☐
10	AEAPPL_VW		Unknown	Unknown	Copy	☑	☐
11	AECOBOLPARM		Unknown	Unknown	Delete	☑	☐
12	AEDAEMONMGR_AET		Unknown	Unknown	Copy	☑	☐
13	AEONLINEINST		Unknown	Unknown	Copy	☑	☐
14	AEREQUESTPARM		Unknown	Unknown	Copy	☑	☐
15	AETEMPTBLMGR		Unknown	Unknown	Copy	☑	☐
16	AE_DAEMON_PGM_V		Unknown	Unknown	Copy	☑	☐
17	AE_DERIVED		Unknown	Unknown	Copy	☑	☐
18	AE_PTTSRPLC_AET		Unknown	Unknown	Copy	☑	☐
19	AE_PTTSUNDO_AET		Unknown	Unknown	Copy	☑	☐
20	AE_REQUEST		Unknown	Unknown	Copy	☑	☐
21	AE_REQUEST_OPT		Unknown	Unknown	Copy	☑	☐
22	AE_SYNCGEN_AET		Unknown	Unknown	Copy	☑	☐
23	AE_TEMPLOCK2_VW		Unknown	Unknown	Copy	☑	☐

Viewing Upgrade Attributes by Definition Type

To view the upgrade attributes by definition type in a project:

1. Open a project.
2. Select the Upgrade tab at the bottom of the project workspace.
3. Double-click a folder to open the upgrade definition window.

   With the exception of PeopleCode, the folders in the upgrade view are not expandable. The upgrade definition window contains a grid with definitions in the project that are of the selected type. For example, if you double-click the Records folder in the upgrade view, the upgrade definition window displays the records in the project.

   You can view only one upgrade definition window—and one definition type—at a time. When you double-click another definition type in the upgrade view, the upgrade definition window is refreshed with the new definitions of that type.

Note. You can filter which definitions are displayed in this window. By default, no filtering is applied.

Working with Upgrade Definition Columns

The columns in the upgrade definition window display various information about each definition.

Key	Displays the name of the definition, plus any other key values. The number and titles of the key columns vary, depending on the definition type.
Source	Displays the definition status in the source (current) database.
Target	Displays the definition target database status.
Action	Displays the action that is performed if the definition is copied into the target database.
Upgrade	Select to upgrade the definition during a copy.
Done	Is selected when the definition has been copied. You can't select Done check boxes yourself—PeopleSoft Application Designer does this after a copy—but you can *clear* them. Only definitions that have Upgrade selected and Done cleared are copied during an upgrade.
Execute	Only applies to file references and Application Engine definitions. Allows file references and Application Engine definitions to be executed when applying a change package.

The key columns on the left-hand side of the grid are frozen; they do not scroll horizontally. When you use the horizontal scroll bar, only the upgrade columns scroll, enabling you to see the key information about the definitions at all times. The various definition types have different numbers of key columns. For example, fields have only one column (Field Name), while translates have four (Field Name, Field Value, Language Code, and Effective Date).

When viewing definition types with a large nonscrolling region, the horizontal scroll bar is disabled unless at least one scrolling column is displayed.

To enlarge the window enough so that you can scroll through the upgrade columns:

- Maximize the upgrade definition window.

- Maximize PeopleSoft Application Designer.
- Hide the project workspace.

To display *all* of the grid columns at one time when the preceding options don't enable you to see every column, use the zooming commands in the View menu. With each Zoom Out command, the grid size is reduced. To restore the normal view, select 100%.

You can also resize individual columns by dragging the column border to the appropriate size. If you resize the upgrade columns, save the sizing and use it for every project. Custom key column sizing is not preserved after you close a project; these columns reset to their default size.

Using Upgrade Menu Actions

To access the pop-up upgrade menu, right-click anywhere in the upgrade definition window.

This table describes the upgrade menu actions and the actions they perform:

Menu Item	Action
View Definition	Opens multiple definitions in the upgrade grid.
View PeopleCode	Opens the PeopleCode Editor. This is enabled for PeopleCode definition types.
Find Definition References	Finds all references to the selected definition.
Merge Definition	Enables you to compare and merge text definitions between two sources, either a file or another database. Text definitions are PeopleCode, SQL, XSLT, and HTML.
Visual Compare	Enables you to compare (side-by-side) page definitions between two sources, either a file or another database.
Filtering	Opens a cascading menu with filtering options that you can apply to the upgrade grid. These same options are also in the View menu.
Refresh View	Updates the information in the upgrade definition window.
Set Action	Enables you to select and tag definitions for copying and deleting.
Set Action for Project	Enables you to select and tag all definitions in a project for copy or delete.

Menu Item	Action
Tag for Upgrade	Enables you to tag a group of definitions for upgrade.
Untag for Upgrade	Enables you to remove the tag on a group of definitions for upgrade.
Reset Done Flag	Enables you to reset Done check boxes for a group of definitions.
Reset Project Done Flags	Enables you to reset all Done check boxes.
Insert Definitions into Project	Opens the Insert Definitions into Project dialog box.
Remove from Project	Removes the selected definitions from the current project. You can also use the DELETE key.
Project Properties	Opens the Project Properties dialog box, in which you define properties for the project, like description.

Setting Upgrade Options

This section discusses how to:

- Access the upgrade options.
- Set general options.
- Set compare options.
- Set report options.
- Set report filter options.
- Set copy options.

Accessing the Upgrade Options

To access the upgrade options:

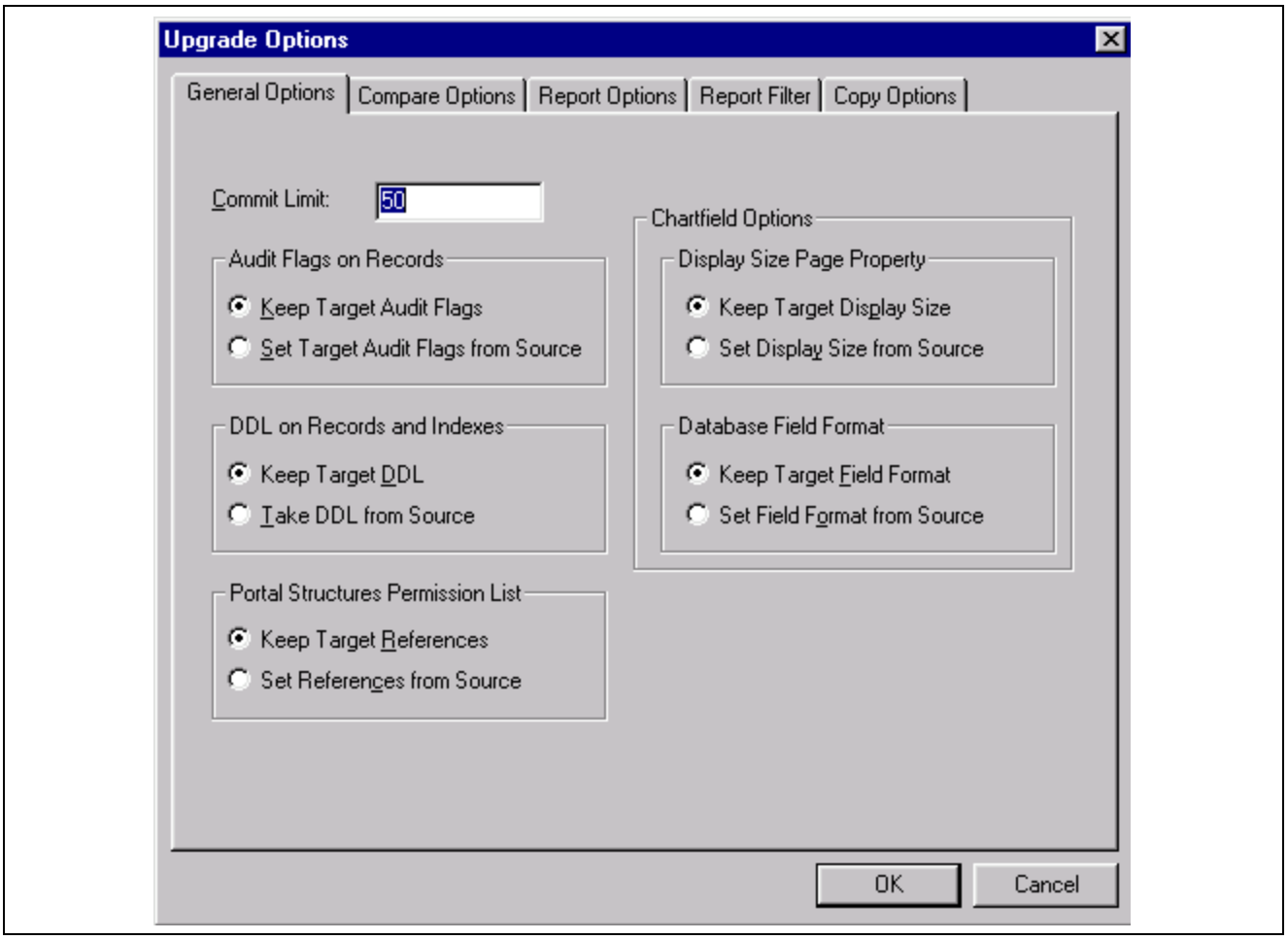
1. Select Tools, Compare and Report.
2. Sign in to an upgrade target database.
3. On the Compare and Report dialog box, click Options, and select the appropriate upgrade option tab.

Preserving Project Item Status

Access the Compare and Report dialog box and view the Project Item Status/Child Definitions group box.

Setting General Options

Access the Upgrade Options dialog box and select the General Options tab.



Upgrade Options dialog box: General Options tab

Use the Upgrade Options dialog box to set general options for the Compare or Copy process.

Commit Limit

Set the commit limit.

Start with the default of *50.* If the Copy process seems slow and there is sufficient log file space, try increasing the commit limit. You can modify the initial project default commit limit on the PeopleTools Options page.

Very large commit limits, however, can cause more work if something goes wrong during the copy. For example, if the commit limit is set to *1,000* and the Copy process stalls on the 999th definition, none of the previous definitions are copied. The Copy process must be performed again.

Audit Flags on Records

Select one:

- Keep Target Audit Flags: Select to preserve all of the enabled target flags. This is the default. Audit flags that are enabled in the source are also retained. Differences between the source and target audit flags are not shown on the compare report.
- Set Target Audit Flags from Source: Select to copy audit flag settings from the source to the target database.

DDL on Records and Indexes

Select one:

- Keep Target DDL: Select to preserve the target DDLs. This is the default. Differences between the source and target DDL are not shown on the compare report.
- Take DDL from Source: Select to copy the DDL from the source to the target database.

Portal Structures Permission List

Select one:

- Keep Target References: Select to preserve the target portal structures permission list references. This is the default.
- Set References from Source: Select to copy the portal structures permission list references from the source to the target database.

Chartfield Options

Set the Display Size Page Property:

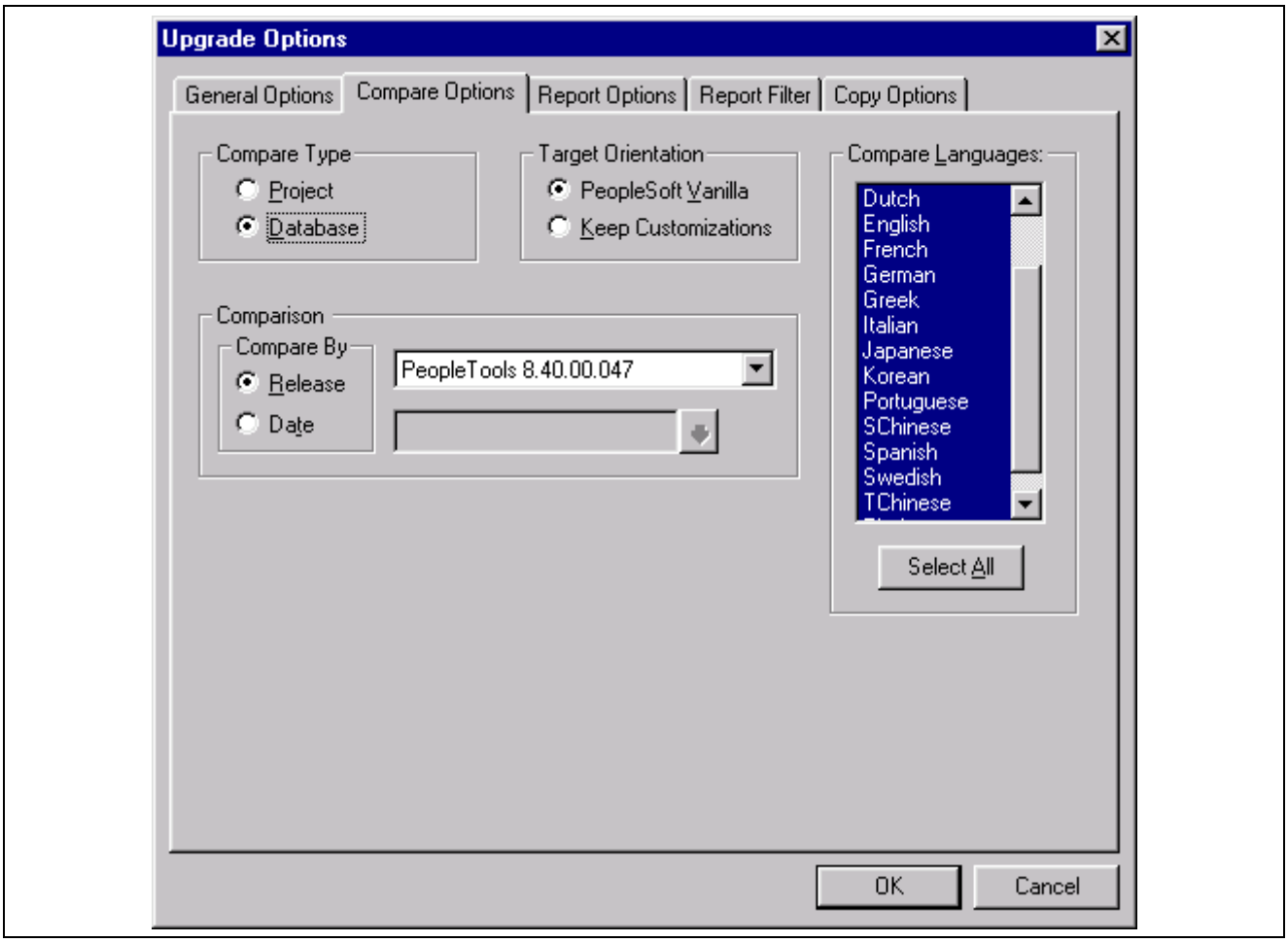
- Keep Target Display Size: Does not copy any display changes to a ChartField on the source database (the target values are saved). If this is set for a Compare process, no differences between the source and target in the named fields are displayed. If the only differences on the page are the ChartField display properties, then the page compares as the same for both.
- Set Display Size from Source: Copies the position, as well as the size and type attributes, from the source to the target database.

Set the Database Field Format:

- Keep Target Field Format: Does not copy any changes to the field format values for a database field that is a ChartField on the source database, and preserves the target field format values. If this is set for a Compare process, any changes to the ChartField field format attributes are not displayed. If these attributes are the only changes for a field, then the definition compares as the same for both.
- Set Field Format from Source: Copies the ChartField field format attributes from the source to the target database.

Setting Compare Options

Access the Upgrade Options dialog box and select the Compare Options tab.



Upgrade Options dialog box: Compare Options tab

Compare Type

Select Project to compare only the definitions of the specified definition type in the current project. The contents of the project do not change.

Select Database to compare all definitions of the specified definition type. If you select Database, the contents of the current project are deleted and replaced with definitions that are found during the comparison.

Target Orientation

Determines how the Upgrade check boxes in the upgrade definition window are set for definitions that were last modified by the customer in one database and last modified by PeopleSoft in the other database.

Comparison

Select Release to compare databases by the highest release that the two databases have in common. Use the drop-down list box to select from lower common releases. The Compare process labels definitions as Changed or Custom/Changed if they have been changed since the date and time stamp for that release level. This is the default.

Select Date to have the Compare process label definitions as Changed or Custom/Changed if they have been modified since the date that you specify.

Compare Languages

Select the languages of definitions that you want to compare, and select*COMMON,* which specifies basic definition characteristics and parameters in the architecture that are not language-sensitive. Language options specify label-oriented characteristics of a definition, such as page

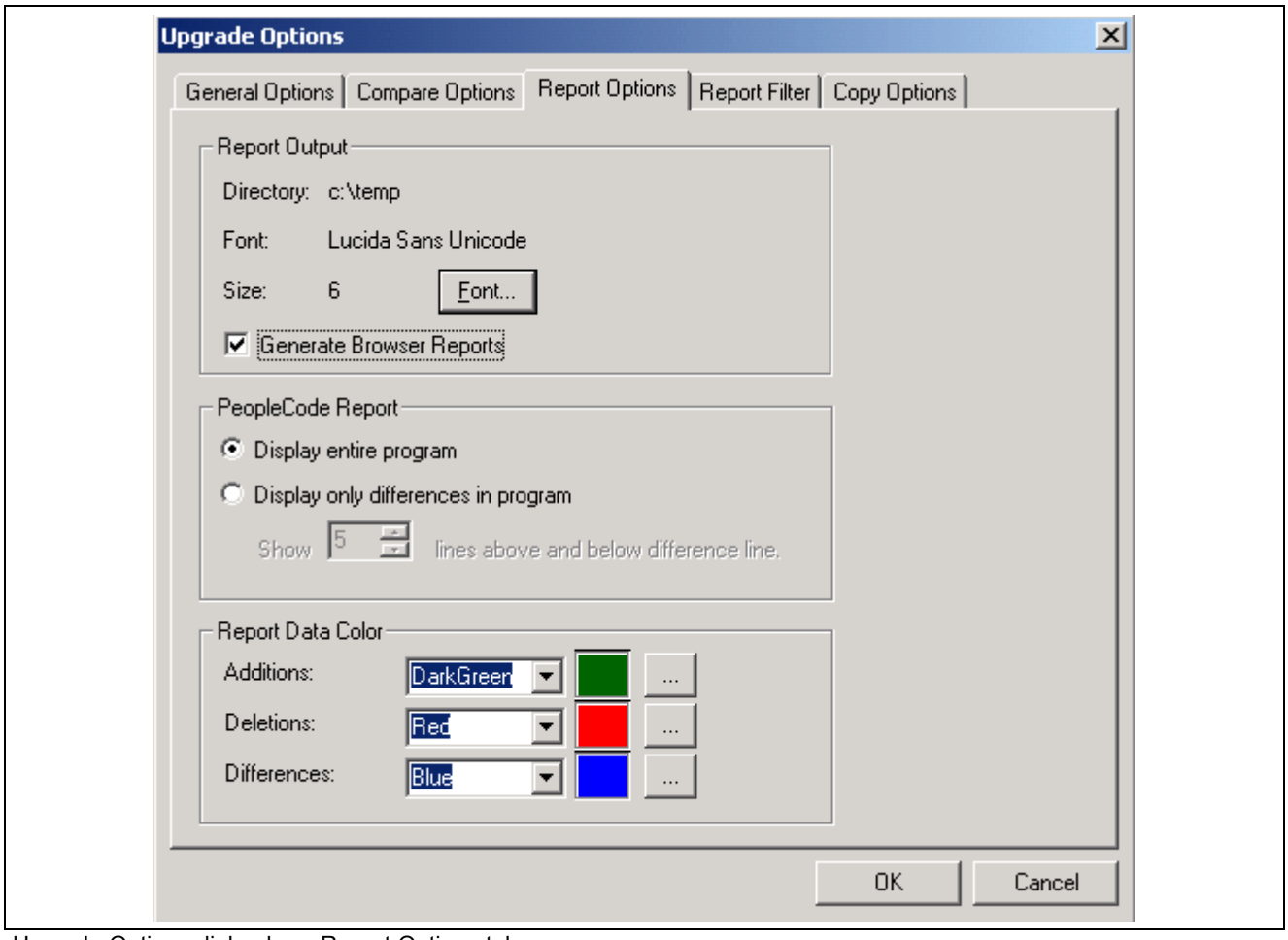
names, labels, and messages. If you do not select *COMMON,* basic definition characteristics are omitted.

If you need specific languages and basic definition characteristics, also select *COMMON*. However, to copy only language attributes of a definition, you do not need *COMMON*.

Clicking Select All is the recommended default. Make sure that the languages in the source and target databases match. Press the CTRL key and your mouse to clear unwanted languages.

Setting Report Options

Access the Upgrade Options dialog box and select the Report Options tab.



Upgrade Options dialog box: Report Options tab

Report Output To change the output directory path, select Tools, Options from the PeopleSoft Application Designer toolbar, and select the General tab.

Click Font to select a different font or to change the font size.

Select Generate Browser Reports to generate HTML reports that you can view in a browser.

PeopleCode Report Specify the PeopleCode report options.

For PeopleCode compare reports, specify whether to show the entire program on the report (the default setting) or only the code differences between the source and target. If you select the latter, you can specify the number of code lines to show above and below the difference for context. The values for the number of lines to show are *0* to *99*. A value of *0* shows only the difference line. A value greater than *0* shows that many lines above and below the difference line.

Note. The PeopleCode report options are global across all projects. Changing settings for one project changes all subsequent PeopleCode compares, regardless of project.

Report Data Color

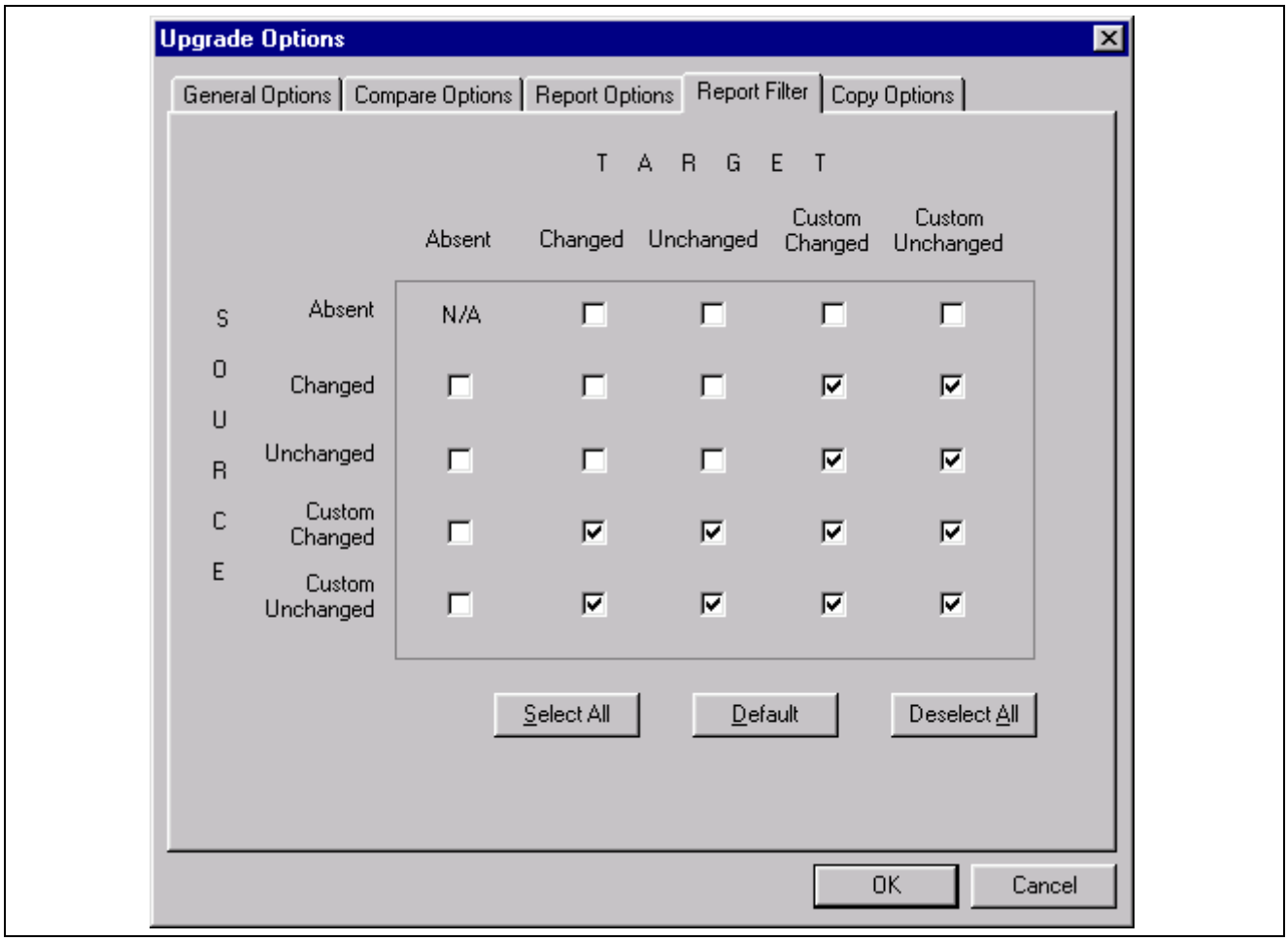
Select the report data color.

Use the Browse button to display the standard color dialog box. Choose a color that is not included in the drop-down list box or create a custom color.

- Additions: Select a color for additional data values on the source database. These are also source-only values. The default value is dark green.
- Deletions: Select a color for data values that are deleted from the source database. These are target-only values. The default value is red.
- Differences: Select a color for changed values, which are both source and target values. The default value is blue.

Setting Report Filter Options

Access the Upgrade Options dialog box and select the Report Filter tab.



Upgrade Options dialog box: Report Filter tab

When you perform a comparison, the system generates a report for each definition type compared. These reports provide detailed information about how each definition in the source differs from its counterpart in the target.

Before performing a comparison, you can select the definition status combinations with which you generate reports by using report filter options. For example, during an upgrade to a new PeopleSoft release, you might decide that if a definition that was last changed in the target by PeopleSoft is found in the source and it hasn't changed since the last upgrade, you don't need to see information about the definition differences (because you intend to accept the new PeopleSoft version). In this case, you want to filter the compare reports so that a report is not generated if:

- The source is any status.
- The target is unchanged.

Note. Filtering comparison reports does not affect which definitions are added to a project during a database comparison, only which definitions are reported. Definitions that are defined differently in the two databases are always added to the project.

Select the check boxes corresponding to the definition status combinations that you want to report.

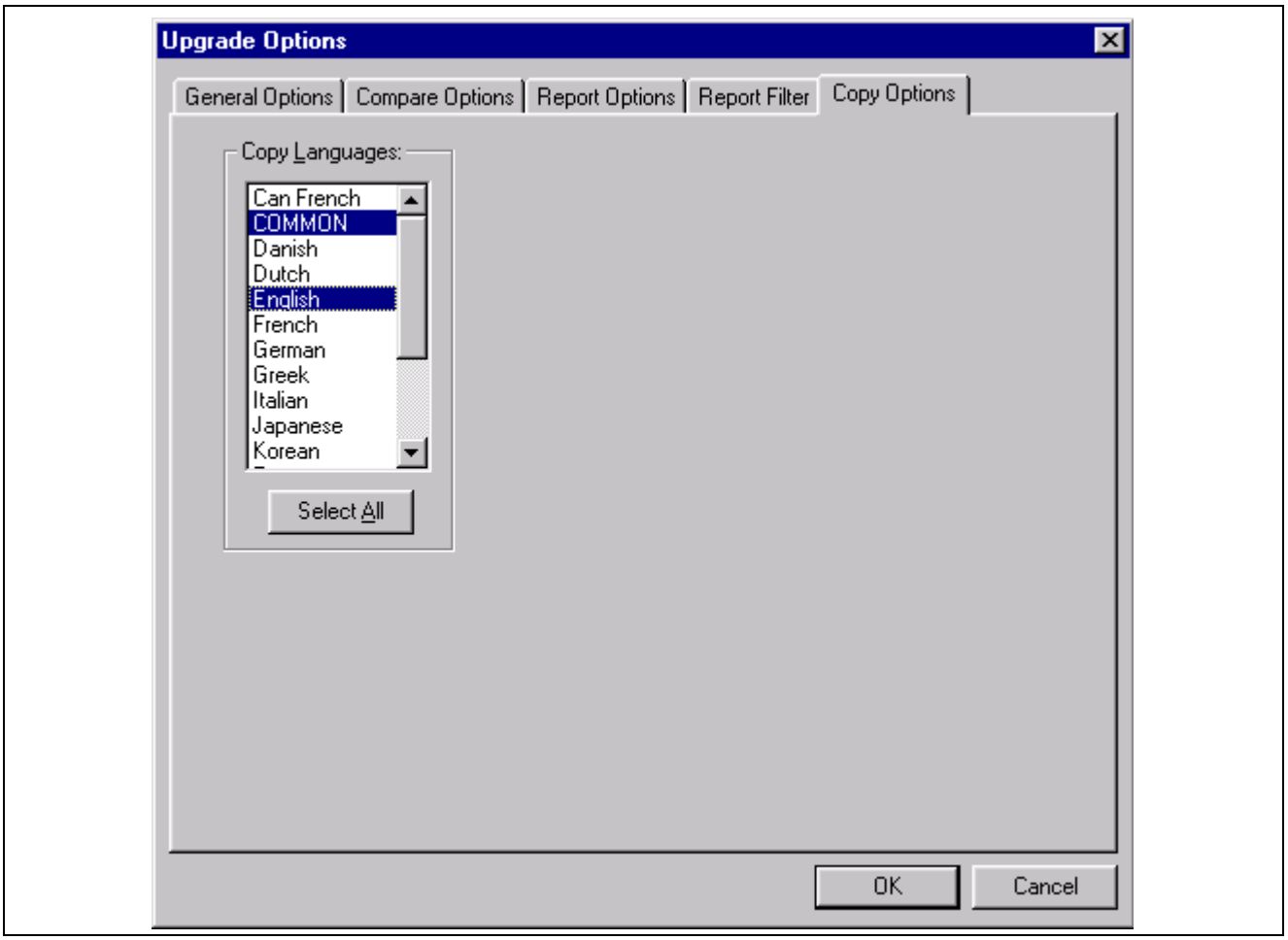
Each row in the matrix corresponds to the definition status in the source database. Each column corresponds to the definition status in the target.

The default settings for report filtering show conflicting configured definitions only.

- To reset your selections to the default setting, click the Default button.
- To select all definition status combinations, click the Select All button.
- If you don't want to generate any reports, click the Deselect All button to clear all of the check boxes.

Setting Copy Options

Access the Upgrade Options dialog box and select the Copy Options dialog box.



Upgrade Options dialog box: Copy Options tab

Copy Languages

Select a specific language and *COMMON,* which specifies basic definition characteristics and parameters in the architecture that are not language-sensitive. Language options specify label-oriented characteristics of a definition, such as page names, labels, and messages. If you do not select *COMMON,* basic definition characteristics are omitted. If you need specific languages and basic definition characteristics, also select *COMMON*.

Click Select All is the recommended default. Make sure that the languages in the source and target databases match. Otherwise, you might overwrite translations in the target. Use the CTRL key and your mouse to clear unwanted languages.

When you save the project, the copy settings that you made are saved and remain set unless you change them again.

This table lists translation scenario examples:

Selection	Reason
COMMON and *English*	The source database does not include translations, but the target database has translations that you do not want to overwrite.
Languages (omit *COMMON*)	You sent the database out for translations and want to avoid copying inadvertent changes that were made by the translators to the definitions.
COMMON (omit languages)	You want to copy the source without translations to the target.

Preparing Projects for an Upgrade

This section provides an overview and discusses how to:

- Search for definitions.
- Print all definitions in a project.
- Obtain access for upgrading.
- Convert definitions.

Understanding Upgrade Projects

Before you can copy definitions from one database to another, you must insert them into a PeopleSoft Application Designer project. If you have a custom application, identify which definitions must be copied from the source into the target database. When you know which definitions you want to upgrade, specify and insert the definitions into the project.

However, when you are unfamiliar with one of the databases, you might want to populate a project by comparison—for example, when you upgrade to a new PeopleSoft application release. When you populate a project by comparison, the system compares the source and target databases and automatically populates the project with definitions that are defined differently in the two databases.

Populating Projects

To populate projects:

1. Select Insert, Definitions into Project from the PeopleSoft Application Designer menu.

PeopleSoft Application Designer designates certain definition types as related to a parent or controlling definition type. For example, a record's related definitions can include fields, indexes, and subrecords. When you insert definitions into a project for upgrading, it can be important for these related definitions to be included.

2. Select the definitions and click Insert.
3. Select Tools, Options.
4. On the Project tab, review the settings in Related Definitions Options and reset.

Searching for Definitions

To find a definition in the project select Edit, Find from the menu. This opens the Find dialog box where you can perform a search for a text string in an upgrade definition window.

Printing All Definitions in a Project

You can print a project definition for all of the definition types in the current project. This differs from the Print menu item, which prints only the currently selected definition type that is open in the upgrade grid. The data, however, is the same.

To print a project definition for all definitions in current project, select File, Print Project from the PeopleSoft Application Designer toolbar.

Obtaining Access for Upgrading

To use the PeopleSoft Application Designer upgrade features, you must have full access to projects and upgrade access in the target database.

Also, lock all PeopleSoft Application Designer definitions in the source and target databases before comparing and copying projects. To do this, you need supervisor-level access to Change Control (in the Tools menu). If your Change Control administrator performs this action for you, the administrator's user ID is the only one that is allowed to perform the copy while the target definitions are locked.

Viewing Upgrade Messages

This section discusses how to:

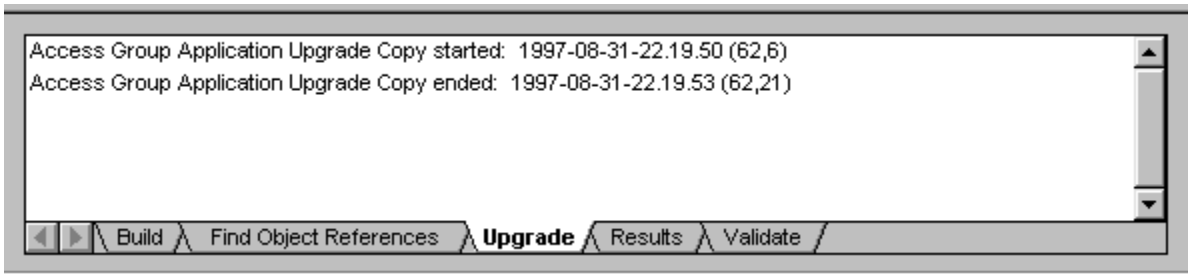
- Determine whether errors were encountered.
- View messages.
- Print upgrade messages.
- Clear messages.

Understanding Upgrade Messages

During the compare and copy processes discussed in this section, if the system encounters any errors you will be notified through system messages. These messages alert you to various areas that may need to be corrected for a successful upgrade compare and copy.

Determining Whether Errors Were Encountered

Select the Upgrade tab in the output window to determine whether any errors were encountered during the Compare or Copy process.



Upgrade view in the output window

This view displays upgrade messages pertaining to the definition type that was most recently displayed in the upgrade definition window. In the preceding example, Access Groups was the last definition type that was viewed in the window.

Viewing Messages

To view messages:

1. Open the project.
2. Select the Upgrade tab in the project workspace.
3. Double-click the folder of the definition type for which you want to view messages, or click the project icon to view all messages.

   Any upgrade messages for that definition type appear in the output window.

Printing Upgrade Messages

To print upgrade messages:

1. View the messages that you want to print.
2. Right-click the output window and select Print.

Clearing Messages

To clear messages:

1. View the messages that you want to clear.
2. Right-click the output window and select Clear.

CHAPTER 21

Comparing Source and Target Definitions

This chapter includes an overview and discusses how to:

- Work with compare reports.
- Work with workspace reports.
- Work with browser reports.
- Work with definition status.
- Compare page definitions visually.
- Compare definitions for upgrade using the command line.

Understanding the Compare Process

PeopleSoft Application Designer enables you to compare the contents of the database to which you are signed on (or project within) with the target database or an exported project file. It enables you to view the status of each definition in each location so you can then decide which definitions to keep.

There are two ways to compare definitions:

- Compare all database definitions of a certain type, such as record definitions. After doing so, you populate the upgrade project with only the definitions that are defined differently in the source than in the target.
- Compare only the definitions in the current upgrade project to the equivalent definitions in the target database or file.

When performing comparisons between source and target definitions, PeopleSoft Application Designer enables you to:

- Generate workspace reports.

  These reports appear in the PeopleSoft Application Designer workspace immediately after the compare process completes.
- Generate browser reports.

  These reports are written to HTML and XML files enabling you to open the report in a browser, share the report with coworkers easily, and store report data in an industry-standard format.
- Visually compare page definitions.

  This feature enables you to view the source and target page definitions side-by-side with differences clearly marked.
- Visually compare and merge text definitions.

This feature enables you to view the source and target PeopleCode, HTML, SQL, XSLT definitions side-by-side with differences clearly marked. It also enables you to merge source PeopleCode with target PeopleCode.

Comparing All Definitions by Type

PeopleSoft Application Designer performs comparisons on one definition type at a time. For each definition type that you select, the system removes any existing definitions of that type from the current project and repopulates the project based on the comparison results. For this reason, be careful when performing a database comparison on a predefined project.

For example, suppose that your project includes several record, page, and menu definitions and you perform a database comparison on pages only. All of the page definitions that were originally in the project are removed and replaced by any page definitions that were found in the Compare process. However, the record and menu definitions in the project are not affected.

Performing a database comparison overwrites custom upgrade settings with the defaults for the specified target orientation.

Comparing Definitions by Project

If you manually inserted definitions into the project and you want to see how those definitions differ from the same definitions in another database, perform a project comparison. This method compares only the definitions in the project and does not repopulate the project—except in record and field comparisons. Upgrade settings are never modified when you perform a project comparison.

When records are compared—during a database *or* project comparison—differences that are found in record fields are written into the project. For example, suppose that Record A in the source database contains record fields 1, 2, 3, 4, and 5, and Record A in the target database contains fields 2, 4, 6, and 7. Before the comparison, the project contains only Record A. After the comparison, the project contains Record A and record fields 1, 3, 5, 6, and 7.

Similarly, when field definitions are compared, differences that are found in the field labels are inserted into the project as new field definitions. For example, suppose that you are comparing the source with the target, and both databases have the same field definitions. However, the field label for one of those field definitions is different. The source field definition is labeled Employee ID, but in the target, it is labeled Staff ID. The Compare process creates a new field definition that is labeled Staff ID. After the comparison, the project contains both an Employee ID field and a Staff ID field.

Note. These are the only situations where a project comparison repopulates a project.

Synchronizing Databases When Comparing Record Definitions

The Upgrade Copy process synchronizes databases when performing an upgrade compare and copy for record definitions. During the upgrade copy (CopyProp only) of a table, subrecord, or temporary table, the system reorders the indexes (_, 0 through 9) to follow the source index order. The target order matches the source order after the copy.

For example, suppose that the source record, Z, is a table with fields B, A, C, G, H and the target record, Z, is a table with fields A, B, F, G, C, H where all of these conditions are true:

- F is a customization and a Key field.
- A and B are exactly the same except for field order, and both are keys.
- C, G, H are exactly the same except for field order, and they are nonkey fields.

In this example, the upgrade compare produces project items for this record:

recname	fieldname	src status	tgt status	upgrade action	take action
Z	Not applicable (NA)	Chg	UnChg	copyprop	Y
Z	F	Abs	*Chg	delete	N

* Unless the F record field is deleted, an upgrade copy and compare always shows this project item.

The result of an upgrade copy on this record changes record fields A, B, F, G, C, and H in the target database to B, F, A, G, C, and H, without moving the nonkey fields. Another upgrade compare would produce the same project items.

Likewise, during an upgrade copy of a view or dynamic view, the target order is reordered to match the source when a record field project item is copied and the source order does not match the target order.

For example, suppose that the source record, Z, is a view with fields B, A, C, and the target record, Z, is a view with fields A, B, F, C where all of these conditions are true:

- F is a customization.
- A and B are exactly the same except for field order.

In this example, the upgrade compare produces project items for these record fields:

recname	fieldname	src status	tgt status	upgrade action	take action
Z	A	Chg	UnChg	Copy	Y
Z	B	Chg	UnChg	Copy	Y
Z	C	--	--	Copy	Y
Z	F	Abs	*Chg	Delete	N

* Unless record field F is deleted, an upgrade copy and compare always shows this project item.

The result of an upgrade copy changes A, B, F, C in the target database to B, F, A, C.

Another project compare would produce these project items:

recname	fieldname	src status	tgt status	upgrade action	take action
Z	A	Chg	UnChg	Copy	Y
Z	C	--	--	Copy	Y
Z	F	Abs	*Chg	Delete	N

* Unless F is deleted, an upgrade copy and compare always shows this project item.

Working With Compare Reports

This section discusses how to:

- Run a compare report.
- Work with the Compare and Report dialog box.

Running a Compare Report

To perform a comparison:

1. Save any changes to objects and close all windows before starting the Compare process.

   This ensures that all generated reports are saved during the Compare process. Once the process is complete, you can open the reports from a file and view them online.

2. Lock all of the PeopleSoft Application Designer definitions in the target database.

   If you perform a full comparison, it might take several days for you to review all of the comparison reports and set the upgrade settings accordingly. Locking the PeopleSoft Application Designer definitions in the target database ensures that those definitions cannot be changed between the comparison and the time that you perform the copy.

3. Turn off all tracing.
4. Select Tools, Compare and Report, and select one of these options:
   - From Database: The PeopleSoft Signon dialog box appears, prompting you to sign in to an upgrade target database.
   - To File: The Compare and Report From File : Select Project dialog appears for you to select the project to compare.
5. On the Compare and Report dialog box, select the types of definitions to compare from the Definition list.
6. Click Options to access the Upgrade Options dialog box.

   Set all upgrade options including comparison report filters.

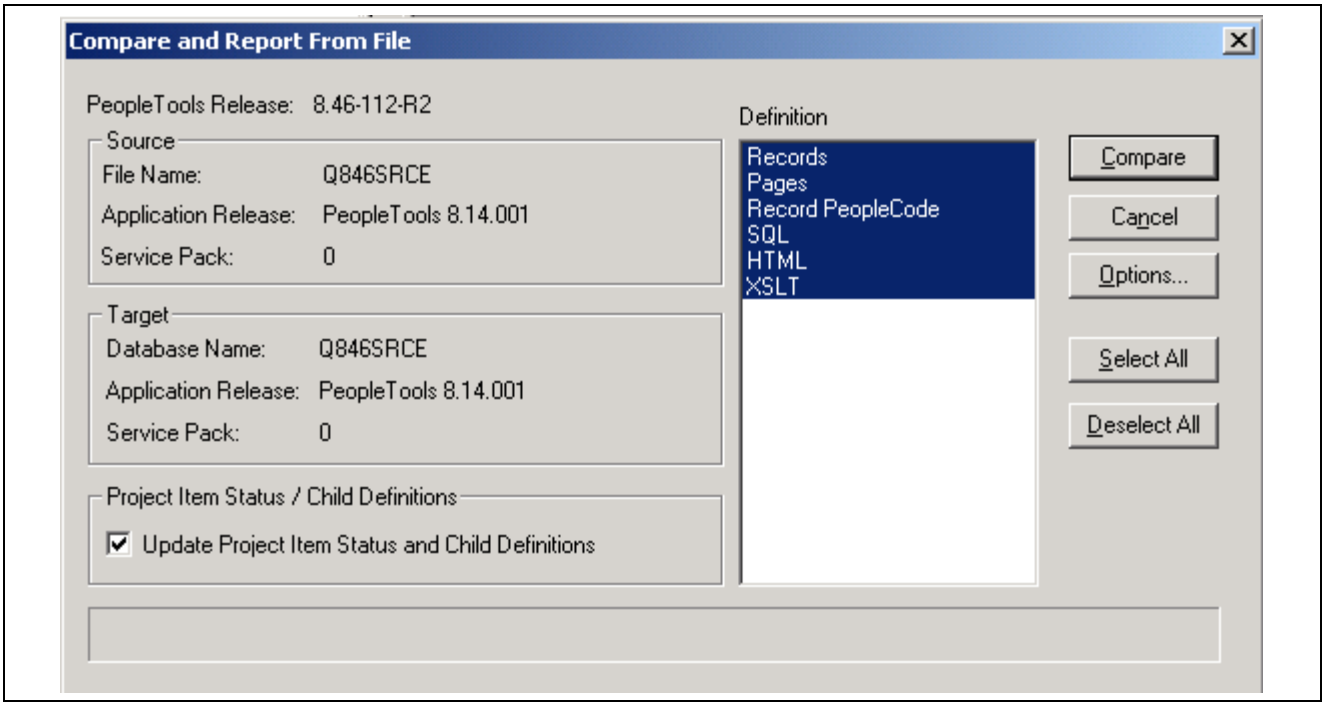
7. Select the appropriate Project Item Status / Insert Child Definitions option (if enabled it allows you to preserve the original project).
8. Click Compare to perform the comparison.

The system creates online reports for the definitions that you are comparing. Upgrade Compare reports are saved to the location you specify in the Report Output Directory field in Tools, Options on the General tab.

Note. You can also compare definitions using command line syntax.

Working with the Compare and Report Dialog Box

Access the Compare and Report dialog box.



Compare and Report dialog box

Note. Depending on whether you are comparing to a database or from a file, the dialog box name changes accordingly.

Source Identifies the file or database name, the application release, and the service pack level of the source file or database.

Target Identifies the database name, the application release, and the service pack level of the target database.

Update Item Status/Child Definitions Deselect the Update Project Item and Child Definitions option to preserve the status of the items in your upgrade project and the child definitions when running a compare. Child definitions apply only to records and fields in which fields are the child definitions of the record, and field labels are the child definitions of record fields.

When running a compare report, the system compares the definitions in an another database or file to the database to which you are currently signed on. Based on the compare results, the system updates the status of the project items in your upgrade project in the definition window. For example, after running the compare, the system inserts the status of the Source and Target (Absent, Changed, Unchanged, and so on), the Action to take (None, Copy, CopyProp, and so on).

Regarding child definitions with the case of records, if a record is the same version in both places, the system removes the fields. With the case of fields, if a field is the same version in both places the system removes the field labels from the upgrade project definition.

When a child item is found to be different between the two places, then that item is inserted into the project so the child item can then be copied as a unique item. When this option is deselected, no child items are deleted nor inserted into the project.

In some cases, as in when you want to compare the same upgrade project to multiple sources, for example a demo database, a production database, and a project file, you may decide to deselect this option so that the source upgrade project remains unchanged. When deselected, the project item status and child definitions information only appears in the generated compare report, not online in the PeopleSoft Application Designer project definition.

Note. By default, this setting is selected, which should accommodate most situations.

Note. This option applies only when performing project compares, and is not applicable when performing a full database compare (Compare Type is set to Database on the Compare Options tab in the Upgrade Options dialog box). A full database compare should start with an empty upgrade project and insert the different items into the upgrade project.

Note. When performing a compare from file, if the option is turned off, the resulting project definition after the compare will have the same status settings and project items as in the file project definition. The compare reports will still reflect the status settings and differences in any child items. When the option is left on, the compare will change the project definition based on the compare results, changing the status settings, and inserting or deleting child items as needed.

Definition Displays the current set of definitions being compared. The system only compares the definitions in the list that are highlighted.

Compare Executes the compare process.

Cancel Cancels the compare process.

Options Opens the Upgrade Options dialog box.

See Chapter 20, “Upgrading with PeopleSoft Application Designer,” Setting Upgrade Options, page 452.

Select All/Deselect All Selects all the definitions in the Definition list, or deselects all.

Working With Workspace Reports

PeopleSoft provides online comparison reports in PeopleSoft Application Designer. These reports appear in the project workspace area after you run a compare report.

This section discusses how to:

- Access reports.
- Search for definitions in reports.
- Print the report.
- Save reports as text files.

Accessing Reports

To access reports:

1. Select Tools, Compare and Report from the PeopleSoft Application Designer toolbar.
2. Sign in to the target database.

   The system automatically displays a comparison report for each definition that you selected to be copied. If the current definition type has a PeopleSoft Application Designer based editor, you can double-click the definition name in the report to open it. If the comparison report is large, you can search for specific definition names.

Searching for Definitions in Reports

For long compare reports, it is useful to perform a search to locate specific items. The Find in Report feature searches by column. To search for an object in a comparison report highlight or place your cursor in the column that you want to search and select Edit, Find in Report.

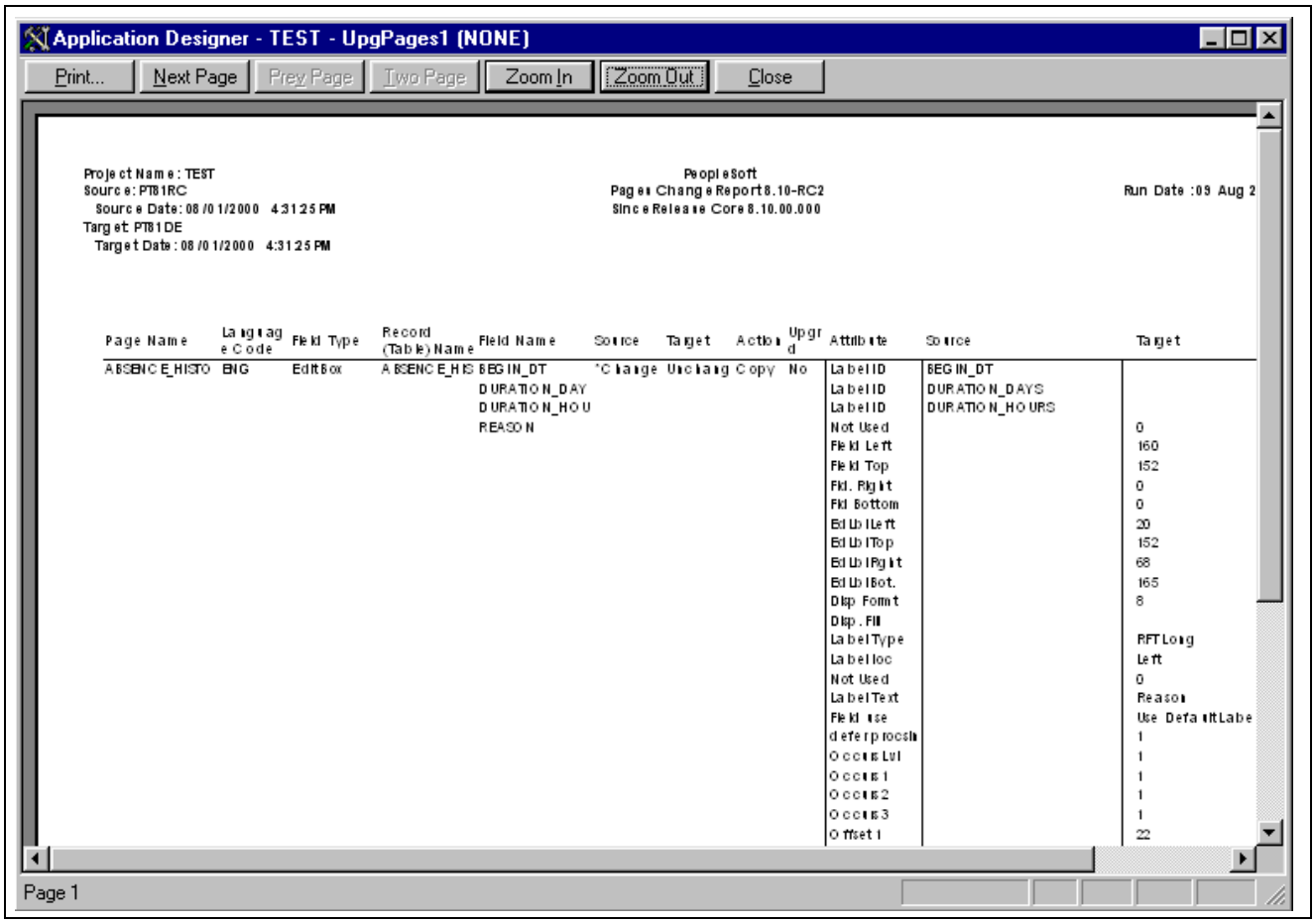
Printing the Report

This section provides an overview of a report and discusses how to:

- Print the comparison report.
- Print a comparison report from a file.
- Move print files.

Printing the Comparison Report

This is a print preview of the comparison report:



Print preview comparison report

To print the comparison report select File, Print. The standard Print dialog box appears, enabling you to select the printer, number of copies, and so on.

Printing a Comparison Report From a File

To print a comparison report from a file:

1. To print a saved comparison report, select File, Report from File.
2. Select Print Preview, Print, or View Report.

   These options require that you specify the report name and its location in a standard Open dialog box. View Reportdisplays the specified report in the project workspace.

Moving Print Files

You might want to move the comparison report files to another directory or send them as email attachments. Each comparison report file is saved as two files with the following format:

- Upg<number>DefinitionType.prt
- Upg<number>DefinitionType.idx

Both files (filename.prt and filename.idx) are required to view or print the report.

Saving Reports as Text Files

While the report is open in the workspace, you can save the workspace report as a text file. This enables you to import the report results into applications of your choice, such as Microsoft Excel.

To save the workspace report as a text file:

1. Select File, Save Report As.
2. On the Save Report As dialog box insert a file name into the File Name edit box, and select a file type from the Save as type drop-down list.

   You can select *Tab Delimited (.txt)* or *Comma Delimited (.csv)*.
3. Click Save.

Working with Browser Reports

This section provides an overview and discuses how to:

- Access and share browser reports.
- Select a project.
- Search for definitions.
- View report details.
- View status summary.
- View compare results by definition type.

Understanding Browser Reports

Browser reports enable you to view compare results using your browser.

You use the Compare Report Viewer to view and navigate within the results. The Compare Report Viewer is a client-based HTML program through which you view the compare results, which are stored in XML. Having the compare results in HTML and XML enables you to:

- Share compare results online with colleagues that do not have Enterprise PeopleTools installed.
- Display results in custom formats using the data stored in the generated XML files.

By setting the Generate Browser Reports option, when you run the Compare and Report process, the system generates browser reports in addition to the workspace reports that automatically appear in the PeopleSoft Application Designer workspace.

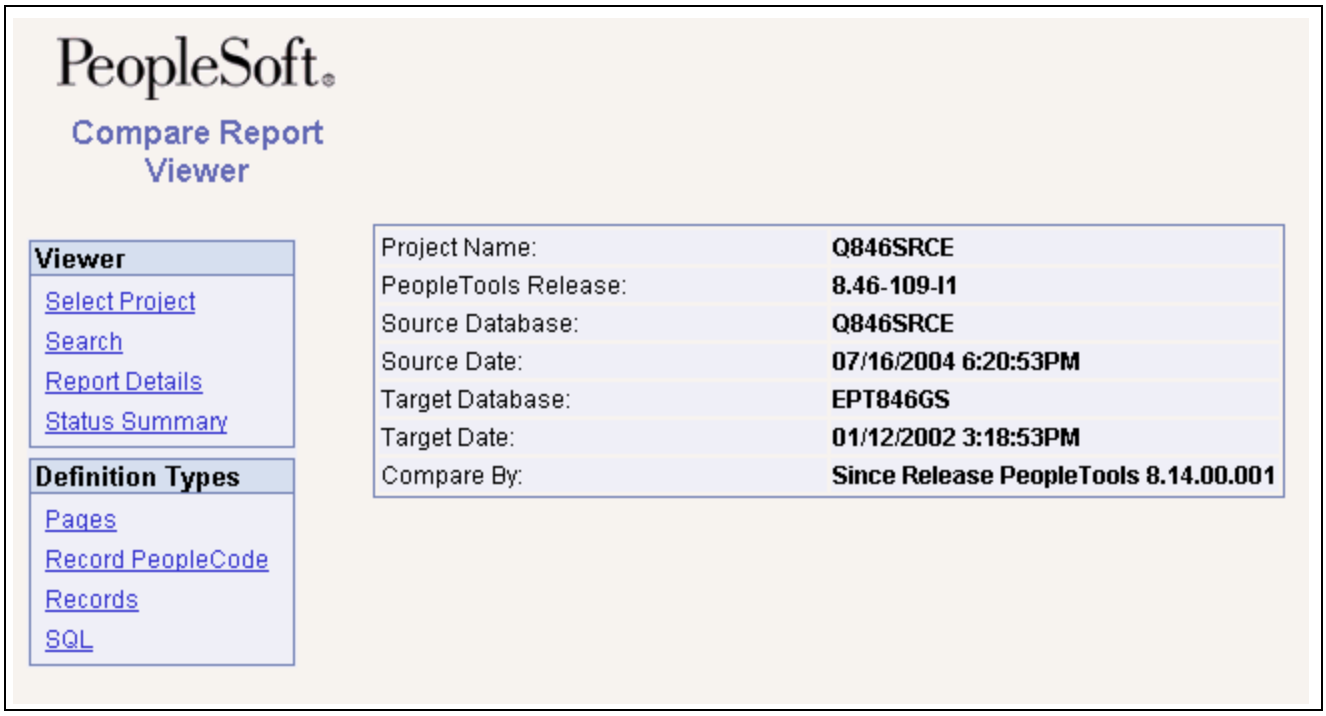
Accessing and Sharing Browser Reports

This section discusses how to:

- Access browser reports.
- Share browser reports.

Accessing Browser Reports

To access a browser report double-click on the line in the output window containing "Browser Compare Report Created."



PeopleSoft Compare Report Viewer

The Viewer menu contains menu options related to navigating within the report. The Definition Types menu enables you to dill down into the compare data for each definition type compared. The Definition Types menu only contains the definitions compared.

Sharing Browser Reports

PeopleSoft Application Designer writes the browser reports to a subdirectory named after the project name within the Report Output Directory specified on the General tab on the Options dialog. For example, if the Report Output Directory is c:\psreports and the project name is “PROJECT,” then the browser reports exist in c:\psreports\PROJECT. To view the compare results, double-click CompareViewer.html and then select the desired project name.

For each type of definition you compare, there is a subdirectory containing XML files storing the compare data for that definition type. For example, if you compared pages, the XML file containing compare data for the page compare exists in c:\psreports\PROJECT\Pages. These files can be used as source data for custom displays of the compare data. The PeopleSoft Compare Report Viewer uses these XML files along with various HTML and XSL files to present your compare data.

To share the browser reports, PeopleSoft recommends:

- Copying the entire high-level report output directory (containing all subdirectories, HTML, and XSL files) and copying it to a shared network drive.
- Compressing the entire directory and sending or posting individual copies as needed.

Selecting a Project

If you've run multiple compare reports on the same workstation, the PeopleSoft Compare Report Viewer enables you to switch between them easily.

To select a project:

1. Click Select Project.
2. Select the appropriate project in the Project Name list.

Searching for Definitions

You can search for specific definitions within the compare data.

To search for definitions:

1. Select Search.
2. From the Definition Type list, specify the appropriate definition type, such as *Records*.
3. In the Search Text edit box, enter the name or part the name of the definition you want to view.

   Note. You must enter at least three characters.

   Note. The search returns the parent and child definitions. For example, if you enter 'RecordA' that contains FieldB and Field C, the search returns RecordA, RecordA.FieldB, and RecordA.FieldC. Also, the search returns all definitions beginning with the search string entered.

4. Click Search.

Viewing Report Details

Click Report Details to view information related to the databases and/or files compared.

Project Name	The name of the project in the primary database.
PeopleTools Release	The PeopleTools release number on which the primary database runs.
Source Database/Source File	The name of the primary database or file depending on which compare option you selected.
Source Date	The date the primary database was last updated.
Target Database	The name of the target database.
Target Date	The date the secondary database was last updated.
Compare By	Displays the Comparison options selected on the Compare Options dialog box either the release or date . See Chapter 20, "Upgrading with PeopleSoft Application Designer," Setting Upgrade Options, page 452.

Viewing Status Summary

To view the status summary, click Status Summary.

The status summary is a high-level view of the compare results showing the definitions compared and the occurrence of differences. The summary table indicates whether the difference occurred because of additions, modifications, or deletions that were the result of activity at your site, or wether the difference occurred as a result of an addition or modification made by PeopleSoft. This summary can be useful for managers and executives who are scoping and budgeting for an upgrade.

Each of the columns in the status summary indicate the number of items found to differ by definition type. The columns represent the "Source" and "Target" status values set during the compare process. You can click on any of the cell values to view the items filtered for each particular status result.

The following table shows how each column in the status summary table equates to the status in the source and target locations.

Customer Added	Source: *Changed or *Unchanged (Custom Changed or Custom Unchanged) Target: Absent
Customer Modified	Source: *Changed or *Unchanged Target: Changed or Unchanged
Customer Deleted	Source: Absent Target: (Any)
PeopleSoft Added	Source: Changed or Unchanged Target: Absent
PeopleSoft Modified	Source: Changed or Unchanged Target: Changed or Unchanged

See Also

Chapter 21, “Comparing Source and Target Definitions,” Working with Definition Status, page 475

Viewing Compare Results by Definition Type

The Definition Types menu displays a menu item for each type of definition you compared. Click the link for a particular definition type to view the comparison results for each definition of that type.

Each definition compared appears in a grid containing identification information relevant to that definition type as well as the status of the definition in each location, the action, and the upgrade flag. The identification columns are links enabling you to drill down into the compare results of that definition so you can compare source and target values.

Expand All	Expands all definitions in the grid to reveal all associated attributes and child definitions.
Collapse All	Collapses the expanded grid so that only the list of definitions appear.
Show All Attributes	Click to show all attributes within a definition in Expand All mode after hiding an attribute or hiding all attributes.
Hide this/all Attribute	Hides the values of a specific attribute, or hides all attributes of a specific type.
Next, Previous, First, Last	Enables you to navigate between pages in a report containing multiple pages.

Items Per Page Shows the number of items appearing on a single, current page, and the total number of items in the project.

See Chapter 21, "Comparing Source and Target Definitions," Working with Definition Status, page 475.

Working with Definition Status

This section discusses how to:

- Determine definition status.
- Compare source status to target status.

Determining Definition Status

PeopleSoft Application Designer defines the status of a definition in the source and the target database.

Unknown Definition has not been compared. This is the default status for all definitions inserted manually into a project and the permanent status of all non-comparison definitions.

Absent The definition was found in the other database, but not in this one. When upgrading to a new PeopleSoft release, all new PeopleSoft definitions should have Absent status in the target database and all of your custom definitions should have Absent in the source database.

Changed The definition has been compared, the LASTUPDOPRID value is PPLSOFT, and the LASTUPDDTM value is greater than the date/time stamp of the comparison release database. This indicates that PeopleSoft modified the definition since the comparison release.

Unchanged The definition has been compared, the LASTUPDOPRID value is PPLSOFT, and the LASTUPDDTM value is less than or equal to the date/time stamp of the comparison release database. This indicates that PeopleSoft modified the definition prior to the comparison release.

***Changed** The definition has been compared, the LASTUPDOPRID value is *not* PPLSOFT, and the LASTUPDDTM value is greater than the date/time stamp of the comparison release database. This indicates that a customer modified the definition since the comparison release.

***Unchanged** The definition has been compared, the LASTUPDOPRID value is *not* PPLSOFT, and the LASTUPDDTM value is less than or equal to the date/time stamp of the comparison release database. This indicates that a customer modified the definition prior to the comparison release.

Same The definition has been compared and is defined the same in both databases. When a definition in one database has this status its counterpart in the other database will have the equivalent status. This status can be seen when performing a project comparison because with a project comparison the definitions are static; the project is not repopulated based on the comparison results. This status is not seen in a database comparison, because when doing so the project is populated only with definitions defined differently.

Note. Compare by release date is determined by finding the highest release label in common between the source and target databases. PSRELASE.RELEASELABEL column is searched on both source and target to find the latest common value between the two. Then PSRELEASE.PSRELEASEDTTM for that label is used for compare by release date for the source and target, respectively. You can override this value to set a different release label, or specific compare by date, on the Upgrade Options interface. Only common release labels (found on both source and target PSRELEASE table) can be used.

Comparing Source Status to Target Status

The following table summarizes the possible status, action, and upgrade values that could be applied to a single definition during the comparison process.

Source Status	Target Status	Action	Other Action	PeopleSoft Vanilla	Keep Customizations
Absent	Changed or Unchanged	DELETE	None	True	True
Absent	*Changed or *Unchanged	DELETE	None	False	False
Changed	Absent	COPY	None	True	True
Changed	Changed or Unchanged	COPY	COPYPROP	True	True
Changed	*Changed or *Unchanged	COPY	COPYPROP	True	False
Unchanged	Absent	COPY	None	True	True
Unchanged	Changed	COPY	COPYPROP	False	False
Unchanged	Unchanged	COPY	COPYPROP	True	True
Unchanged	*Changed or *Unchanged	COPY	COPYPROP	True	False
*Changed	Absent	COPY	None	True	True
*Changed	Changed or Unchanged	COPY	COPYPROP	False	True
*Changed	*Changed or *Unchanged	COPY	COPYPROP	True	True
*Unchanged	Absent	COPY	None	True	True
*Unchanged	Changed or Unchanged	COPY	COPYPROP	False	True
*Unchanged	*Changed	COPY	COPYPROP	False	False
*Unchanged	*Unchanged	COPY	COPYPROP	True	True

Source Status	Target Status	Action	Other Action	PeopleSoft Vanilla	Keep Customizations
Absent	Absent	None	None	False	False
Same	Same	None	None	False	False
Unkown	Unkown	None	None	False	False

The Action, Other Action, PeopleSoft Vanilla, and Keep Customizations are described in the following sections.

Action

Describes the upgrade action set for an item.

DELETE (DEL) The item will be deleted from the target database during the copy.

COPY The item will be copied to the target database during the copy.

Other Action

Describes the action when the system finds differences in record or field definitions.

Note. Used for record and field definitions only.

COPYPROP Copy properties of the item only. That is, for records, only copy the record definition, and not record fields. For fields, copy field definition only, and not the field labels.

NONE Use the default action instead (DELETE or COPY).

PeopleSoft Vanilla

Describes the setting of the Upgrade flag for the project item when performing the Vanilla Compare type (set on Upgrade Options).

True Upgrade flag is ON.

False Upgrade flag is OFF. You must override this value in order to have Copy perform the action set in the Action column.

Keep Customization

Describes the setting of the Upgrade flag for the project item when performing the Keep Customizations Compare type (set on Upgrade Options).

True Upgrade flag is ON.

False Upgrade flag is OFF. You must override this value in order to have Copy perform the action set in the Action column.

Comparing Page Definitions Visually

This section discusses how to:

- Run a visual compare for pages.
- Work with the page compare results.

Running a Visual Compare for Pages

To launch a visual compare for pages:

1. Open the upgrade project, and make sure that you are in the Upgrade view.
2. Open the Pages window within the upgrade project.
3. Select the page(s) that you want to compare.
4. Right-click on the Pages window to display the context menu.
5. Select Visual Compare, and then select one of these options:
   - From Database: select if you are comparing the current definitions with definitions in another database. After doing so, sign on to the appropriate database using the PeopleSoft Signon window.
   - From File: select if you are comparing the current definitions with definitions in a file. After doing so, navigate to the appropriate file using the Visual Compare from File: Select Project dialog box.

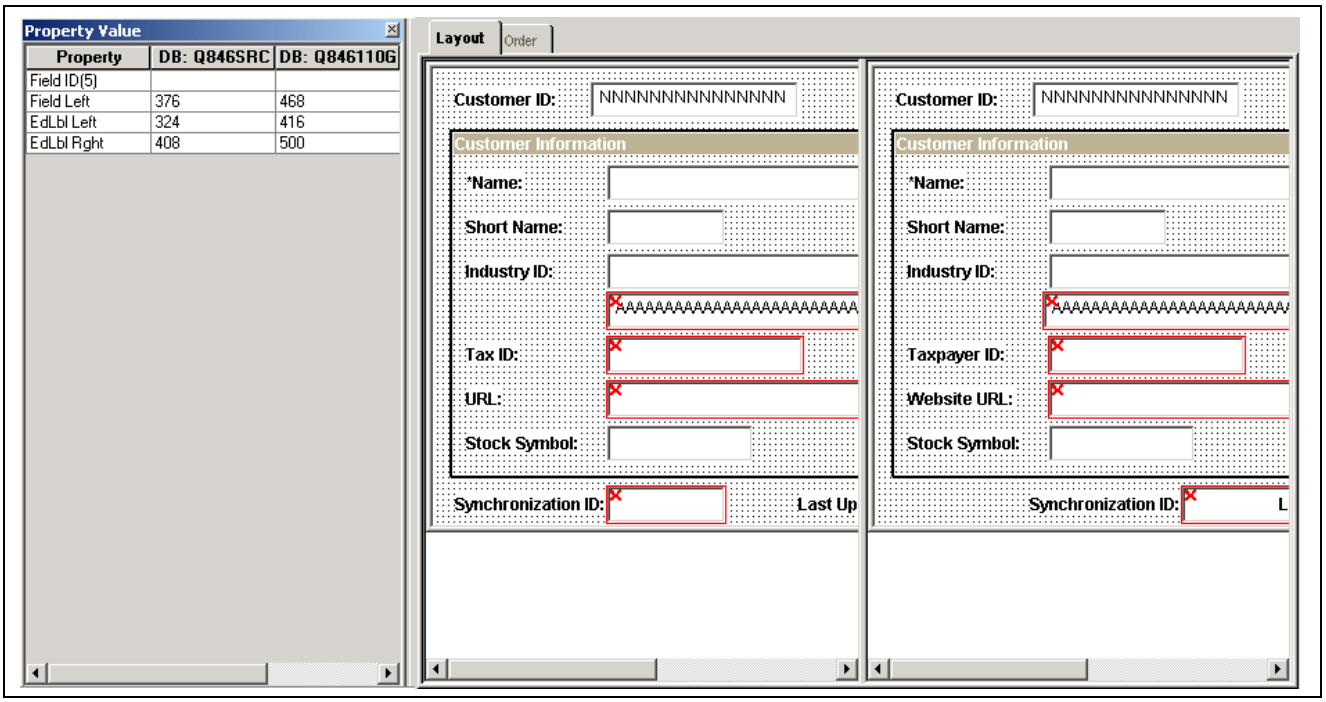
Working with the Page Compare Results

This section discusses how to:

- Use the Visual Compare for pages interface.
- Determine differences between page definitions.
- Use the Property Value panel.

Using the Visual Compare for Pages Interface

After successfully connecting to the database or file, the interface appears similar to the following example.



Page definition Visual Compare interface

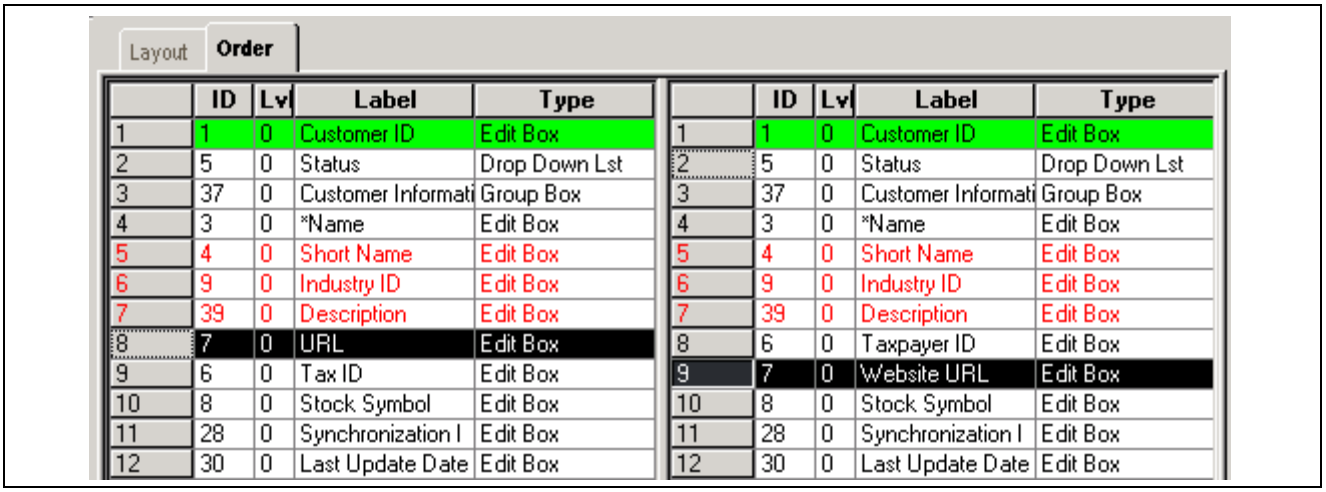
The PeopleSoft Application Designer displays a Property Value panel to show details about every difference or each changed page control. To the right, each page is displayed side-by-side enabling the visual comparison.

Note. The pages appear in a read-only state. You cannot make any changes to either page definition from the Visual Compare interface.

Determining Differences between Page Definitions

When there are differences between source and target page definitions, the system illustrates this in the Layout tab by surrounding the page field with a red box with a red 'X' at the top, left-hand corner. The field in which you have placed your cursor has a dotted line surrounding it.

On the Order tab, page controls that have differences are highlighted in red. Also, if you select a page control, you can see easily if its order is different as the highlighted areas do not match.



Page definition Visual Compare: Order tab

Using the Property Value Panel

The Property Value panel enables you to view the details regarding the differences between the source and target page controls. You can move the panel and dock it to the desired locations.

By placing your cursor into each page control surrounded by a red box, the differences in properties between the source and target definition for that particular page control appear on the Property Value panel. Source properties appear on the left and target properties appear on the right. For page controls that are identical between the source and target, nothing appears in the Property Value panel. You can also use the TAB key to move from field to field.

If needed you can access the page definition properties by selecting File, Object Properties or clicking ALT + ENTER.

Comparing Definitions for Upgrade Using the Command Line

Use the same command line syntax as identified previously to compare definitions.

See Chapter 18, "Using Command Line Parameters," Understanding PeopleSoft Application Designer Command Line Parameters, page 405.

Use the command line statement for an Upgrade Compare process to:

- Connect to the source database.
- Connect to the target database.
- Perform a project or database compare (based on parameters).
- Create compare reports in the specified output directory.

Available Parameters

This table lists all of the available parameters for the upgrade compare statement:

Parameter	Description	Error Handling
-HIDE	Use to hide the PeopleSoft Application Designer interface. Always use this parameter when performing a command line Compare process.	Required for all project command line processes.

Parameter	Description	Error Handling
-CT	Source database type. Enter the type of source database to which you're connecting (for example, ORACLE, SYBASE, and so on). Choose from the Database Type Selection table. See Appendix B, "Referencing Selections for Command Line Parameters," Database Type Selections, page 519.	Required. If the process stops, error messages are written to the log file (if the log file name parameter is specified).
-CS	Source server name. Enter the name of the source database server for the database to which you're connecting.	Required for some database types. If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-CD	Source database name. Enter the name of the source database to which you are connecting, as you would enter it into the PeopleSoft Login dialog box.	Required. If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-CO	Source user ID. Enter the PeopleSoft user ID to use to sign in to source database.	Required. If you do not supply this parameter, the user ID is taken from the registry. If it fails, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-CP	Source user password. Enter the password for the specified user ID for source database.	Required. If you do not supply this parameter, the PeopleSoft Login dialog box prompts the user to enter the valid user password. If the password fails, the process tops error messages are written to the log file (if the log file name parameter is specified).
-TS	Target server name. Enter the name of the target database server for the database to which you're connecting.	Required for some database types. If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).

Parameter	Description	Error Handling
-TD	Target database name. Enter the name of the target database to which you are connecting, as you would enter it into the PeopleSoft Login dialog box.	Required. If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-TO	Target user ID. Enter the PeopleSoft user ID to use to sign in to the target database.	Required. If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-TP	Target user password. Enter the password for the specified user ID for the target database.	Required. If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-LF	Log file name. Enter the name of the file in which error messages are logged during the command line Upgrade Compare process.	Not required. If you do not supply this parameter, a file is created with the specified path and name, and all of the error messages are written to that file.
-PJM	Source project name. Enter the name of the project that is to be compared from the source database to the target database. This project should be available in the source database before starting the command line Upgrade Compare process to the target database.	Required. This is the main parameter that is used internally by the executable file to identify an upgrade compare. If you do not supply this parameter and if you supply all of the source database login parameters, this executable file starts the application.
-CL	Commit limit Enter the Commit limit (a number greater than 0) for the number of objects to be copied or compared before a commit is issued. Example: -CL 150	Not required. The default is 50.
-AF	Audit flags on records (0 or 1). Enter 1 to keep the target audit flags as is. Enter 0 to take them from the source database. Example: -AF 0	Not required. The default is 1.

Parameter	Description	Error Handling
-PPL	Portal registry structures permission list references. Enter 1 to keep the target portal registry permission list references as is. Enter 0 to take them from the source database. Example: -PPL 0	Not required. The default is 1.
-DDL	DDL on records and indexes (0 or 1). Enter 1 to keep the target database DDL flags as is. Enter 0 to take them from the source database. When keeping the target database DDL, no differences are shown on the compare report. Example: -DDL 0	Not required. The default is 1.
-CFD	Chartfield PageField Display Size (0 or 1). Enter 1 to keep the target database chartfield pagefield display size attributes. Enter 0 to take them from the source database. When keeping target database attributes, no differences are shown on the compare report for these attributes. Example -CFD 0	Not required. The default is 1.
-CFF	Chartfield Field Format (0 or 1). Enter 1 to keep the target database chartfield field format attributes. Enter 0 to take them from the source database. When keeping target attributes, no differences are shown on the compare report for these attributes. Example: -CFF 0	Not required. The default is 1.
-CMT	Compare type: project (1) or database (0). Example: -CMT 0	Not required. The default is 1.
-TGT	Target Orientation: PeopleSoft vanilla (0) or keep personalization (1).	Not required. The default is 0.

Parameter	Description	Error Handling
-CBY	Comparison By: To compare by release, enter REL, followed by the release number. To compare by date, enter DAT, followed by a date in the following format: YYYY-MM-DD-HH.MM.SS.sss. Release numbers are included in the Available Release Numbers list. Example: 2002-02-01-12.00.00.000	Not required. The default is REL.
-ROD	Report Output Directory. Enter the report output directory location. Example-ROD c:\temp\upgreports	Not required. If you do not supply this parameter, the system uses the Report Output Directory value from the Tools, Options General tab.
-OBJ	Definition type to compare List the definition types to compare as numbers with commas as delimiters, or enter All. Example: -OBJ 0,1 See Appendix B, "Referencing Selections for Command Line Parameters," Definition Type Selections, page 519.	Not required. If you do not supply this parameter, then all of the definitions are compared by default. For a project comparison, this refers to all definitions in the project. For a database comparison, this includes all definitions in the database. For example, If you choose records and indexes alone for copying, use the appropriate numbers for records and indexes from the Definition Type Selection table. For records, the number is 0, and for the indexes, the number is 1.

Parameter	Description	Error Handling
-LNG	Compare languages. List the language codes with commas as delimiters, or enter ALL to select all available languages. For new languages that are not listed in the Language Selection table, use the xlat short name from the LANGUAGE_CD field in the translate table. For example, if you choose English and Spanish for comparing, enter the appropriate codes for English and Spanish from the Language Selection table. For English, the code is ENG, and for Spanish, the code is ESP. Example: -LNG ENG,ESP See Appendix B, "Referencing Selections for Command Line Parameters," Language Selections, page 524.	Not required. If you do not supply this parameter, then the languages that are already set in the project are used as the default. The COMMON language code refers to nonlanguage attributes that are not translated. Translated attributes can be compared separately from nontranslated attributes. If you do not specify the COMMON code when using -LNG, you compare only the translated language attributes. Changing languages on the command line changes the values that are stored with the project definition. Subsequent Copy and Compare processes on the modified project use the new values unless they are explicitly changed again in the upgrade options.
-CMXML	Generate browser reports (0 or 1). This command enables you to enable the option of generating browser reports written to your report output directory. This is equivalent to setting the Generate Browser Reports options on the Report Options tab on the Upgrade Options dialog box. Enter 1 to enable this option, and enter 0 to disable this option. Example: -CMXML 1 See Chapter 21, "Comparing Source and Target Definitions," Working with Browser Reports, page 471.	Not required. The default is 0.

Example: Running an Upgrade Compare Process

Use this example as a guide for running an Upgrade Compare process:

- Run a database Compare process against the source Microsoft SQL Server database, PTDMO, and the target database, PTTST.
- Log process and error messages to c:\temp\compare.log.
- Set the commit limit to 150.
- Show the audit flag and DDL differences between databases.

- Compare records, indexes, pages, queries, and process definitions.
- Compare only English and Spanish translations.
- Set the database compare type.
- Set the target orientation to keep the customizations.
- Compare by release 8.40.00.000.
- Generate compare reports to the c:\temp\upgreports directory.

PSIDE.EXE −HIDE -CT MICROSFT -CD PTDMO -CO PTDMO -CP PTDMO -PJM PPLTOOLS -TD PTTST -TO PTDMO -TP PTDMO -QUIET -LF C:\TEMP\COMPARE.LOG -CL 150 -AF 0 -DDL 0 -OBJ 0,1,5,10,20 -LNG ENG, ESP -CMT 0 -TGT 1 -CBY REL Core 8.40.00.000 -ROD C:\TEMP\UPGREPORTS

CHAPTER 22

Working with Text Definitions During Upgrades

This chapter provides an over view and discusses how to:

- Compare and Merge text definitions.
- Set merge properties.
- Run a Project PeopleCode diff/merge.

Understanding Comparing Text Definitions

Text definitions are those definitions that are comprised of text, or code. They are:

- PeopleCode
- SQL
- HTML
- XSLT

PeopleSoft Application Designer enables you to compare the same text definition shared between two databases (or one database and a file) visually. Similar to the Visual Compare interface for pages, you can view the definitions side-by-side while the system detects each difference and clearly indicates the differences using visual queues.

Note. The merge process and interface is identical for all text definitions.

Comparing and Merging Text Definitions

This section discusses how to:

- Run the merge process.
- Use the merge interface.

Running the Merge Process

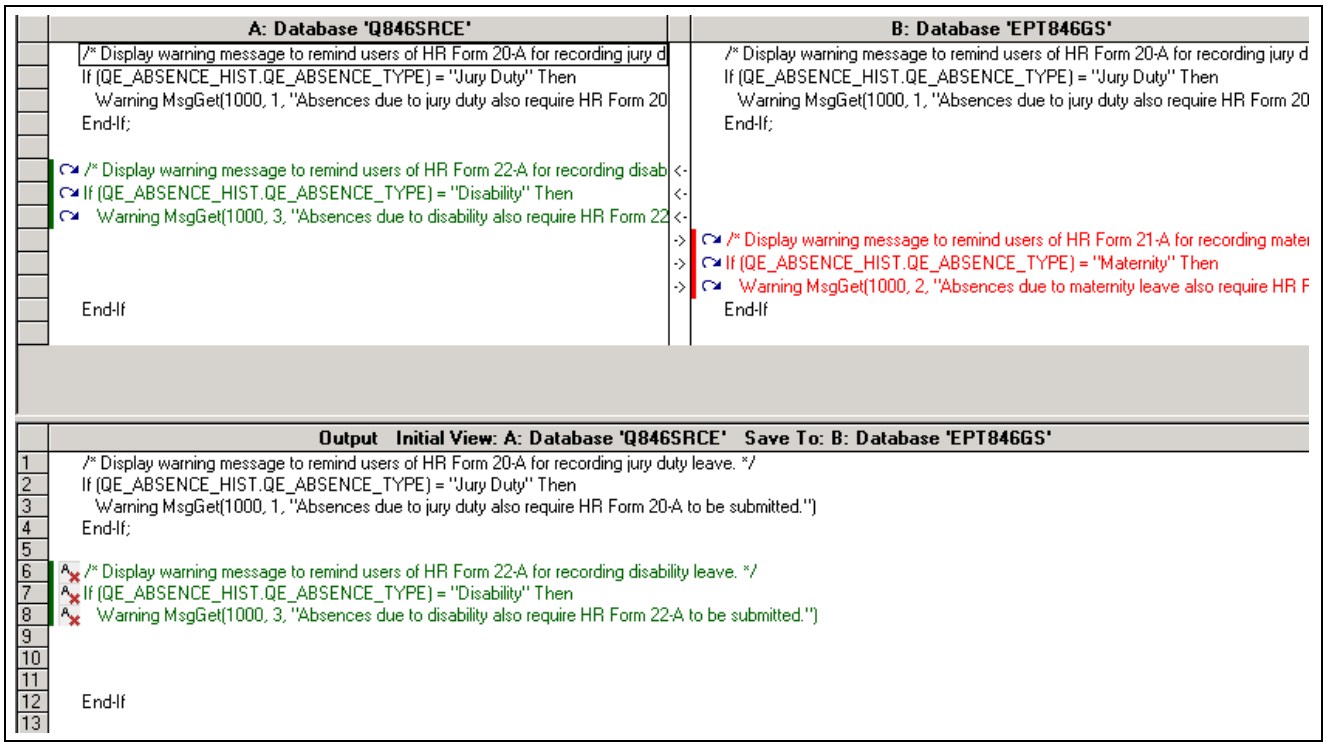
To run the merge process:

1. Launch the Upgrade Definition Type window for a text definition.
2. Select the definition you want to compare and merge.
3. Right-click, and select Merge Definition.

4. Select one of the following:
   - Database. Select this option if the definition to which you are comparing exists in another database. The system prompts you to sign on to the other database.
   - File. Select this option if the definition to which you are comparing exists in a project file. The system prompts you to navigate to the project file.
5. After selecting what you want to be the result of the final merge, click Save.

Using the Merge Interface

The merge interface displays three windows.



Merge interface

Working with the A: and B: Windows

The A: window displays the definition existing in the database to which you are currently signed on. Code that appears only in this definition appear in the color specified in the Merge Properties for A:.

The label of the A: window adheres to the following syntax:

A: Database ’<Database Name>’

The B: window displays the definition existing in the database or file to which you are comparing the definition existing in database A:. Code that appears only in this definition appear in the color specified in the Merge Properties for B:.

The label of the B: window adheres to the following syntax:

B: <Database/File> ’<Database/File Name>’

Note. In the context of the merge feature, there is not necessarily a concept of "source" and "target." Assigning an "A" and "B" value is used only to distinguish the different locations of definitions.

Working with the Output Window

The output window displays what will be the finished result of the merge after clicking Save.

Initially either the A: or B: definition view will appear, depending on what you selected as the Initial Output View in the Merge Properties dialog. The Initial View window label displays the value you selected.

The output window label also displays the Save To value, which represents the location in which the merged results will be saved.

You can perform simple editing of a line in a text definition appearing in the output window, but you cannot add new lines.

Note. The Merge tab of the PeopleSoft Application Designer output window, displays any PeopleCode compile syntax errors. The merged result cannot be saved if there are syntax errors.

Note. While there is an output window for the merge feature, the output window for the PeopleSoft Application Designer is also visible.

Note. PeopleSoft Application Designer does not provide a method for you to track the change history of a text definition. Developers must keep track of the changes made during the merge process.

Moving Lines of Code into the Output Window

Click the arrow button to insert lines of code from window A: or B: into the output window. This button only appears next to lines of code in the A: and B: windows that are unique to that definition.

Click this button to remove from the output window lines of code that exist only in the A: definition.

Click this button to remove from the output window lines of code that exist only in the B: definition.

Use the Previous Difference and Next Difference buttons to navigate quickly between the differences flagged within the active window.

Saving Merged PeopleCode

After you are satisfied with PeopleCode in the output window that you have merged, click Save to save the changes to the database specified as the Save Output Destination.

After you have successfully saved the merged PeopleCode, to view the merged PeopleCode as it appears in the Saved Output Destination, click the line in the output window indicating that the PeopleCode was successfully saved.

Working with Merge Properties

This section discusses how to:

- Access the Merge Properties dialog box.
- View and set merge properties.

Accessing the Merge Properties Dialog Box

You access the Merge Properties dialog box after first running the merge process. Then you select File, Definition Properties.

If you change any properties, and click OK, PeopleSoft Application Designer applies those to the current merge results. Your merge property changes are applied to all future merge results.

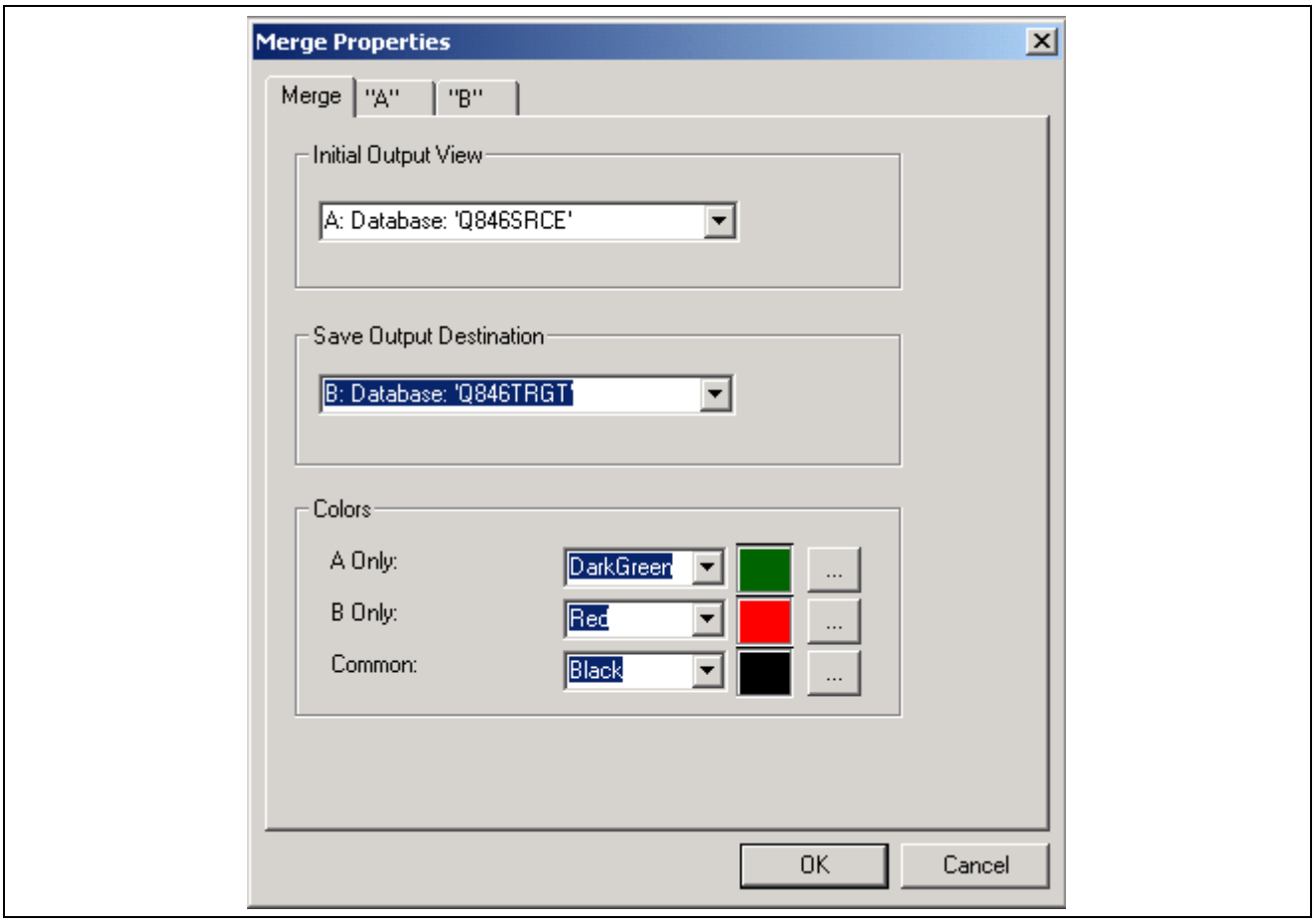
Viewing and Setting Merge Properties

This section discusses how to:

- Set Merge properties.
- View "A" and "B" properties.

Setting Merge Properties

Access the Merge Properties dialog box and select the Merge tab.



Merge Properties dialog box: Merge tab

Initial Output View Select the definition you want to appear in the output window of the compare interface. Typically, you set the Initial Output View to contain the definition that would have the most modifications to accept. Either "A" or "B" can be selected.

Save Output Destination Select the location where the system saves the contents of the merged output window. The location you select appears on the title bar of the output window.

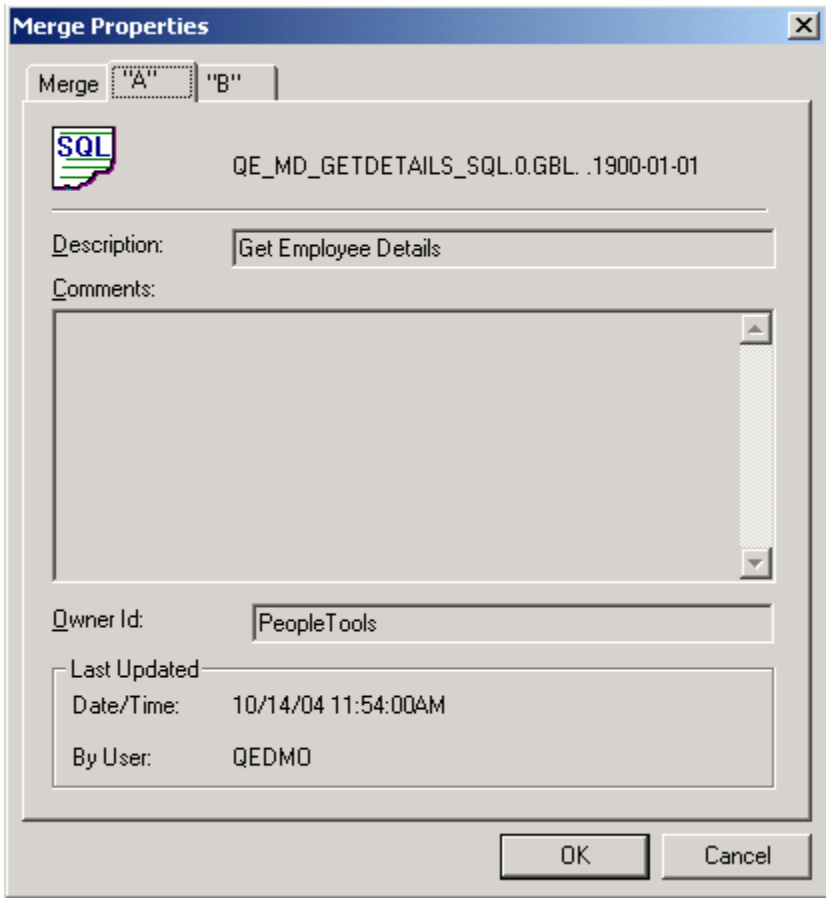
Note. You cannot save the output to a file.

Colors Specify the colors that the system should associate with each definition to enhance readability.

- A Only: Select the color to attribute to text that appears only in definition A.
- B Only: Select the color to attribute to text that appears only in definition B.
- Common: Select the color to attribute to text that appears in definition A and B.

View "A" and "B" Properties

Access the Merge Properties dialog box and select either the "A" or "B" tab.



Merge Properties dialog box: ”A” tab

The "A" and "B" tabs display the properties for the current A and B definitions, respectively. These settings are read-only.

Note. PeopleCode definitions do not possess description or Owner ID properties, so these properties appear blank for PeopleCode definitions.

Running a Project PeopleCode Diff/Merge

This section provides an overview and discusses how to .

- Run a Project PeopleCode Diff/Merge.
- Use the Project PeopleCode Diff/Merge interface.

Understanding the Project PeopleCode Diff/Merge

Running a Project PeopleCode Diff/Merge enables you to compare all the PeopleCode definitions in your upgrade project with another database or file simultaneously. If you have numerous PeopleCode definitions to compare and merge, this feature can save you time.

Note. The Project PeopleCode Diff/Merge feature is only available for PeopleCode definitions. For SQL, HTML, and XSLT definitions, you need to merge each definition separately.

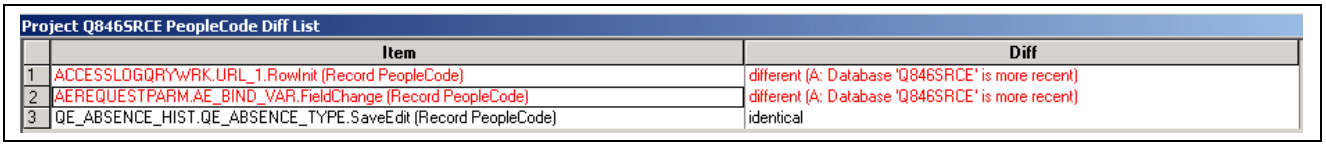
Running a Project PeopleCode Diff/Merge

To run a Project PeopleCode Diff/Merge:

1. Select Tools, Diff/Merge Project PeopleCode.
2. Select either:
   - Database: select this option if you are comparing definitions with another database. The system will prompt you to sign on to the appropriate database.
   - File: select this option if you are comparing definitions existing in a file. The system will prompt you to navigate to the appropriate file.

Using the Project PeopleCode Diff/Merge

After running the Project PeopleCode Diff/Merge process a blank merge interface appears and the PeopleCode Diff List window appears at the bottom of the Application Designer workspace.



Project Q846SRCE PeopleCode Diff List

	Item	Diff
1	ACCESSLOGQRYWRK.URL_1.RowInit (Record PeopleCode)	different (A: Database 'Q846SRCE' is more recent)
2	AEREQUESTPARM.AE_BIND_VAR.FieldChange (Record PeopleCode)	different (A: Database 'Q846SRCE' is more recent)
3	QE_ABSENCE_HIST.QE_ABSENCE_TYPE.SaveEdit (Record PeopleCode)	identical

PeopleCode Diff List

The Item column contains the reference to every PeopleCode definition in the project.

The Diff column indicates whether the comparison between the two definitions uncovered any differences. If there is no difference between the two definitions, the word “identical” appears in the Diff column. If there are differences between the two definitions, the word “different” appears in the Diff column, and indicates which definition is more recent. If the definition appears in only one location, the Diff column text will read "A only" or "B only.” If the definition is not present in either location the Diff column text will read "Absent in both.”

When differences are found, the system highlights the row in red also. A and B only lines appear in blue.

Double-click a row in the PeopleCode Diff List to populate the merge interface above and view the differences between the two definitions.

See Also

Chapter 22, “Working with Text Definitions During Upgrades,” Using the Merge Interface, page 488

Filtering the Project PeopleCode Diff List

When working with numerous PeopleCode definitions, for ease of use you may need to reduce the number of rows appearing in the diff list. To filter what appears in the diff list, select or deselect these items from the View menu.

Show Identical Items	Show items that are identical in both data sources.
Show A-Only Items	Show items that exist only in the A: data source.
Show B-Only Items	Show items that exist only in B: data source.
Show Different Items	Show items where a difference is found between the two data sources.
Show Absent Items	Show items where a definition is absent in either data source.

CHAPTER 23

Copying Projects and Definitions

This section contains an overview and discusses how to:

- Review upgrade settings.
- Copy projects.
- Copy Definitions for upgrade using the command line.
- Stamp the target database.
- Reuse projects.

Reviewing Upgrade Settings

After your project is populated with definitions and has been compared (if applicable), review it and check the upgrade settings before copying it. To reduce the number of definitions through which you must search, filter out the information that you don't need to see by setting your view options. Afterwards, you can adjust the default upgrade settings.

This section discusses how to:

- Select view options.
- Select custom view options.
- Override upgrade defaults.
- Record upgrade settings.

Selecting View Options

Filter your view of the upgrade definition window by selecting one of the options in the View, Filtering menu. These same options are available in the upgrade pop-up menu in the Filtering menu. The options are:

No Filtering	Select to display all definitions.
Tagged for Upgrade	Select to display only definitions with the Upgrade check box selected.
Not Tagged for Upgrade	Select to display only definitions with the Upgrade check box cleared.
Done	Select to display only definitions with the Done check box selected.
Not Done	Select to display only definitions with the Done check box cleared.
Custom Filtering	Select to open a dialog box in which you can specify which definition status combinations to display.

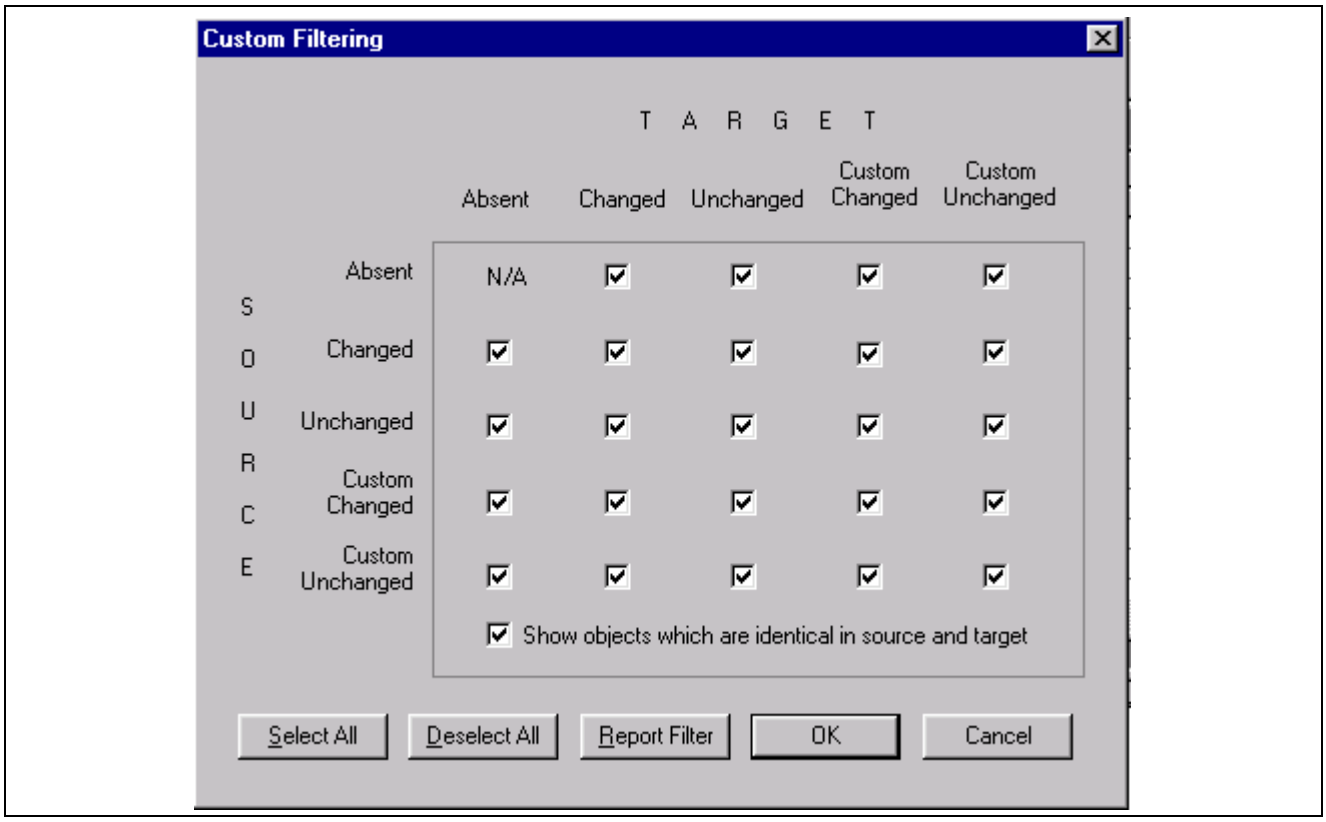
When you apply a filter, the filter type appears in the bar above the upgrade columns.

Selecting Custom View Settings

Select View, Filtering, Custom Filtering to access the Custom Filtering dialog box, which includes a matrix that is similar to that found on the Report Filters tab in the Project Properties dialog box.

Custom Filtering

Select the definition status combinations to display in the upgrade definition window.



Custom Filtering dialog box

Report Filter Click to set these options to be the same as your settings on the Report Filter tab in the Project Properties dialog box.

Show objects which are identical in source and target Select to display definitions with a status combination of Same and Same. This status combination is possible only if you performed a project comparison and if definitions in the project were defined the same way in the source and target. You can never have a Same and Same status combination for definition types on which you performed a database comparison.

Overriding Upgrade Defaults

After reviewing your project and its compare reports, you can override the default upgrade column values for any definitions by changing the Upgrade and Action values.

For example, to preserve a definition that PeopleSoft Application Designer plans to delete from the target (Action is *Delete* and the Upgrade check box is selected) change the Upgrade value. You can also remove a definition from the project. This does not delete the definition from the database.

Overriding defaults helps if you want to propagate deletions from one database to another.

This section discusses how to:

- Specify whether action is taken on a single definition.
- Specify whether action is taken on a group of definitions.
- Specify which action is performed on a definition during a copy.
- Remove a definition from a project.
- Select and tag definitions for copying or deleting.

Specifying Whether Action is Taken on a Single Definition

To specify whether action is taken on a single definition, select or clear the definition's Upgrade check box.

When the Upgrade check box is selected, the displayed action is performed when you copy the project. If the check box is cleared, no action is taken.

Specifying Whether Action is Taken on a Group of Definitions

To specify whether an action is taken on a group of definitions:

1. Select a group of definitions.

   Use the CTRL and SHIFT keys, or select all definitions in the upgrade definition window by clicking the top, left-hand cell of the grid.
2. Right-click one of the definitions and select one of these options:
   - Tag for Upgrade

     Select to select the Upgrade check boxes for all of the selected definitions.
   - Untag for Upgrade

     Select to clear the Upgrade check boxes for all of the selected definitions.

Specifying Which Action is Performed on a Definition During a Copy

To specify which action is performed on a definition during a copy:

1. Click the Action cell of the definition.

   This activates a drop-down list box in the cell.
2. Select *Copy* or *Delete* from the drop-down list box.

Remove a Definition From a Project

To remove a definition from a project, select the definition and press DEL.

Selecting and Tagging Definitions for Copying or Deleting

To select and tag definitions for copying or deleting:

1. Select the definition rows.
2. Right-click one of the definitions and select Set Action.

3. Select *Copy* or *Delete.*

   Your selected definition reflects this change in the Action column. When you upgrade the project, it is copied or deleted from the target database.

   You can also select *Set Action for Project* to tag all of the definitions in a project for a selected action.

Recording Upgrade Settings

After you change the default upgrade settings, save the project. You might also want to print a hard-copy record of the project in its current state. You can rerun the Compare process (as a project compare) to regenerate new upgrade reports, or you can print the contents of the upgrade definition window to save a high-level view of the project.

This section discusses how to:

- Regenerate upgrade reports.
- Print the contents of the upgrade definition window.

Regenerating Upgrade Reports

To regenerate upgrade reports:

1. Set up the reporting filter.
2. Perform a project comparison.

   A project comparison compares only the definitions in the project, not the action and upgrade settings. Your project contents are not altered unless record fields have changed in the target database, in which case the corresponding changes are made in the project.

   This comparison generates new upgrade reports that reflect the configured action and upgrade settings.

Printing the Contents of the Upgrade Definition Window

To print the contents of the upgrade definition window:

1. Open the upgrade definition with the appropriate definition type displayed.

   To do this, select the appropriate folder in the upgrade view.
2. Select File, Print.

   The print job is automatically in landscape format.

Copying Projects

This section provides an overview of project copy options and discusses how to:

- Copy projects to a target database.
- Copy a project to a file.
- Copy a project from a file.

Note. When upgrading from one database to another some migrated images may not display in a browser. To remedy this situation manually clear the cache files in your browser after the project is copied. For more information about clearing the browser cache, refer to the documentation for your internet browser version.

The Copy Project from File and Copy to Project to File menu items are available only to users who have upgrade security or read-only access to the database. If these menu items are not available to you, contact your system administrator to update your security profile.

Understanding Project Copy Options

There are two ways to copy projects to another database:

- Copying a source project directly to a target database to which you are connected.
- Copying a source project to a file and then copying the file to a target database.

  This feature provides more flexibility in moving PeopleTools definitions and projects across databases. To move definitions to another database, you copy definitions to a target directory and files instead of another database. The directory and files can be local or reside on a file server. These files then become the source when copying a project from a file. Note, however, that not all definition types that are supported by the Copy to Database process are supported by the Copy to/from File processes. Those that are not supported must be migrated using Copy to Database.

  See Chapter 20, "Upgrading with PeopleSoft Application Designer," Definition Types That You Can Upgrade, page 444.

Copying Projects to a Target Database

Follow this procedure to copy a project to a target database.

To copy a project:

1. (Optional) Lock target database definitions.

   Before PeopleSoft Application Designer replaces or deletes a definition in the target database, it checks to determine whether the definition has a change control lock applied. If so, PeopleSoft Application Designer takes action on that definition if it has been locked by the same user ID that is performing the copy. Consequently, the speed of a copy might be slow because every definition to be deleted or replaced in the target must be checked.

   You can avoid the performance degradation by locking all of the database definitions in the target database by using the Change Control Administrator dialog box. This sets a flag telling PeopleSoft Application Designer not to check the lock status of every definition. When all target definitions are locked, the copy is faster.
2. Deactivate all system tracing.
3. Select Tools, Copy Project, To Database from the PeopleSoft Application Designer toolbar.

   The Target Signon dialog box appears, prompting you to sign in to a target database.
4. Sign in to the target database as you do with any PeopleSoft database.

   The Copy dialog box appears.
5. In the Copy dialog box, specify the types of definitions to copy and start the Copy process.
6. (Optional) Select the Reset Done Flags check box.

Any definition with a selected Done check box is not copied. The first time that you copy a project, all Done check boxes are cleared. When you're repeating a copy due to problems found the first time, however, you might want to clear the Done check boxes of definitions that were copied incorrectly. Clear all project Done check boxes from the Copy dialog box by selecting Reset Done Flags. This option is selected by default.

7. (Optional) Select the Copy Project Definition check box.

   If you select this check box, the project definition is copied to the target database.

8. Select the definition types to copy.

   Only the definition types that exist in the project are displayed in the Object Type(s) list. To select all types, click Select All. You can also copy one definition type at a time (repeat this procedure each time).

   Note. If you copy definition types individually, copy them in the order in which they're presented in the dialog box. For instance, start with records, then indexes, and so on.

9. Click Copy.

   As the Copy process runs, a progress indicator appears on the status bar of the dialog box, displaying the definition type, the total number of definitions to copy, and the number copied so far.

10. After the copy completes, check for messages.

    If you find any problems, correct them and repeat the copy.

11. Stamp the database.

    To track the history of the configuration upgrades, PeopleSoft recommends that you stamp the target database after each copy.

Copying a Project to a File

To copy a project to a file:

1. Open the project that you want to copy.
2. Select Tools, Copy Project, To File.

   The Copy File dialog box appears.

3. Select the objects that you want to copy, and enter the output directory.
4. Click Copy.

   If the file already exists, a confirmation dialog box appears asking if you want to overwrite the existing project. Select Yes to continue and overwrite project or No to cancel the Copy process.

   The Progress dialog box shows the progress of the Copy process as it copies each definition in the project to the specified directory. If you click the Cancel button, the system cancels the Copy process. Any files that were created by the Copy process are removed from the specified directory. To continue copying a project, restart the Copy process if it was canceled.

   When the Copy process completes successfully, a directory with the same name as the current project is created under the specified export directory. This directory contains the PeopleTools definitions and project definition in XML file format.

Copying a Project From a File

The Copy Project From File command in the Tools menu imports PeopleTools definitions and the project definition from a file that was previously copied by using the Copy To File feature.

This section discusses how to:

- Track fixed incidents.
- Copy a project that does not exist in the database from a file.
- Copy a project that does exist in the database from a file.

Tracking Fixed Incidents

When PeopleSoft delivers a software update, it is in the form of a change project file. This project file usually includes enhancements or updates that fix incidents. You can view incident IDs and their dependencies before you copy the file to the target database.

To view incident IDs that were included in the project file:

1. Open the maintenance project that you are planning to copy to the database.
2. Click the Project Properties button.
3. Select the Update IDs tab.

   This tab contains a list of update IDs that were fixed and applied to the software.
4. Select the Pre-Requisites tab.

   This tab contains a list of update IDs that are dependent on other fixes that are being applied. These are validated against the target database when you copy the project. If a fix in the Pre-Requisites list has not been applied, a message appears, indicating that the target database is missing a dependency. The only way to have the system allow you to copy projects that have dependencies that are not applied is to select the Override Pre-Requisites check box.

Note. We can track applied update ID fixes only through the Copy Project From File command in the Tools menu. Therefore, every update ID fix that PeopleSoft delivers is in a change project that must be copied to your database.

Copying From a File a Project That Does Not Exist in the Database

To copy a project from a file:

1. Select Tools, Copy Project, From File.

   The Copy From File: Select Project dialog box appears.
2. Browse to locate the project file or select the file from the Projects list.

Note. You can use the Open button to open folders while browsing. It does not open the project file and begin the copy process.

   You can copy only one project from a file at a time.
3. Select the project from the projects list by clicking Select or double clicking the project name.

   The Copy From File dialog box appears.
4. Select whether to use the project definition from the file or the database, and click OK.
5. Select the definition types to copy.

   The Definition Type(s) list shows the definition types that have been exported and are available to be copied into the database.
6. Select the Override Pre-Requisites check box if required.

You can select the Override Pre-Requisites check box if you want the system not to check for project prerequisites and apply the project regardless of prerequisites that have not been applied.

7. Click Copy.

   There are two phases to the Import process: content on the XML file is written to the system cache directory (as specified in the PeopleSoft Configuration Manager) under a stage directory for the current database. Then the cache is copied to the database. When the import is complete, the cache files are deleted.

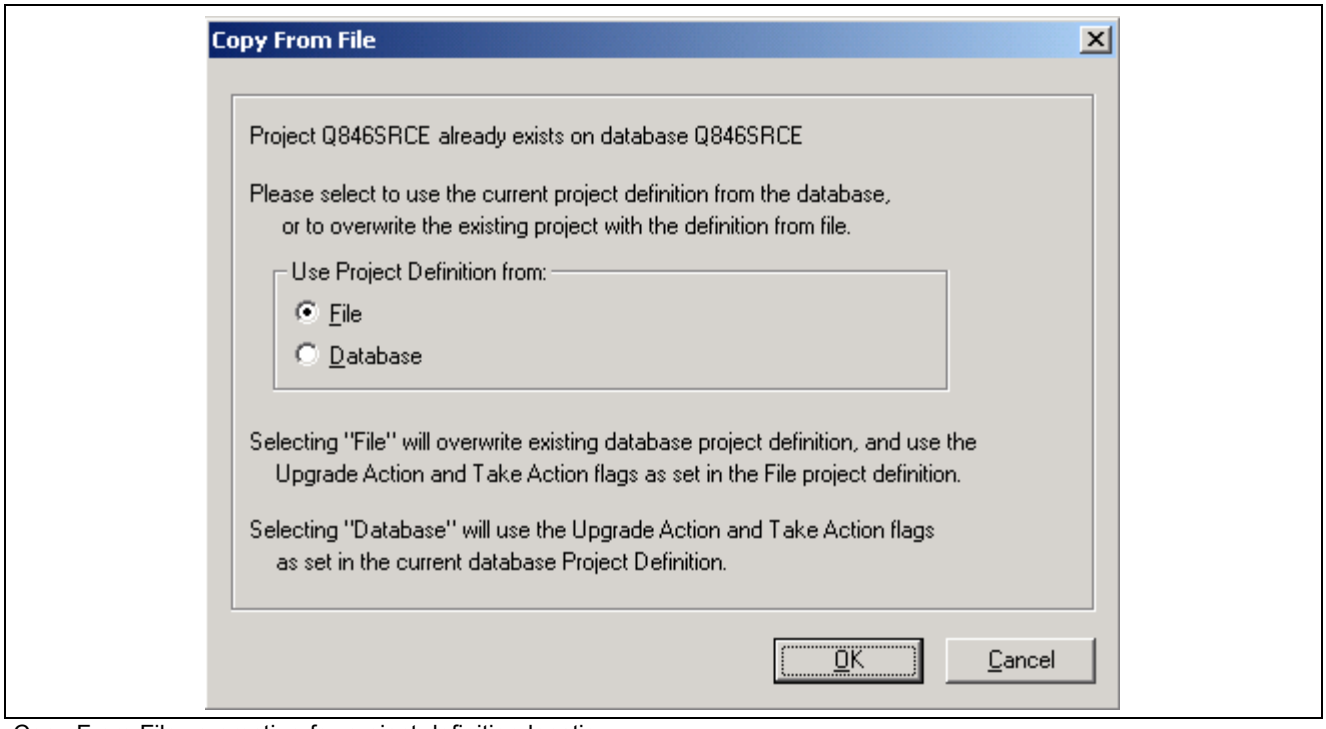
   The Progress dialog box shows the progress of the Copy process as it copies each definition from the export directory into the attached database. When the Copy from File process successfully completes, the system creates a new project definition from the PeopleTools definitions in the current database.

   If you click the Cancel button before copying the project, the project becomes invalid and the system deletes the project reference from the database.

Note. When copying application packages and Portal Registry Structures, the Progress dialog box may display unexpected counting behavior, making it appear that definitions are being processed more than once. This behavior is expected.

Copying From a File a Project That Does Exist in the Database

The process for copying a project from a file when a project of the same name exists in the database is slightly different. After selecting Tools, Copy Project, From File and a project of the same name already exists in the database to which you are currently signed on, the following dialog box appears.



Copy From File: prompting for project definition location

This prompt enables you to specify which project definition to use, the one stored in the database to which you are signed on or the one stored in the file from which you intend to copy. Keep in mind that the project definition is the metadata of the project and determines which definitions (pages, fields, records, and so on) are members of the project.

File Select this option if you intend to copy the project stored in the file regardless of any Upgrade Action or Take Action settings in the database.

Note. By selecting this option, you overwrite the project definition of the same name that previously existed in the database.

Database Select this option if you intend to maintain control of the upgrade project definition stored in the database and manually override any Upgrade Action or Take Action settings.

Copying Definitions for Upgrade Using the Command Line

Use the same command line syntax as identified previously to copy definitions.

See Chapter 18, "Using Command Line Parameters," Understanding PeopleSoft Application Designer Command Line Parameters, page 405.

Use the command line statement for Upgrade Copy processes to:

- Connect to the source database.
- Connect to the target database.
- Copy the project and its objects from the source database to the target database.

  If the same project already exists in the target database, you can set the option to overwrite the older project with the new project.

Available Parameters

The following table lists all available parameters for the upgrade copy statement:

Parameter	Description	Error Handling
-HIDE	Use to hide the PeopleSoft Application Designer interface. Always use this parameter when performing a command line Copy process.	Required for all project command line processes.
-CT	Source database type. Enter the type of source database to which you are connecting (for example, ORACLE, SYBASE, and so on).	Required. If the process stops, error messages are written to the log file (if the log file name parameter is specified).
-CS	Source server name. Enter the name of the source database server for the database to which you're connecting.	Required for some database types. If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).

Parameter	Description	Error Handling
-CD	Source database name. Enter the name of the source database to which you're connecting, as you would enter it into the PeopleSoft Login dialog box.	Required. If you do not supply this parameter, the process stop and error messages are written to the log file (if the log file name parameter is specified).
-CO	Source user ID. Enter the PeopleSoft user ID to use to sign in to the source database.	Required. If you do not supply this parameter, the user ID is taken from the registry. If it fails, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-CP	Source user password. Enter the password for the specified user ID for source database.	Required. If you do not supply this parameter, the PeopleSoft Login dialog box prompts the user to give the valid password. If it fails, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-TS	Target server name. Enter the name of the target database server for the database to which you're connecting.	Required for some database types and for a Database Copy process (but not used for a Copy To File or Copy From File process). If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-TD	Target database name. Enter the name of the target database to which you're connecting, as you would enter it into the PeopleSoft Login dialog box.	Required for a database Copy process (but not used for a Copy To File or Copy From File process). If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-TO	Target user ID. Enter the PeopleSoft user ID to use to sign in to the target database.	Required for a Database Copy process (but not used for a Copy To File or Copy From File process). If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).

Parameter	Description	Error Handling
-TP	Target user password. Enter the password for the specified user ID for the target database.	Required for a Database Copy process (but not used for a Copy To File or Copy From File process). If you do not supply this parameter, the process stops and error messages are written to the log file (if the log file name parameter is specified).
-LF	Log file name. Enter the name of the file in which error messages are logged during the command line Upgrade Copy process.	Not required. If you do not supply this parameter, a file is created with the specified path and name, and all of the processing and error messages are written to that file.
-PJC	Source project name. Enter the name of the project that is to be copied from the source database to the target database. This project should be available in the source database before starting the command line Upgrade Copy process to target database.	Required for a Database Copy process. This is the main parameter that is used internally by the executable file to identify an Upgrade Copy process. If you do not supply this parameter and if you supply all of the source database login parameters, the executable file starts the application.
-PJTF	Copy Project To File project name. Enter the name of the project to be copied from the source database to the file.	Required for a Copy To File process. Do not include the file path to the project with this parameter. Use -FP to specify the file path.
-PJFF	Copy Project From File project name. Enter the name of the project to be copied from the file into the source database.	Required for a Copy From File process. Do not include the file path to the project with this parameter. Use -FP to specify the file path.
-FP	Project file path. Enter the path to the project for a Copy to File or Copy From File process.	Required for a Copy To File or Copy From File process (but not for a Database Copy process). For the Copy From File process, the directory must exist. For the Copy To File process, any project with the same name is overwritten unless you use the -OVW parameter. A directory specification is created if it does not exist. Do not include the name of the project in the file path. Use -PJTF or -PJFF to specify the project name.

Parameter	Description	Error Handling
-OVD	Override dependencies (0 or 1). Enter 1 to override the checks for unapplied dependency incidents during the Copy From File process and to perform the copy even if the project's dependency incidents have not been applied to the source database.	Not required, and not applicable for processes other than the Copy From File process. The default is 0. When you enter the default and if the project's dependency incidents have not been applied to the source database, an error message is written to the log file listing which incidents need to be applied. The Copy From File process also stops. When you enter 1, a warning message is written to the log for unapplied incidents and processing continues.
-CL	Commit limit. Enter the Commit limit (a number greater than 0) for the number of objects to be copied or compared before a commit is issued. Example: -CL 150	Not required. The default is 50 if the user does not set this parameter.
-AF	Audit flags on records (0 or 1). Enter 1 to keep the target audit flags as is. Enter 0 to take them from the source database. Example: -AF 0	Not required. The default is 1.
-DDL	Data definition language (DDL) on records and indexes (0 or 1). Enter 1 to keep the target database DDL flags as is. Enter 0 to take them from the source database. Example: -DDL 0	Not required. The default is 1.
-PPL	Portal registry structures permission list references. Enter 1 to keep the target portal registry permission list references as is. Enter 0 to take them from the source database.	Not required. The default is 1.
-EXP	Export project definition (0 or 1). Enter 1 to export the project definition to the target database when using the Database Copy process. Not applicable for Copy Project to File process.	Not required. The default is 1. Any project with the same name is overwritten with the new project definition.

Parameter	Description	Error Handling
-OBJ	Object types to copy List the object types as numbers with commas as delimiters. For example, if you choose records and indexes alone for copying, use the appropriate numbers for records and indexes from the Definition Type Selection table. For records, the number is 0, and for the indexes, the number is 1. Example: -OBJ 0,1 See Appendix B, "Referencing Selections for Command Line Parameters," Definition Type Selections, page 519.	Not required. If you do not supply this parameter, then all of the objects are copied by default.
-RST	Reset done flags (0 or 1). Enter 1 to reset the done flags before initiating the Copy process. Enter 0 to not reset them. Example: -RST 0	Not required. The default is 1.
-OVW	Overwrite existing project (0 or 1). Enter 1 to overwrite any existing projects with the same name in the specified path during the Copy Project To File process, or in the database in the Copy Project From File process. Enter 0 to not overwrite existing projects. This applies to the Copy Project To and From File processes only.	Not required. The default is 1.

Parameter	Description	Error Handling
-LNG	Copy languages. List the language codes with commas as delimiters, or enter ALL to select all available languages. For new languages that are not listed in the Language Selection table, use the xlat short name from the LANGUAGE_CD field in the translate table. For example, if you choose English and Spanish for copying, enter the appropriate codes for English and Spanish from the Language Selection table. For English, the code is ENG, and for Spanish, the code is ESP. Example: -LNG ENG,ESP See Appendix B, "Referencing Selections for Command Line Parameters," Language Selections, page 524.	Not required. If you do not supply this parameter, then the languages that are already set in the project are used as the default. The COMMON language code refers to nonlanguage attributes that are not translated. Translated attributes can be copied separately from nontranslated attributes. If you do not specify the COMMON code when using -LNG, you copy only the translated language attributes. Changing languages on the command line changes the values that are stored with the project definition. Subsequent Copy and Compare processes on the modified project use the new values unless they are explicitly changed again in the upgrade options.

Parameter	Description	Error Handling
-CFD	Keep Target ChartField PageField Display Size. (Number 1 or 0). This parameter indicates whether or not the target chartfield page field display size attributes are to be kept, or whether they should be set from source during copy. See Upgrade Options for more information. Enter 1 to keep the target chartfield page field display size attributes. Enter 0 to set these attributes from the source values.	Not required. Default is 1
-CFF	Keep Target ChartField Field Format. (Number 1 or 0) This parameter indicates whether or not the target chartfield field format attributes are to be kept, or whether they should be set from the source during Copy. See Upgrade Options for more information. Enter 1 to keep the target chartfield field format attributes. Enter 0 to set these attributes from the source values.	Not required. Default is 1

Example: Copying a Database

These are some command line statements for the Database Copy process:

- Copy the project PPLTOOLS from the source Microsoft SQL Server database, PTDMO, to the target database, PTTST.
- Log process and error messages to c:\temp\copy.log.
- Set the commit limit to 150.

  Copy the audit flags and record and index DDLs from the source database.
- Copy only records, indexes, pages, queries, and process definitions from the project.
- Do not reset the done flags before initiating the Copy process.
- Copy only English and Spanish translations.

PSIDE.EXE −HIDE -PJC PPLTOOLS -CT MICROSFT -CD PTDMO -CO PTDMO -CP PTDMO -TD PTTST -TO PTDMO -TP PTDMO -QUIET -LF C:\TEMP\COPY.LOG -CL 150 -AF 0 -DDL 0 -OBJ 0,1,5,10,20 -RST 0 -LNG ENG, ESP

Example: Copying To File

These are some command line statements for the Copy to File process:

- Copy the PPLTOOLS project from the Oracle database, PTDMO, by using the PTDMO user ID, to the local directory c:\temp\export.

  A directory named PPLTOOLS is created in c:\temp\export.

- Log progress and error messages to c:\temp\copy.log.

PSIDE.EXE −HIDE -PJTF PPLTOOLS -FP c:\temp\export -CT ORACLE -CD PTDMO -CO PTDMO -CP PTDMO -QUIET -LF c:\temp\copy.log

Example: Copying From File

These are some command line statements for the Copy From File process.

- Copy the PPLTOOLS project to the DB2 UDB for Linux, Unix, and Windows database, PTDMO, by using the user ID PTDMO, from the local directory c:\temp\export.

  A directory named PPLTOOLS must exist under c:\temp\export.

- Log progress and error messages to c:\temp\copy.log.

PSIDE.EXE −HIDE -PJFF PPLTOOLS -FP c:\temp\export -CT DB2UNIX -CD PTDMO -CO PTDMO -CP PTDMO -QUIET LF c:\temp\copy.log

Stamping the Target Database

After successfully copying a project into the target database, "stamp" it to reflect the fact that it has changed from its previous customer release level. This helps to identify modifications that you make after this version of the database.

Note. When upgrading to a new PeopleSoft release, this step is *required,* except that you stamp the database with the new PeopleSoft release level, as directed by the upgrade instructions on Customer Connection.

To stamp the target database:

1. Select Tools, Upgrade, Stamp Database.

   The Stamp Database dialog box appears.

   Use this dialog box to specify and stamp the database with a new customer release level.

2. Enter the appropriate PeopleSoft Release description, service pack level, and customer release value.

   Do not change the service pack level unless instructed to do so during a PeopleSoft delivered release upgrade.

   The new customer release value must be greater than or equal to the previous value.

3. Click Stamp.

See Also

Chapter 19, “Using Change Control,” Change Control Stamping, page 426

Reusing Projects

PeopleSoft Application Designer enables you to reuse projects. To reuse a project, clear the Done check boxes for the definitions to be recopied. You might also want to validate the project integrity and delete invalid definitions. However, this is not necessary. During a copy, invalid definitions are reported and ignored.

This section discusses how to:

- Validate project integrity.
- Reset all Done check boxes.
- Reset Done check boxes for a group of definitions.
- Reset the Done check box for a single definition.

Validating Project Integrity

To validate project integrity:

1. Select Tools, Options.
2. Select the Validate tab.

   Use this tab to specify what kind of checks you want to perform during a project validation. This procedure discusses only project integrity validation.
3. Select the Validate project integrity check box.
4. Click OK.
5. Select Tools, Validate.

   A message appears, asking whether you want to delete and report invalid definitions or just to report them.

Note. An invalid definition is any definition in the project with an Add or Replace action that does not exist in the database. PeopleSoft Application Designer does not act on definitions with a Delete action, because it assumes that you want to retain such definitions in the project—regardless of whether they still exist in the database—for the purpose of deleting the same definition in a target database.

Resetting All Done Check Boxes

To reset all Done check boxes, right-click in the upgrade definition window and select Reset Done Flag. To reset them for the entire project, select the Reset Project Done Flags option. You can also select Edit, Upgrade, Reset Project Done Flags from the main menu. All Done check boxes for all definitions in the project are cleared.

Resetting Done Check Boxes for a Group of Definitions

To reset Done check boxes for a group of definitions:

1. Select a group of definitions.

   Use the CTRL and SHIFT keys, or select all definitions in the upgrade definition window by clicking the top, left-hand cell of the grid.
2. Right-click one of the definitions and select Reset Done Flag.

You can also select Edit, Upgrade, Reset Done Flag from the main menu. This clears all Done check boxes for the selected definitions.

Resetting the Done Check Box for a Single Definition

To reset the Done check box for a single definition, clear the Done check box for the definition.

Note. You can only manually *clear* Done check boxes. You cannot activate these check boxes yourself; they are automatically selected after a successful copy.

APPENDIX A

Understanding Functional Indexes

This appendix discusses functional indexes for:

- Microsoft SQL Server 2000
- DB2/UDB for Linux, UNIX, and Windows
- Informix

Functional Indexes for Microsoft SQL Server 2000

The following example shows how the key fields are concatenated:

```
USE FS840U70
go
SET IMPLICIT_TRANSACTIONS ON
go
IF EXISTS (SELECT 'X' FROM SYSOBJECTS WHERE TYPE = 'U' AND NAME =
 'PS_QE_ALTER_NEW') DROP TABLE PS_QE_ALTER_NEW
go
CREATE TABLE PS_QE_ALTER_NEW (QE_ALTER_FLD1 NCHAR(1) NOT NULL,
   QE_ALTER_FLD2 NCHAR(1) NOT NULL,
   QE_ALTER_FLD3 NCHAR(1) NOT NULL,
   QE_ALTER_FLD4 NCHAR(10) NOT NULL,
   QE_ALTER_FLD5 NCHAR(20) NOT NULL,
   QE_ALTER_FLD6 NCHAR(11) NOT NULL,
   QE_ALTER_FLD7 NCHAR(1) NOT NULL,
   QE_ALTER_FLD8 NCHAR(1) NOT NULL,
   QEPC_AGE SMALLINT NOT NULL,
   QEPC_FILE_NUM DECIMAL(6, 2) NOT NULL,
   QE_BEGIN_DT PSDATE NULL,
   QE_BIRTHDATE PSDATE NULL,
   QE_31DIGFLD9 DECIMAL(31, 8) NOT NULL,
   QE_ANNUAL_PCT DECIMAL(3, 1) NOT NULL,
   QE_MS_DTTM1 PSDATETIME NULL,
   QE_MS_DTTM2 PSDATETIME NULL,
   QE_ALTER_TIMEA PSTIME NULL,
   QE_ALTER_TIMEB PSTIME NULL,
   MSSCONCATCOL AS QE_ALTER_FLD1 + QE_ALTER_FLD2 + QE_ALTER_FLD3 +
 QE_ALTER_FLD4 + QE_ALTER_FLD5 + QE_ALTER_FLD6 + QE_ALTER_FLD7 +
 QE_ALTER_FLD8 + CONVERT(NCHAR,QEPC_AGE) + CONVERT(NCHAR
```

```
,QEPC_FILE_NUM) + CONVERT(NCHAR(16),QE_BEGIN_DT, 109) +
 CONVERT(NCHAR(16),QE_BIRTHDATE, 109) + CONVERT(NCHAR,QE_31DIGFLD9) +
 CONVERT(NCHAR,QE_ANNUAL_PCT) + CONVERT(NCHAR(16),QE_MS_DTTM1, 109) +
 CONVERT(NCHAR(16),QE_MS_DTTM2, 109) + CONVERT(NCHAR(16)
,QE_ALTER_TIMEA, 109))
go
COMMIT
go
SET ARITHABORT ON
go
CREATE UNIQUE CLUSTERED INDEX PS_QE_ALTER_NEW ON PS_QE_ALTER_NEW
 (MSSCONCATCOL)
go
CREATE  NONCLUSTERED INDEX PSWQE_ALTER_NEW ON PS_QE_ALTER_NEW
 (QE_ALTER_FLD1,
   QE_ALTER_FLD2,
   QE_ALTER_FLD3,
   QE_ALTER_FLD4,
   QE_ALTER_FLD5,
   QE_ALTER_FLD6,
   QE_ALTER_FLD7,
   QE_ALTER_FLD8,
   QEPC_AGE,
   QEPC_FILE_NUM,
   QE_BEGIN_DT,
   QE_BIRTHDATE,
   QE_31DIGFLD9,
   QE_ANNUAL_PCT,
   QE_MS_DTTM1,
   QE_MS_DTTM2)
go
COMMIT
Go
```

DB2/UDB for Linux, UNIX, and Windows

The following example shows how the key fields are concatenated:

```
CREATE TABLE PS_QE_ALTER_NEW (QE_ALTER_FLD1 VARGRAPHIC(1) NOT NULL,
   QE_ALTER_FLD2 VARGRAPHIC(1) NOT NULL,
   QE_ALTER_FLD3 VARGRAPHIC(1) NOT NULL,
   QE_ALTER_FLD4 VARGRAPHIC(10) NOT NULL,
   QE_ALTER_FLD5 VARGRAPHIC(20) NOT NULL,
   QE_ALTER_FLD6 VARGRAPHIC(11) NOT NULL,
   QE_ALTER_FLD7 VARGRAPHIC(1) NOT NULL,
   QE_ALTER_FLD8 VARGRAPHIC(1) NOT NULL,
   QEPC_AGE VARGRAPHIC(8) NOT NULL,
   QEPC_FILE_NUM DECIMAL(6, 2) NOT NULL,
```

```
   QE_BEGIN_DT DATE,
   QE_BIRTHDATE DATE,
   QE_31DIGFLD9 DECIMAL(31, 8) NOT NULL,
   QE_ANNUAL_PCT DECIMAL(3, 1) NOT NULL,
   QE_MS_DTTM1 TIMESTAMP,
   QE_MS_DTTM2 TIMESTAMP,
   QE_ALTER_TIMEA TIME,
   QE_ALTER_TIMEB TIME,
   DBXCONCATCOL GENERATED ALWAYS AS (QE_ALTER_FLD1 || QE_ALTER_FLD2 ||
 QE_ALTER_FLD3 || QE_ALTER_FLD4 || QE_ALTER_FLD5 || QE_ALTER_FLD6 ||
 QE_ALTER_FLD7 || QE_ALTER_FLD8 || QEPC_AGE ||
 VARGRAPHIC(CHAR(QEPC_FILE_NUM)) ||
 VALUE(VARGRAPHIC(CHAR(QE_BEGIN_DT)),'') ||
 VALUE(VARGRAPHIC(CHAR(QE_BIRTHDATE)),'') ||
 VARGRAPHIC(CHAR(QE_31DIGFLD9)) || VARGRAPHIC(CHAR(QE_ANNUAL_PCT)) ||
 VALUE(VARGRAPHIC(CHAR(QE_MS_DTTM1)),'') ||
 VALUE(VARGRAPHIC(CHAR(QE_MS_DTTM2)),'') ||
 VALUE(VARGRAPHIC(CHAR(QE_ALTER_TIMEA)),'')) IN PTAPP INDEX IN
 PTAPPIDX NOT LOGGED INITIALLY;
COMMIT;
CREATE UNIQUE INDEX PS_QE_ALTER_NEW ON PS_QE_ALTER_NEW (DBXCONCATCOL);
CREATE  INDEX PSWQE_ALTER_NEW ON PS_QE_ALTER_NEW (QE_ALTER_FLD1,
   QE_ALTER_FLD2,
   QE_ALTER_FLD3,
   QE_ALTER_FLD4,
   QE_ALTER_FLD5,
   QE_ALTER_FLD6,
   QE_ALTER_FLD7,
   QE_ALTER_FLD8,
   QEPC_AGE,
   QEPC_FILE_NUM,
   QE_BEGIN_DT,
   QE_BIRTHDATE,
   QE_31DIGFLD9,
   QE_ANNUAL_PCT,
   QE_MS_DTTM1,
   QE_MS_DTTM2);
COMMIT;
```

Functional Indexes for Informix

The following example shows how the key fields are concatenated:

```
BEGIN WORK;
CREATE TABLE PS_QE_ALTER_NEW (QE_ALTER_FLD1 CHAR(1) NOT NULL,
   QE_ALTER_FLD2 CHAR(1) NOT NULL,
   QE_ALTER_FLD3 CHAR(1) NOT NULL,
   QE_ALTER_FLD4 CHAR(10) NOT NULL,
```

```
   QE_ALTER_FLD5 CHAR(20) NOT NULL,
   QE_ALTER_FLD6 CHAR(11) NOT NULL,
   QE_ALTER_FLD7 CHAR(1) NOT NULL,
   QE_ALTER_FLD8 CHAR(1) NOT NULL,
   QEPC_AGE SMALLINT NOT NULL,
   QEPC_FILE_NUM DECIMAL(6, 2) NOT NULL,
   QE_BEGIN_DT DATE,
   QE_BIRTHDATE DATE,
   QE_31DIGFLD9 DECIMAL(31, 8) NOT NULL,
   QE_ANNUAL_PCT DECIMAL(3, 1) NOT NULL,
   QE_MS_DTTM1 DATETIME YEAR TO FRACTION(3),
   QE_MS_DTTM2 DATETIME YEAR TO FRACTION(3),
   QE_ALTER_TIMEA DATETIME HOUR TO FRACTION(3),
   QE_ALTER_TIMEB DATETIME HOUR TO FRACTION(3)) IN PTAPP LOCK MODE ROW;
REVOKE ALL ON PS_QE_ALTER_NEW FROM PUBLIC;
COMMIT;
BEGIN WORK;
CREATE FUNCTION PS_QE_ALTER_NEW_SP1(
   QE_ALTER_FLD1 CHAR(1),
   QE_ALTER_FLD2 CHAR(1),
   QE_ALTER_FLD3 CHAR(1),
   QE_ALTER_FLD4 CHAR(10),
   QE_ALTER_FLD5 CHAR(20),
   QE_ALTER_FLD6 CHAR(11),
   QE_ALTER_FLD7 CHAR(1),
   QE_ALTER_FLD8 CHAR(1),
   QEPC_AGE SMALLINT,
   QEPC_FILE_NUM DECIMAL,
   QE_BEGIN_DT DATE,
   QE_BIRTHDATE DATE,
   QE_31DIGFLD9 DECIMAL,
   QE_ANNUAL_PCT DECIMAL,
   QE_MS_DTTM1 DATETIME YEAR TO FRACTION(3),
   QE_MS_DTTM2 DATETIME YEAR TO FRACTION(3))
 RETURNING VARCHAR(166) WITH (NOT VARIANT);
RETURN QE_ALTER_FLD1||
   QE_ALTER_FLD2||
   QE_ALTER_FLD3||
   QE_ALTER_FLD4||
   QE_ALTER_FLD5||
   QE_ALTER_FLD6||
   QE_ALTER_FLD7||
   QE_ALTER_FLD8||
   QEPC_AGE||
   QEPC_FILE_NUM||
   QE_BEGIN_DT||
   QE_BIRTHDATE||
   QE_31DIGFLD9||
   QE_ANNUAL_PCT||
   QE_MS_DTTM1||
```

```
   QE_MS_DTTM2;
END FUNCTION;
CREATE FUNCTION PS_QE_ALTER_NEW_SP2(
   QE_ALTER_TIMEA DATETIME HOUR TO FRACTION(3))
 RETURNING VARCHAR(15) WITH (NOT VARIANT);
RETURN QE_ALTER_TIMEA;
END FUNCTION;
CREATE UNIQUE INDEX PS_QE_ALTER_NEW ON PS_QE_ALTER_NEW
 (PS_QE_ALTER_NEW_SP1(
   QE_ALTER_FLD1,
   QE_ALTER_FLD2,
   QE_ALTER_FLD3,
   QE_ALTER_FLD4,
   QE_ALTER_FLD5,
   QE_ALTER_FLD6,
   QE_ALTER_FLD7,
   QE_ALTER_FLD8,
   QEPC_AGE,
   QEPC_FILE_NUM,
   QE_BEGIN_DT,
   QE_BIRTHDATE,
   QE_31DIGFLD9,
   QE_ANNUAL_PCT,
   QE_MS_DTTM1,
   QE_MS_DTTM2),
   PS_QE_ALTER_NEW_SP2(
   QE_ALTER_TIMEA)) IN FS840IDX;
CREATE  INDEX PSWQE_ALTER_NEW ON PS_QE_ALTER_NEW (QE_ALTER_FLD1,
   QE_ALTER_FLD2,
   QE_ALTER_FLD3,
   QE_ALTER_FLD4,
   QE_ALTER_FLD5,
   QE_ALTER_FLD6,
   QE_ALTER_FLD7,
   QE_ALTER_FLD8,
   QEPC_AGE,
   QEPC_FILE_NUM,
   QE_BEGIN_DT,
   QE_BIRTHDATE,
   QE_31DIGFLD9,
   QE_ANNUAL_PCT,
   QE_MS_DTTM1,
   QE_MS_DTTM2) IN FS840IDX;
COMMIT;
```

APPENDIX B

Referencing Selections for Command Line Parameters

This appendix lists various values that are useful when specifying command line parameters. Specifically, these tables are referenced:

- Database type selections.
- Definition type selections.
- Language selections.
- Available release numbers.

Database Type Selections

Use the following database types:

Database	Database Description
DB2ODBC	DB2 UDB for OS/390 and z/OS
DB2UNIX	DB2 UDB for Linux, Unix, and Windows
INFORMIX	Informix
MICROSFT	Microsoft SQL Server
ORACLE	Oracle
SYBASE	Sybase

Definition Type Selections

Use the following numbers to describe the corresponding definition:

Number	Definition Description
0	Record
1	Index
2	Field
3	Format definition
4	Translate
5	Page
6	Menu
7	Components
8	Record PeopleCode
9	Menu PeopleCode
10	Query
11	Tree structure
12	Tree*
13	Access group*
14	Color
15	Style
16	Not used
17	Business process
18	Activity

Number	Definition Description
19	Role*
20	Process definition
21	Process server
22	Process type
23	Process job
24	Process recurrence
25	Message catalog entries*
26	Dimension*
27	Cube definitions*
28	Cube instance definitions*
29	Business interlink
30	SQL definition
31	File layout definition
32	Component interfaces
33	Application Engine program
34	Application Engine section
35	Message node
36	Message channel
37	Message definition

Number	Definition Description
38	Approval rule set
39	Message PeopleCode
40	Subscription PeopleCode
41	Not used
42	Component interface PeopleCode
43	Application engine PeopleCode
44	Page PeopleCode
45	Page field PeopleCode
46	Component PeopleCode
47	Component record PeopleCode
48	Component record field PeopleCode
49	Image
50	Style sheet
51	HTML
52	Not used
53	Permission list
54	Portal registry definitions
55	Portal registry structures
56	URL definitions

Number	Definition Description
57	Application Packages
58	Application Package PeopleCode
59	Portal Registry User homepage
60	Problem type definition
61	Archive templates (deprecated in PeopleTools release 8.44 and above).
62	XSLT
63	Portal Registry User Favorite
64	Mobile page
65	Relationships
66	Component Interface Property PeopleCode**
67	Optimization Models***
68	File References***
69	File Reference Type Code***
70	Archive object definitions***
71	Archive Templates (Type 2)***
72	Diagnostic Plug-Ins***

* These definition types do not have Copy To File or Copy From File process support.

** This definition type is supported only in PeopleTools 8.42 and later.

*** These definition types are supported only in PeopleTools 8.44 and later.

Language Selections

Use the following codes to describe the supported languages:

Code	Language Description
CFR	Canadian French
DAN	Danish
DUT	Dutch
ENG	English
ESP	Spanish
FRA	French
GER	German
GRK	Greek
ITA	Italian
JPN	Japanese
KOR	Korean
MAY	Bhasa Malay
POL	Polish
POR	Portuguese
SVE	Swedish
THA	Thai
ZHS	Simplified Chinese

Code	Language Description
ZHT	Traditional Chinese
COMMON	Nonlanguage attributes

Available Release Numbers

The available release numbers include:

- Core 5.10.00.000
- Core 6.00.00.000
- Core 6.10.00.000
- Core 7.00.00.000
- Core 7.50.00.000
- Core 8.00.00.000
- Core 8.10.00.000
- Core 8.40.00.000

APPENDIX C

Using Default Style Classes

This appendix provides an overview of default style classes.

Default Style Classes

This table lists the default style classes that are shipped with your system, the sub style to which each belongs, and a brief description of the default style:

Style Class Name	Sub Style	Description
EDGE	PTSTYLEDEF	*Default PeopleSoft Pure Internet Architecture navigation.
HILEFT1	PTSTYLEDEF	*Default PeopleSoft Pure Internet Architecture navigation
HILEFT2	PTSTYLEDEF	*Default PeopleSoft Pure Internet Architecture navigation.
KNOCKOUT	PTSTYLEDEF	*Portal administration left navigation.
LEVEL1	PTSTYLEDEF	*Default PeopleSoft Pure Internet Architecture navigation.
LEVEL2	PTSTYLEDEF	*Default PeopleSoft Pure Internet Architecture navigation.
LEVEL3	PTSTYLEDEF	*Default PeopleSoft Pure Internet Architecture navigation.

Style Class Name	Sub Style	Description
MID	PTSTYLEDEF	Links at the first level of the PeopleSoft Pure Internet Architecture navigation.
MUTE	PTSTYLEDEF	Descriptive text in the PeopleSoft Pure Internet Architecture navigation.
PAADDITIONALINSTRUCTIONS	PSALTERNATE	Additional instructions on the page (slightly smaller font).
PABACKGROUNDINVISIBLE	PSALTERNATE	Body background of hidden group boxes and grids.
PABOLDBLUETEXT	PSALTERNATE	Strong emphasis for text on a page.
PABOLDTEXT	PSALTERNATE	Field value emphasis.
PACALENDARDAYNUM	PSALTERNATE	Text for numeric days on calendars.
PACALENDARDAYNUMDISABLED	PSALTERNATE	Text for numeric days on calendars (disabled state).
PACFGRIDFOOT	PSALTERNATE	Footer borders for ChartField grids.
PACFGRIDLABEL	PSALTERNATE	Header label background for ChartField grids.
PAERRORTEXT	PSALTERNATE	Inline error message text font type, color, and size.
PAEXAMPLE	PSALTERNATE	Smaller font size to demonstrate an example.
PAEXPANDCOLLAPSE	PSALTERNATE	Expandable and collapsible area borders.

Style Class Name	Sub Style	Description
PAFRAMEBACKGROUND	PSALTERNATE	Same as the PAGROUPDIVIDER style class, except that it allows text on the dividing bar for self-service pages.
PAFRAMELEVEL1	PSALTERNATE	Level 1 frames.
PAFRAMELEVEL2	PSALTERNATE	Level 2 frames.
PAFRAMELEVEL3	PSALTERNATE	Level 3 frames.
PAGRIDHEADER	PSALTERNATE	Grid column headers for self-service grids without navigation controls.
PAGROUPBOX	PSALTERNATE	Group boxes.
PAGROUPBOXLABELINVISIBLE	PSALTERNATE	Invisible group box label.
PAGROUPBOXLABELLEVEL1	PSALTERNATE	Group box labels at level 1.
PAGROUPBOXLABELLEVEL2	PSALTERNATE	Group box labels at level 2.
PAGROUPBOXLABELLEVEL3	PSALTERNATE	Group box labels at level 3.
PAGROUPBOXLEVEL1	PSALTERNATE	Group box body at level 1.
PAGROUPBOXLEVEL2	PSALTERNATE	Group box body at level 2.
PAGROUPBOXLEVEL3	PSALTERNATE	Group box body at level 3.
PAGROUPDIVIDER	PSALTERNATE	Group box label style on self-service pages.
PAGROUPDIVIDERBODY	PSALTERNATE	Group box body style on developer-defined advanced search pages.
PAHEADERTOOLBARBODY	PSALTERNATE	Frame background for the customer relationship management (CRM) toolbar.

Style Class Name	Sub Style	Description
PAHEADERTOOLBARFRAME	PSALTERNATE	Frame borders for the CRM toolbar.
PAHORIZONTALRULELEVEL1	PSALTERNATE	Horizontal rule at level 1.
PAHORIZONTALRULELEVEL2	PSALTERNATE	Horizontal rule at level 2.
PAHORIZONTALRULELEVEL3	PSALTERNATE	Horizontal rule at level 3.
PAHYPERLINKDESCR	PSALTERNATE	Text description for links on application homepages.
PAHYPERLINKERRSTAT	PSALTERNATE	Links conveying an error status (use with image).
PAHYPERLINKLVL1ODD	PSALTERNATE	Link style for grid odd rows that use the PeopleCode style property.
PAHYPERLINKSUCCESSSTAT	PSALTERNATE	Links conveying a successful status (use with image).
PAHYPERLINKWARNSTAT	PSALTERNATE	Links conveying a warning status (use with image).
PALEGENDBACKGROUND	PSALTERNATE	Group box body color for legends on pages.
PALEVEL0PRIMARY	PSALTERNATE	Level 0, high-level key data on self-service pages.
PALEVEL0SECONDARY	PSALTERNATE	Additional fields to identify the object.
PAPAGEINSTRUCTIONS	PSALTERNATE	Text instructions on the top of the page.
PAPAGETITLE	PSALTERNATE	Page title.
PASEARCHBOXBODY	PSALTERNATE	Group boxes around search criteria.

Style Class Name	Sub Style	Description
PASTEPBYSTEPTITLE	PSALTERNATE	Step-by-step transaction.
PATEXTBACKGROUND	PSALTERNATE	Text background.
PATRANSACTIONTITLE	PSALTERNATE	Transaction name above the current page title.
PSACTIVETAB	PTSTYLEDEF	Active tab labels and background colors.
PSCHARTAXISTITLE	PTSTYLEDEF	Chart axis labels.
PSCHARTDEFAULT	PTSTYLEDEF	Default chart text.
PSCHARTTITLE	PTSTYLEDEF	Chart title text.
PSCHECKBOX	PTSTYLEDEF	Check box label.
PSDISABLED	PTSTYLEDEF	Disabled field value font type, size, and color.
PSDROPDOWNLABEL	PTSTYLEDEF	Drop-down list box label.
PSDROPDOWNLIST	PTSTYLEDEF	Drop-down list box text.
PSEDITBOX	PTSTYLEDEF	Edit box label.
PSEDITBOX_DISABLED	PTSTYLEDEF	Disabled edit box style (white background with a thin, gray border).
PSEDITBOX_DISPONLY	PTSTYLEDEF	Display-only edit boxes.
PSEDITBOXLABEL	PTSTYLEDEF	Edit box text.
PSERROR	PTSTYLEDEF	Error field background color and text.
PSFRAME	PTSTYLEDEF	Frame borders.

Style Class Name	Sub Style	Description
PSGRIDCOLUMNHDR	PTSTYLEDEF	Grid column header texts.
PSGROUPBOX	PTSTYLEDEF	Group box borders and body style.
PSGROUPBOXLABEL	PTSTYLEDEF	Group box labels.
PSHEADERHYPERLINK	PTSTYLEDEF	Link in a scroll area or grid header.
PSHEADERHYPERLINKD	PTSTYLEDEF	Disabled link in a scroll area or grid header.
PSHORIZONTALRULE	PTSTYLEDEF	Horizontal rule.
PSHYPERLINK	PTSTYLEDEF	Link.
PSHYPERLINKACTIVE	PTSTYLEDEF	Selected link.
PSHYPERLINKDISABLED	PTSTYLEDEF	Disabled link.
PSHYPERLINKHOVER	PTSTYLEDEF	Link when the mouse hovers over it.
PSHYPERLINKVISITED	PTSTYLEDEF	Previously visited link.
PSHYPERLINKYELLOWBKGRD	PTSTYLEDEF	Link with a yellow background.
PSIMAGE	PTSTYLEDEF	Image border style, width, and colors.
PSINACTIVETAB	PTSTYLEDEF	Inactive tab labels and background colors.
PSINACTIVETABHOVER	PTSTYLEDEF	Inactive tab labels and background colors when the mouse hovers over them.
PSLEVEL1GRID	PTSTYLEDEF	Level 1 grid background colors, border settings, and fonts.

Style Class Name	Sub Style	Description
PSLEVEL1GRIDACTIVETAB	PTSTYLEDEF	Active tab labels and background colors on level 1 grids.
PSLEVEL1GRIDCOLUMNHDR	PTSTYLEDEF	Grid column labels on level 1 grids.
PSLEVEL1GRIDEVENROW	PTSTYLEDEF	Even rows on level 1 grids.
PSLEVEL1GRIDINACTIVETAB	PTSTYLEDEF	Inactive tab labels and backgrounds on level 1 grids.
PSLEVEL1GRIDINACTIVETABHOVER	PTSTYLEDEF	Inactive tab labels and backgrounds (when mouse hovers over them) on level 1 grids.
PSLEVEL1GRIDLABEL	PTSTYLEDEF	Level 1 grid labels.
PSLEVEL1GRIDNAVIGATIONBAR	PTSTYLEDEF	Navigation bars on level 1 grids.
PSLEVEL1GRIDODDROW	PTSTYLEDEF	Odd rows on level 1 grids.
PSLEVEL1GRIDROW	PTSTYLEDEF	Level 1 grid background settings, border settings, and fonts.
PSLEVEL1SCROLLAREABODY	PTSTYLEDEF	Level 1 scroll area body.
PSLEVEL1SCROLLAREAFOOTER	PTSTYLEDEF	Level 1 scroll area footer.
PSLEVEL1SCROLLAREAHEADER	PTSTYLEDEF	Level 1 scroll area header.
PSLEVEL2GRID	PTSTYLEDEF	Level 2 grid background colors, border settings, and fonts.
PSLEVEL2GRIDACTIVETAB	PTSTYLEDEF	Active tab labels and background colors on level 2 grids.

Style Class Name	Sub Style	Description
PSLEVEL2GRIDCOLUMNHDR	PTSTYLEDEF	Grid column labels on level 2 grids.
PSLEVEL2GRIDEVENROW	PTSTYLEDEF	Even rows on level 2 grids.
PSLEVEL2GRIDINACTIVETAB	PTSTYLEDEF	Inactive tab labels and backgrounds on level 2 grids.
PSLEVEL2GRIDINACTIVETABHOVER	PTSTYLEDEF	Inactive tab labels and backgrounds (when mouse hovers over it) on level 2 grids.
PSLEVEL2GRIDLABEL	PTSTYLEDEF	Labels on level 2 grids.
PSLEVEL2GRIDNAVIGATIONBAR	PTSTYLEDEF	Navigation bars on level 2 grids.
PSLEVEL2GRIDODDROW	PTSTYLEDEF	Odd rows on level 2 grids.
PSLEVEL2GRIDROW	PTSTYLEDEF	Level 2 grid background settings, border settings, and fonts.
PSLEVEL2SCROLLAREABODY	PTSTYLEDEF	Level 2 scroll area body.
PSLEVEL2SCROLLAREAFOOTER	PTSTYLEDEF	Level 2 scroll area footer.
PSLEVEL2SCROLLAREAHEADER	PTSTYLEDEF	Level 2 scroll area header.
PSLEVEL3GRID	PTSTYLEDEF	Level 3 grid background settings, border settings, and fonts.
PSLEVEL3GRIDACTIVETAB	PTSTYLEDEF	Active tab labels and background colors on level 3 grids.
PSLEVEL3GRIDCOLUMNHDR	PTSTYLEDEF	Grid column labels on level 3 grids.
PSLEVEL3GRIDEVENROW	PTSTYLEDEF	Even rows on level 3 grids.

Style Class Name	Sub Style	Description
PSLEVEL3GRIDINACTIVETAB	PTSTYLEDEF	Inactive tab labels and backgrounds on level 3 grids.
PSLEVEL3GRIDINACTIVETABHOVER	PTSTYLEDEF	Inactive tab labels and backgrounds (when the mouse hovers over them) on level 3 grids .
PSLEVEL3GRIDLABEL	PTSTYLEDEF	Labels on level 3 grids.
PSLEVEL3GRIDNAVIGATIONBAR	PTSTYLEDEF	Navigation bars on level 3 grids.
PSLEVEL3GRIDODDROW	PTSTYLEDEF	Odd rows on level 3 grids.
PSLEVEL3GRIDROW	PTSTYLEDEF	Level 3 grid background settings, border settings, and fonts.
PSLEVEL3SCROLLAREABODY	PTSTYLEDEF	Level 3 scroll area body.
PSLEVEL3SCROLLAREAFOOTER	PTSTYLEDEF	Level 3 scroll area footer.
PSLEVEL3SCROLLAREAHEADER	PTSTYLEDEF	Level 3 scroll area header.
PSLONGEDITBOX	PTSTYLEDEF	Long edit box data.
PSLONGEDITLABEL	PTSTYLEDEF	Long edit box labels.
PSMULTILANG	PTSTYLEDEF	Multilingual field background.
PSNAVPARENTLINK	PTSTYLEDEF	Left navigation link color.
PSPAGE	PTSTYLEDEF	Page background color and margins.
PSPAGECUST	PTSTYLEDEF	Shaded background for page customization image.
PSPROCESSING	PTSTYLEDEF	Processing message background color.

Style Class Name	Sub Style	Description
PSPSMALLTEXT	PTSTYLEDEF	Footer text font type, size, weight, and color.
PSPUSHBUTTON	PTSTYLEDEF	Push button labels and background.
PSPUSHBUTTONDISABLED	PTSTYLEDEF	Disabled push button labels and background color.
PSRADIOBUTTON	PTSTYLEDEF	Radio buttons.
PSSRCHCHECKBOX	PTSTYLEDEF	Search check box.
PSSRCHDROPDOWNLABEL	PTSTYLEDEF	Search drop-down labels.
PSSRCHEDITBOXLABEL	PTSTYLEDEF	Search edit box labels.
PSSRCHINSTRUCTIONS	PTSTYLEDEF	Search instructions.
PSSRCHPAGE	PTSTYLEDEF	Search page font type, background color, and margins.
PSSRCHRESULTSEVENROW	PTSTYLEDEF	Even rows on search page result grids.
PSSRCHRESULTSFOOTER	PTSTYLEDEF	Footer on search page result grids.
PSSRCHRESULTSHDR	PTSTYLEDEF	Header on search page result grids.
PSSRCHRESULTSHYPERLINK	PTSTYLEDEF	Navigation links above the search results.
PSSRCHRESULTSHYPERLINKD	PTSTYLEDEF	Disabled navigation links above the search results.
PSSRCHRESULTSODDROW	PTSTYLEDEF	Odd rows on search page result grids.
PSSRCHRESULTSTITLE	PTSTYLEDEF	Instructional text on search results page.

Style Class Name	Sub Style	Description
PSSRCHSUBTITLE	PTSTYLEDEF	Search results section title.
PSSRCHTIPS	PTSTYLEDEF	Search tips.
PSSRCHTITLE	PTSTYLEDEF	First-level title on a search page.
PSSTATICIMAGE	PTSTYLEDEF	Static image border styles, width, and colors.
PSTEXT	PTSTYLEDEF	Static text controls.
PSTLEFTMENU	PTSTYLEDEF	No longer used.
PSTREENODESELECTED	PTSTYLEDEF	Selected tree node.
PSTRELLINKSBODYNARROW	PAALTERNATE	Related links body for narrow templates.
PSTRELLINKSBODYWIDE	PAALTERNATE	Related links body for wide templates.
PSTRELLINKSHDRNARROW	PAALTERNATE	Related links header label for narrow templates.
PSTRELLINKSHDRWIDE	PAALTERNATE	Related links header label for wide templates.
PTBREADCRUMB	PTSTYLEDEF	Breadcrumbs.
PTBREADCRUMBCUR	PTSTYLEDEF	Current location on a breadcrumb trail.
PTBREADCRUMBMARGIN	PTSTYLEDEF	Breadcrumb margins.
PTMENULINK	PTSTYLEDEF	Link on level 2 of the PeopleSoft Pure Internet Architecture navigation.
PTNAVLINK	PTSTYLEDEF	Content reference link style.

Style Class Name	Sub Style	Description
PTNAVLINKHOVER	PTSTYLEDEF	Content reference link style when the mouse hovers over it.
PTNAVSELCHILDBK	PTSTYLEDEF	Selected content reference background color (in navigation).
PTNAVSELCHILDEDGELT	PTSTYLEDEF	Background color on the top edge of the selected content reference (in navigation).
PTNAVSELCHILDLINK	PTSTYLEDEF	Selected content reference link font type and color (in navigation).
PTNAVSELPARENTBK	PTSTYLEDEF	Selected parent folder background color (in navigation).
PTNAVSELPARENTEDGE	PTSTYLEDEF	Background color on the edge of the selected parent folder (in navigation).
PTPAGELET	PTSTYLEDEF	Homepage pagelet border thickness and color.
PTPAGELETBODY	PTSTYLEDEF	Homepage pagelet font type and size, border thickness, border color, and padding.
PTPAGELETHEADER	PTSTYLEDEF	Homepage pagelet header font type, size, and color; background color, border thickness; border color; and padding.
PTQUERYSTYLESUB	PTSTYLEDEF	Query style definition.
PTSELECTBODY	PTSTYLEDEF	Portal layout page selection box body.
PTSELECTHEADER	PTSTYLEDEF	Portal layout page selection box header.

Style Class Name	Sub Style	Description
PTSPELLCHECKERROR	PTSTYLEDEF	Invalid word for the spell check (highlighted in black with white text).
RESET	PTSTYLEDEF	*Default PeopleSoft Pure Internet Architecture navigation.
SMALL	PTSTYLEDEF	Link on the portal homepage personalization page and portal structure breadcrumbs.
STRONG	PSSTYLEDEF	Emphasized label text size and weight.

* Default PeopleSoft Pure Internet Architecture styles are no longer in use.

APPENDIX D

Performing Bulk Operations

This appendix provides an overview of bulk operations and discusses how to perform bulk:

- Insertions
- Modifications
- Deletions

Understanding Bulk Operations

PeopleTools enables administrators to perform bulk operations on fields that might be in many different records or pages.

Note. For security reasons, only those users logged in to PeopleSoft Application Designer under the "PeopleSoft Administrator" role have access to the Bulk Operations menu items. For all other users these menu options are disabled. To gain access, navigate to PeopleTools, Security, User Profiles, User Profiles, Roles tab.

Bulk operations are useful for financial ChartFields.*ChartField* is an accounting term that describes a small group of character fields, typically 5 to 20, that are present in many records and pages. ChartFields can be between 1 and 30 characters long, with an average length of 10. They often identify organization-wide attributes, such as DEPTID (department identification).

Important! Many PeopleSoft financial applications have created a standardized way to modify ChartFields by using standard pages and their corresponding PeopleCode application programming interfaces (APIs). The financials applications do more than just invoke the bulk operations to modify ChartFields. For this reason, users of these applications should follow the applications guidelines rather than using these bulk operations menu items in PeopleSoft Application Designer. Consult your application to ensure that you are using the appropriate mechanism to update your ChartFields, before using PeopleSoft Application Designer's Bulk Operations tool.

Performing Bulk Insertions

To perform bulk insertions by using PeopleSoft Application Designer, select Tools, Bulk Operations, Insert.

This section lists common elements and discusses how to insert:

- Fields into records.
- Record fields onto pages.

- Fields into records and onto pages.

Note. If you try to insert a field that is already present in a record or on a page, no processing takes place.

Common Elements Used in This Section

Model Field Specify a field with record attributes that you want to copy to all inserted fields.

Clone PeopleCode of model field Select if you want PeopleCode in the record fields to be copied and references modified to the inserted field.

Inserting Fields into Records

You can insert a source field into selected records only if the model field exists in those records. The source field is assigned the same record field properties as the model field in each record and is inserted directly after the model field.

If the model field has a prompt table, a prompt table is created for the source field by using the name of the source field with *TBL* appended to it.

If the record is either a structured query language (SQL) view or a dynamic view type, the associated SQL is modified by expanding the SELECT clause to include the new field.

If the record is a subrecord, the parent records of the SQL view or dynamic view type that contain this subrecord are updated. If the SQL contains the model field in the WHERE clause or if the SQL is complex, the associated record is inserted into a project called BLK_<SOURCEFIELDNAME> and displays a status message. Examine the contents of that project after the operation completes to verify successful completion.

If the model field has PeopleCode associated with it in the record or in a component, this PeopleCode is copied to the new field with all of the references to the model field changed to refer to the new field.

Note. Because performing this operation changes records that are used to build application tables, you must rebuild (alter) the database before these changes can be used.

Inserting Record Fields onto Pages

This operation inserts the specified record field onto each page that is listed if the model field exists on the page.

If the model field is in a grid, the system inserts the new field into the grid next to the model field and assigns it the same page field properties.

If the model field is not in a grid, the system inserts the new field to the right of the model field (in the first open space) and assigns it the same page field properties. If the system detects a questionable field position, it inserts the page into a project called BLK_<SOURCEFIELDNAME> and displays a status message. Examine that project after the operation completes to verify successful completion.

The page field name property is not cloned if it exists on the model field. Instead, the name of the new field is used, because the page field name should be a unique identifier for page elements.

Note. You do not need to rebuild the database after performing this operation. The changes take affect when you open the page.

Record Name Enter the record name containing the field to insert onto the pages.

Get Pages from Project Specify the project name containing the pages to modify.

Get Records from Project Specify the project containing the records to modify.

Inserting Fields into Both Records and onto Pages

This operation is a combination of inserting fields into records and inserting record fields onto pages. The system examines each record to see if a model field exists. If so, it inserts the source field after the model field, including all field properties, PeopleCode, and SQL additions to itself and parent records. Then, for each record, the system checks all pages to see if the new record field should be inserted.

If the system detects a questionable field position, it inserts the page into a project called BLK_<SOURCEFIELDNAME> and displays a status message. Examine that project after the operation completes.

Get Records and Pages from Project Specify the project containing the records and pages to modify.

Performing Bulk Modifications

To perform bulk modifications by using PeopleSoft Application Designer, select Tools, Bulk Operations, Modify.

This section discusses how to:

- Modify record fields.
- Modify page fields.
- Reorder or resize grid fields.
- Change page field attributes.

Modifying Record Fields

Use this operation to modify record fields by applying record field properties to a field in a set of records. All of the properties that are associated with the page are set for the record field in the listed records. Therefore, after this operation completes, the source field in these records contains identical record field properties.

Note. In most cases, you must rebuild the database for these attributes to take effect.

Field will be modified on records from Project Specify the project name containing the record fields to modify.

Records Specify the records containing the fields with attributes that you want to modify.

Change Attributes Click to open the menu to select specific attributes. Enter the appropriate attributes for the modified fields.

Modifying Page Fields

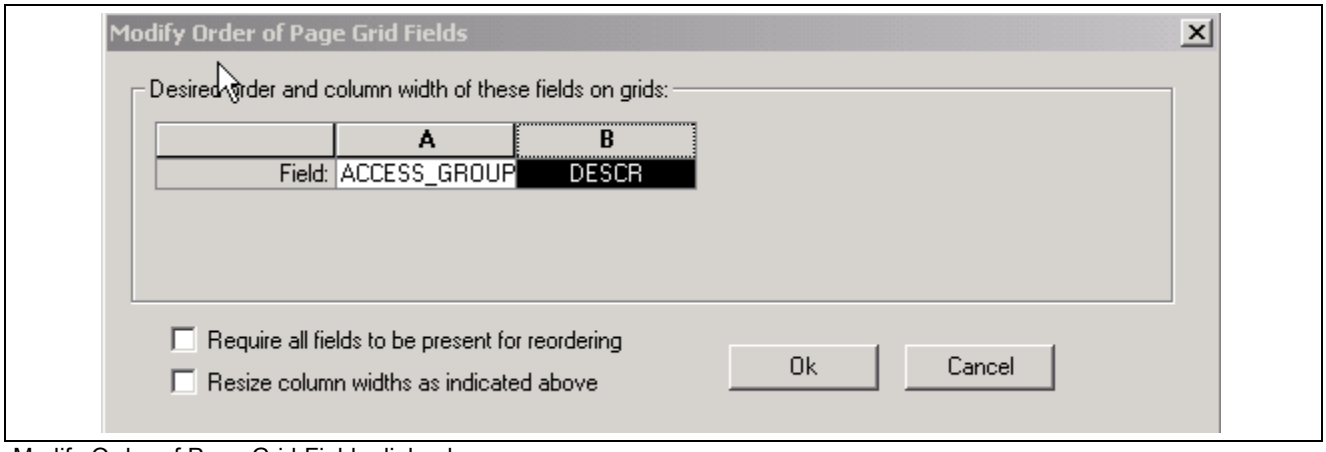
Use this operation to modify page fields in a variety of ways. You can specify a source field list from a list of fields, records, pages, or projects. You can only modify page field attributes on a single field at a time; therefore, if you do not specify a single field, the Change Attributes button is unavailable.

Field,From Record, From Page, andFrom Project	Specify the source that is used to populate the Fields to be modified list.
Get Pages from Project	Specify the project that is used to populate the Pages to be modified list.
Reorder/Resize Grid Fields	Click to access the Modify Order of Page Grid Fields dialog box and specify the order and width of the Fields to be modified fields on all listed pages.
Change Attributes	Click to access the Modify Page Field Attribute dialog box and specify the attributes of the field on all listed pages.

Reordering or Resizing Grid Fields

You can rearrange columns as needed, and the order is applied on target pages. The reordering algorithm groups the fields together at the first instance of any of the fields in a target page grid and forces the remaining fields into the specified order.

Pages that have these fields outside of grids are not affected by these changes. The resize operation applies only to grid column widths.



Modify Order of Page Grid Fields dialog box

Require all fields to be present for reordering	Select if you do not want to modify pages that do not have all of the fields in the grid.
Resize column widths as indicated above	Select to resize the columns to the column widths that are defined.

Note. These changes take effect immediately; no database build is required.

Changing Page Field Attributes

Like record field attributes, you can modify page field attributes for the selected field (on the selected set of pages) by using the Modify Page Field Attribute dialog box. All of the attributes on the screen are applied to the page field on all pages.

Performing Bulk Deletions

To perform bulk deletions by using PeopleSoft Application Designer, select Tools, Bulk Operations, Delete.

Use the delete operation to:

- Remove the field from a list of pages, regardless of where the field exists on the page or whether it is in a grid.
- Remove the field from the list of records.

  This removes associated PeopleCode and modifies associated SQL either in the record or, if the record is a subrecord, in parent records.

  If the field is in the SELECT clause of the SQL, the removal is straightforward. However, if the field is also used in a WHERE clause, or if the field is the only item in the SELECT clause, the record is not modified. Instead, it is inserted into a project called BLK_<SOURCEFIELDNAME> as noted in messages in the status screen.

Note. A project with a targeted field in SQL statements should be examined by hand to delete the field as required from the associated SQL.

Deleting fields from records and pages does *not* remove the field definition itself and it does not remove the field from other applications, such as Crystal Reports.

Note. Because performing this operation changes records, you must subsequently rebuild the database, because each application data table is based on the record definition.

APPENDIX E

Running PeopleTools Cross-Reference Reports

This chapter provides an overview of cross-reference reports and discusses how to run a sample Crystal report.

Understanding Cross-Reference Reports

By using PeopleTools, you can create new applications by defining menus and pages that you use to enter data and database tables. PeopleTools includes a variety of cross-reference reports (similar to blueprints) that guide you through the definitions (such as menus, pages, and records) that are delivered with the system and those that you create or adapt with PeopleTools.

PeopleTools cross-reference reports are predefined Crystal reports, not unlike the standard reports that are delivered with the PeopleSoft application. Like other standard reports, you can identify cross-reference reports by the three-character prefix *XRF*. The reports provide several views of the application, ranging from high-level lists of the windows, menus, and pages to the detailed database attributes of fields.

You should already be familiar with the types of definitions that are delivered with the PeopleSoft application, as well as with PeopleTools and relational databases.

The cross-reference reports include:

Report	ID	Description
Fields and Pages	XRFFLPN	Lists all fields in alphabetical order. It includes the names of all record and page definitions in which the fields occur and lists the field long names.
Fields and Records	XRFRCFL	Lists all fields in alphabetical order by the associated record definition name. It details the field long name, type, length, and formatting.
Records and Fields	XRFFLRC	Lists all fields in alphabetical order. It includes the field long name, type, length, and formatting, as well as the names of all record definitions that contain the field.

Report	ID	Description
Applications and Fields	XRFAPFL	Lists all menus, such as general tables, in alphabetical order, including the fields in each menu. For each field, it lists the field name, type, length, and format, as well as all record and page definitions that contain the field (in the window).
Fields Referenced by PeopleCode Programs	XRFFLPC	Lists all PeopleCode programs in alphabetical order by the associated record definition and field. It includes the types of fields that are referenced in the PeopleCode program.
Field Listing	XRFIELDS	Lists all fields in alphabetical order. It includes field type, length, format, long name, and short name.
Menu Listing	XRFMENU	Lists all menus in alphabetical order, including all page definitions in each menu. It includes the associated search record definition name and detail page definition name.
Page Listing	XRFPAGE	Lists all page definitions in alphabetical order.
PeopleCode Programs and Field References	XRFPCFL	Lists record definitions that contain fields with PeopleCode program attributes. It includes the field name, as well as the associated record definitions and fields that are referenced in the PeopleCode program.
Pages with PeopleCode	XRFPNPC	Lists all pages that contain fields with PeopleCode attributes. For each page, it includes the name of the record definitions that contain the field, as well as the field name and type

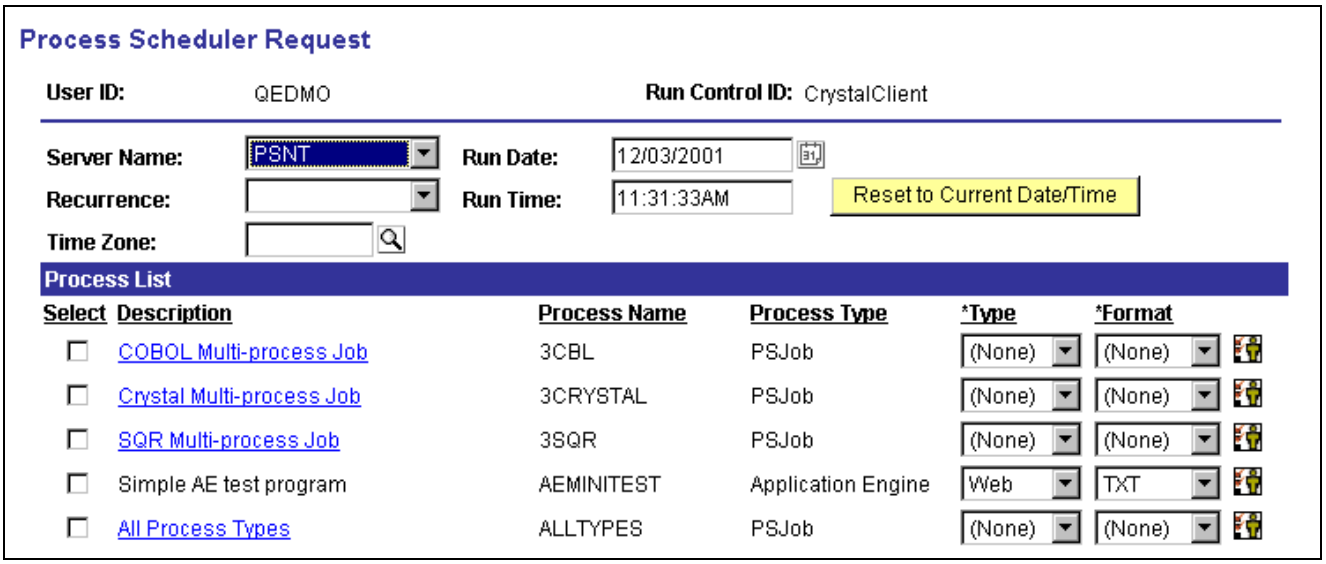
Report	ID	Description
Records and Pages	XRFRCPN	Lists all record definitions in alphabetical order. It includes the menu and page definitions that are associated with each record definition.
Window Listing	XRFWIN	Lists all application menu windows in alphabetical order.

Note. In addition to standard cross-reference reports, if you are familiar with the PeopleSoft database, you can generate additional ad hoc reports to extract the exact combination of information that you need.

Running a Crystal Report

Run cross-reference reports on the Process Scheduler Request page.

The following example explains how to generate the Field Cross Reference (XRFIELDS) report.



Process Scheduler Request page

To create a Field Cross Reference report:

1. Select PeopleTools, Process Scheduler , System Process Requests.

   The Sample Processes search page appears.
2. Click Add a New Value.
3. Enter *CrystalClient* for the run control ID.
4. Click Add.
5. Click Run.

   The Process Scheduler Request page appears.

6. Select the *Field Cross Reference, XRFIELDS,* and *Crystal* by clicking the Select check box next to each of these values in the Process List grid.
7. Click OK to generate a formatted display of this Crystal report in HTML.

APPENDIX F

Working With Records Used in the Mobile Synchronization Framework

This appendix provides an overview of records used in the Mobile Synchronization Framework and discusses how to:

- Configure records for the Mobile Synchronization Framework.
- Example: Build records for the Mobile Synchronization Framework.

Note. PeopleSoft may support the Mobile Synchronization Framework in a future release.

Understanding Mobile Synchronization Framework Records

Because of the nature of the architecture of the Mobile Synchronization Framework, there are additional settings that need to be considered when building applications that you intend to run on mobile or disconnected computers. These settings address the issue of the application database running on the main network being updated while mobile users have their computers in a disconnected state.

With the Mobile Synchronization Framework, the mobile user has a copy of the application tables running on their computers. If a system administrator, for example, adds a column to a table used in the mobile application, the copy of this same table running on the disconnected computer is no longer current. When the mobile users connect to the main network and attempt to synchronize the data on their machines with the data in the main application database, the synchronization operation will fail if the new column is a required (or 'NOT NULL') field, because the application database expects a value to be inserted within the new column.

To ensure that the synchronization operation completes successfully, the system allows default values to be inserted in the new column.

Note. Default values can only be specified in fields of the following types: Character, Number, and Signed Number.

Configuring Records for the Mobile Synchronization Framework

This section discusses how to:

- Set record properties.
- Set record field properties.

Setting Record Properties

On the Use tab of the Record Properties dialog there is a group box named Sync type (MSF) devoted entirely to records used in mobile applications. The options in the Sync type (MSF) group box enable you to identify records as being used for mobile applications by selecting either of the options.

Server —> User (Down Sync) Select this option if the data existing on the mobile computer needs to be updated with the data existing on the main application database server. Selecting this option does not affect any behavior of the build process, such as inserting default values for required fields.

User —> Server (Up Sync) Select this option if the data existing on the main application database server needs to be updated by the data existing on the mobile computer.

If this option is selected, and a Character, Number, or Signed Number column is set as required, during the build process the system automatically inserts the default values for these fields.

Also, if this option is selected, the system does not allow you to set the following field types as required fields:

- Long Character
- Date
- Time
- Datetime

Note. You can select both options, depending on the application requirements.

See Also

Chapter 6, “Creating Record Definitions,” Setting Record Properties, page 111

Working with Required Fields and Default Values

This section discusses how to:

- Create a required field.
- Specify default values for required fields.

Creating a Required Field

As with any record definition, you specify that a field is required on the Edits tab of the Record Field Properties. Selecting the Required check box specifies that a particular field is ’NOT NULL’.

This is also the case with records used in mobile applications, except for records that have the User —> Server (Up Sync) option set. If set, only Character, Number, and Signed Number fields can be set to required. For all other field types, the system disables the Required check box.

Specifying Default Values for Required Fields

If the User —> Server (Up Sync) option is set in the record properties, *and* the Required option is set in the record field properties, during the build process the system inserts the following default values.

Field Type	Default Value
Character	'<space>'
Number	0 (zero)
Signed Number	0 (zero)

However, you can specify customer default values on the Use tab of the Record Field Properties dialog box. As with all other fields you use the Default Value group box to specify custom options.

Example: Building Records for the Mobile Synchronization Framework

This example illustrates the SQL generated for the build scripts for records that meet the following criteria:

used for mobile applications that

- Used in mobile applications.
- Have the User —> Server (Up Sync) record property set.
- Contain Long, Numbered, or Signed Number fields with the record field property of Required set.

The following SQL examples create a table with four NOT NULL fields that exist in the mobile record PS_MSF_DEMO. Two are Character fields (CUST_ID and AA_STATUS), one is a Number field (STD_HOURS), and one is a Signed Number field (QTY_ORDERED).

This sample SQL contains no custom defaults are specified on the Edits tab on the Record Field Properties dialog box.

```
CREATE TABLE PS_MSF_DEMO_1 (CUST_ID NCHAR(15)  DEFAULT N' ' NOT NULL,
   STD_HOURS DECIMAL(6, 2)  DEFAULT 0 NOT NULL,
   QTY_ORDERED DECIMAL(14, 4)  DEFAULT 0 NOT NULL,
   ACTION_DT PSDATE NULL,
   PM_VALID_TO_TIME PSTIME NULL,
   APPROVEDTTM PSDATETIME NULL,
   AA_STATUS NCHAR(1)  DEFAULT N' ' NOT NULL,
   QE_TEST_DESCR NTEXT NULL)
```

This sample SQL contains custom defaults that are specified on the Edits tab on the Record Field Properties dialog box. For STD_HOURS the default is 8, for QTY_ORDERED the default is 1, and for AA_STATUS the default is A.

```
CREATE TABLE PS_MSF_DEMO_1 (CUST_ID NCHAR(15)  DEFAULT N' ' NOT NULL,
   STD_HOURS DECIMAL(6, 2)  DEFAULT 8 NOT NULL,
   QTY_ORDERED DECIMAL(14, 4)  DEFAULT 1 NOT NULL,
   ACTION_DT PSDATE NULL,
   PM_VALID_TO_TIME PSTIME NULL,
   APPROVEDTTM PSDATETIME NULL,
   AA_STATUS NCHAR(1)  DEFAULT N'A' NOT NULL,
   QE_TEST_DESCR NTEXT NULL)
```

Glossary of PeopleSoft Terms

absence entitlement This element defines rules for granting paid time off for valid absences, such as sick time, vacation, and maternity leave. An absence entitlement element defines the entitlement amount, frequency, and entitlement period.

absence take This element defines the conditions that must be met before a payee is entitled to take paid time off.

academic career In PeopleSoft Enterprise Campus Solutions, all course work that a student undertakes at an academic institution and that is grouped in a single student record. For example, a university that has an undergraduate school, a graduate school, and various professional schools might define several academic careers—an undergraduate career, a graduate career, and separate careers for each professional school (law school, medical school, dental school, and so on).

academic institution In PeopleSoft Enterprise Campus Solutions, an entity (such as a university or college) that is independent of other similar entities and that has its own set of rules and business processes.

academic organization In PeopleSoft Enterprise Campus Solutions, an entity that is part of the administrative structure within an academic institution. At the lowest level, an academic organization might be an academic department. At the highest level, an academic organization can represent a division.

academic plan In PeopleSoft Enterprise Campus Solutions, an area of study—such as a major, minor, or specialization—that exists within an academic program or academic career.

academic program In PeopleSoft Enterprise Campus Solutions, the entity to which a student applies and is admitted and from which the student graduates.

accounting class In PeopleSoft Enterprise Performance Management, the accounting class defines how a resource is treated for generally accepted accounting practices. The Inventory class indicates whether a resource becomes part of a balance sheet account, such as inventory or fixed assets, while the Non-inventory class indicates that the resource is treated as an expense of the period during which it occurs.

accounting date The accounting date indicates when a transaction is recognized, as opposed to the date the transaction actually occurred. The accounting date and transaction date can be the same. The accounting date determines the period in the general ledger to which the transaction is to be posted. You can only select an accounting date that falls within an open period in the ledger to which you are posting. The accounting date for an item is normally the invoice date.

accounting split The accounting split method indicates how expenses are allocated or divided among one or more sets of accounting ChartFields.

accumulator You use an accumulator to store cumulative values of defined items as they are processed. You can accumulate a single value over time or multiple values over time. For example, an accumulator could consist of all voluntary deductions, or all company deductions, enabling you to accumulate amounts. It allows total flexibility for time periods and values accumulated.

action reason The reason an employee's job or employment information is updated. The action reason is entered in two parts: a personnel action, such as a promotion, termination, or change from one pay group to another—and a reason for that action. Action reasons are used by PeopleSoft Human Resources, PeopleSoft Benefits Administration,

PeopleSoft Stock Administration, and the COBRA Administration feature of the Base Benefits business process.

action template In PeopleSoft Receivables, outlines a set of escalating actions that the system or user performs based on the period of time that a customer or item has been in an action plan for a specific condition.

activity In PeopleSoft Enterprise Learning Management, an instance of a catalog item (sometimes called a class) that is available for enrollment. The activity defines such things as the costs that are associated with the offering, enrollment limits and deadlines, and waitlisting capacities.

In PeopleSoft Enterprise Performance Management, the work of an organization and the aggregation of actions that are used for activity-based costing.

In PeopleSoft Project Costing, the unit of work that provides a further breakdown of projects—usually into specific tasks.

In PeopleSoft Workflow, a specific transaction that you might need to perform in a business process. Because it consists of the steps that are used to perform a transaction, it is also known as a step map.

address usage In PeopleSoft Enterprise Campus Solutions, a grouping of address types defining the order in which the address types are used. For example, you might define an address usage code to process addresses in the following order: billing address, dormitory address, home address, and then work address.

adjustment calendar In PeopleSoft Enterprise Campus Solutions, the adjustment calendar controls how a particular charge is adjusted on a student's account when the student drops classes or withdraws from a term. The charge adjustment is based on how much time has elapsed from a predetermined date, and it is determined as a percentage of the original charge amount.

administrative function In PeopleSoft Enterprise Campus Solutions, a particular functional area that processes checklists, communication, and comments. The administrative function identifies which variable data is added to a person's checklist or communication record when a specific checklist code, communication category, or comment is assigned to the student. This key data enables you to trace that checklist, communication, or comment back to a specific processing event in a functional area.

admit type In PeopleSoft Enterprise Campus Solutions, a designation used to distinguish first-year applications from transfer applications.

agreement In PeopleSoft eSettlements, provides a way to group and specify processing options, such as payment terms, pay from a bank, and notifications by a buyer and supplier location combination.

allocation rule In PeopleSoft Enterprise Incentive Management, an expression within compensation plans that enables the system to assign transactions to nodes and participants. During transaction allocation, the allocation engine traverses the compensation structure from the current node to the root node, checking each node for plans that contain allocation rules.

alternate account A feature in PeopleSoft General Ledger that enables you to create a statutory chart of accounts and enter statutory account transactions at the detail transaction level, as required for recording and reporting by some national governments.

analysis database In PeopleSoft Enterprise Campus Solutions, database tables that store large amounts of student information that may not appear in standard report formats. The analysis database tables contain keys for all objects in a report that an application program can use to reference other student-record objects that are not contained in the printed report. For instance, the analysis database contains data on courses that are considered for satisfying a requirement but that are rejected. It also contains information on

	courses captured by global limits. An analysis database is used in PeopleSoft Enterprise Academic Advisement.
Application Messaging	PeopleSoft Application Messaging enables applications within the PeopleSoft Enterprise product family to communicate synchronously or asynchronously with other PeopleSoft and third-party applications. An application message defines the records and fields to be published or subscribed to.
AR specialist	Abbreviation for *receivables specialist.* In PeopleSoft Receivables, an individual in who tracks and resolves deductions and disputed items.
arbitration plan	In PeopleSoft Enterprise Pricer, defines how price rules are to be applied to the base price when the transaction is priced.
assessment rule	In PeopleSoft Receivables, a user-defined rule that the system uses to evaluate the condition of a customer's account or of individual items to determine whether to generate a follow-up action.
asset class	An asset group used for reporting purposes. It can be used in conjunction with the asset category to refine asset classification.
attribute/value pair	In PeopleSoft Directory Interface, relates the data that makes up an entry in the directory information tree.
audience	In PeopleSoft Enterprise Campus Solutions, a segment of the database that relates to an initiative, or a membership organization that is based on constituent attributes rather than a dues-paying structure. Examples of audiences include the Class of '65 and Undergraduate Arts & Sciences.
authentication server	A server that is set up to verify users of the system.
base time period	In PeopleSoft Business Planning, the lowest level time period in a calendar.
benchmark job	In PeopleSoft Workforce Analytics, a benchmark job is a job code for which there is corresponding salary survey data from published, third-party sources.
billing career	In PeopleSoft Enterprise Campus Solutions, the one career under which other careers are grouped for billing purposes if a student is active simultaneously in multiple careers.
bio bit or bio brief	In PeopleSoft Enterprise Campus Solutions, a report that summarizes information stored in the system about a particular constituent. You can generate standard or specialized reports.
book	In PeopleSoft Asset Management, used for storing financial and tax information, such as costs, depreciation attributes, and retirement information on assets.
branch	A tree node that rolls up to nodes above it in the hierarchy, as defined in PeopleSoft Tree Manager.
budgetary account only	An account used by the system only and not by users; this type of account does not accept transactions. You can only budget with this account. Formerly called "system-maintained account."
budget check	In commitment control, the processing of source transactions against control budget ledgers, to see if they pass, fail, or pass with a warning.
budget control	In commitment control, budget control ensures that commitments and expenditures don't exceed budgets. It enables you to track transactions against corresponding budgets and terminate a document's cycle if the defined budget conditions are not met. For example, you can prevent a purchase order from being dispatched to a vendor if there are insufficient funds in the related budget to support it.

budget period The interval of time (such as 12 months or 4 quarters) into which a period is divided for budgetary and reporting purposes. The ChartField allows maximum flexibility to define operational accounting time periods without restriction to only one calendar.

business activity The name of a subset of a detailed business process. This might be a specific transaction, task, or action that you perform in a business process.

business event In PeopleSoft Receivables, defines the processing characteristics for the Receivable Update process for a draft activity.

In PeopleSoft Sales Incentive Management, an original business transaction or activity that may justify the creation of a PeopleSoft Enterprise Incentive Management event (a sale, for example).

business process A standard set of 17 business processes are defined and maintained by the PeopleSoft product families and are supported by Business Process Engineering group at PeopleSoft. An example of a business process is Order Fulfillment, which is a business process that manages sales orders and contracts, inventory, billing, and so forth.

See also *detailed business process.*

business task The name of the specific function depicted in one of the business processes.

business unit A corporation or a subset of a corporation that is independent with regard to one or more operational or accounting functions.

buyer In PeopleSoft eSettlements, an organization (or business unit, as opposed to an individual) that transacts with suppliers (vendors) within the system. A buyer creates payments for purchases that are made in the system.

campus In PeopleSoft Enterprise Campus Solutions, an entity that is usually associated with a distinct physical administrative unit, that belongs to a single academic institution, that uses a unique course catalog, and that produces a common transcript for students within the same academic career.

catalog item In PeopleSoft Enterprise Learning Management, a specific topic that a learner can study and have tracked. For example, “Introduction to Microsoft Word.” A catalog item contains general information about the topic and includes a course code, description, categorization, keywords, and delivery methods. A catalog item can have one or more learning activities.

catalog map In PeopleSoft Catalog Management, translates values from the catalog source data to the format of the company’s catalog.

catalog partner In PeopleSoft Catalog Management, shares responsibility with the enterprise catalog manager for maintaining catalog content.

categorization Associates partner offerings with catalog offerings and groups them into enterprise catalog categories.

category In PeopleSoft Enterprise Campus Solutions, a broad grouping to which specific comments or communications (contexts) are assigned. Category codes are also linked to 3C access groups so that you can assign data-entry or view-only privileges across functions.

channel In PeopleSoft MultiChannel Framework, email, chat, voice (computer telephone integration [CTI]), or a generic event.

ChartField A field that stores a chart of accounts, resources, and so on, depending on the PeopleSoft application. ChartField values represent individual account numbers, department codes, and so forth.

ChartField balancing You can require specific ChartFields to match up (balance) on the debit and the credit side of a transaction.

ChartField combination edit The process of editing journal lines for valid ChartField combinations based on user-defined rules.

ChartKey One or more fields that uniquely identify each row in a table. Some tables contain only one field as the key, while others require a combination.

checkbook In PeopleSoft Promotions Management, enables you to view financial data (such as planned, incurred, and actual amounts) that is related to funds and trade promotions.

checklist code In PeopleSoft Enterprise Campus Solutions, a code that represents a list of planned or completed action items that can be assigned to a staff member, volunteer, or unit. Checklists enable you to view all action assignments on one page.

class In PeopleSoft Enterprise Campus Solutions, a specific offering of a course component within an academic term.

See also *course.*

Class ChartField A ChartField value that identifies a unique appropriation budget key when you combine it with a fund, department ID, and program code, as well as a budget period. Formerly called *sub-classification.*

clearance In PeopleSoft Enterprise Campus Solutions, the period of time during which a constituent in PeopleSoft Contributor Relations is approved for involvement in an initiative or an action. Clearances are used to prevent development officers from making multiple requests to a constituent during the same time period.

clone In PeopleCode, to make a unique copy. In contrast, to *copy* may mean making a new reference to an object, so if the underlying object is changed, both the copy and the original change.

cohort In PeopleSoft Enterprise Campus Solutions, the highest level of the three-level classification structure that you define for enrollment management. You can define a cohort level, link it to other levels, and set enrollment target numbers for it.

See also *population* and *division*.

collection To make a set of documents available for searching in Verity, you must first create at least one collection. A collection is set of directories and files that allow search application users to use the Verity search engine to quickly find and display source documents that match search criteria. A collection is a set of statistics and pointers to the source documents, stored in a proprietary format on a file server. Because a collection can only store information for a single location, PeopleSoft maintains a set of collections (one per language code) for each search index object.

collection rule In PeopleSoft Receivables, a user-defined rule that defines actions to take for a customer based on both the amount and the number of days past due for outstanding balances.

comm key See *communication key.*

communication key In PeopleSoft Enterprise Campus Solutions, a single code for entering a combination of communication category, communication context, communication method, communication direction, and standard letter code. Communication keys (also called *comm keys* or *speed keys*) can be created for background processes as well as for specific users.

compensation object In PeopleSoft Enterprise Incentive Management, a node within a compensation structure. Compensation objects are the building blocks that make up a compensation structure's hierarchical representation.

compensation structure In PeopleSoft Enterprise Incentive Management, a hierarchical relationship of compensation objects that represents the compensation-related relationship between the objects.

component interface A component interface is a set of application programming interfaces (APIs) that you can use to access and modify PeopleSoft database information using a program instead of the PeopleSoft client.

condition In PeopleSoft Receivables, occurs when there is a change of status for a customer's account, such as reaching a credit limit or exceeding a user-defined balance due.

configuration parameter catalog Used to configure an external system with PeopleSoft. For example, a configuration parameter catalog might set up configuration and communication parameters for an external server.

configuration plan In PeopleSoft Enterprise Incentive Management, configuration plans hold allocation information for common variables (not incentive rules) and are attached to a node without a participant. Configuration plans are not processed by transactions.

constituents In PeopleSoft Enterprise Campus Solutions, friends, alumni, organizations, foundations, or other entities affiliated with the institution, and about which the institution maintains information. The constituent types delivered with PeopleSoft Enterprise Contributor Relations Solutions are based on those defined by the Council for the Advancement and Support of Education (CASE).

content reference Content references are pointers to content registered in the portal registry. These are typically either URLs or iScripts. Content references fall into three categories: target content, templates, and template pagelets.

context In PeopleCode, determines which buffer fields can be contextually referenced and which is the current row of data on each scroll level when a PeopleCode program is running.

In PeopleSoft Enterprise Campus Solutions, a specific instance of a comment or communication. One or more contexts are assigned to a category, which you link to 3C access groups so that you can assign data-entry or view-only privileges across functions.

In PeopleSoft Enterprise Incentive Management, a mechanism that is used to determine the scope of a processing run. PeopleSoft Enterprise Incentive Management uses three types of context: plan, period, and run-level.

control table Stores information that controls the processing of an application. This type of processing might be consistent throughout an organization, or it might be used only by portions of the organization for more limited sharing of data.

cost profile A combination of a receipt cost method, a cost flow, and a deplete cost method. A profile is associated with a cost book and determines how items in that book are valued, as well as how the material movement of the item is valued for the book.

cost row A cost transaction and amount for a set of ChartFields.

course In PeopleSoft Enterprise Campus Solutions, a course that is offered by a school and that is typically described in a course catalog. A course has a standard syllabus and credit level; however, these may be modified at the class level. Courses can contain multiple components such as lecture, discussion, and lab.

See also *class*.

course share set In PeopleSoft Enterprise Campus Solutions, a tag that defines a set of requirement groups that can share courses. Course share sets are used in PeopleSoft Enterprise Academic Advisement.

current learning In PeopleSoft Enterprise Learning Management, a self-service repository for all of a learner's in-progress learning activities and programs.

data acquisition In PeopleSoft Enterprise Incentive Management, the process during which raw business transactions are acquired from external source systems and fed into the operational data store (ODS).

data cube In PeopleSoft Analytic Calculation Engine, a data cube is a container for one kind of data (such as Sales data) and works with in tandem with one or more dimensions. Dimensions and data cubes in PeopleSoft Analytic Calculation Engine are unrelated to dimensions and online analytical processing (OLAP) cubes in PeopleSoft Cube Manager.

data elements Data elements, at their simplest level, define a subset of data and the rules by which to group them.

For Workforce Analytics, data elements are rules that tell the system what measures to retrieve about your workforce groups.

dataset A data grouping that enables role-based filtering and distribution of data. You can limit the range and quantity of data that is displayed for a user by associating dataset rules with user roles. The result of dataset rules is a set of data that is appropriate for the user's roles.

delivery method In PeopleSoft Enterprise Learning Management, identifies the primary type of delivery method in which a particular learning activity is offered. Also provides default values for the learning activity, such as cost and language. This is primarily used to help learners search the catalog for the type of delivery from which they learn best. Because PeopleSoft Enterprise Learning Management is a blended learning system, it does not enforce the delivery method.

In PeopleSoft Supply Chain Management, identifies the method by which goods are shipped to their destinations (such as truck, air, rail, and so on). The delivery method is specified when creating shipment schedules.

delivery method type In PeopleSoft Enterprise Learning Management, identifies how learning activities can be delivered—for example, through online learning, classroom instruction, seminars, books, and so forth—in an organization. The type determines whether the delivery method includes scheduled components.

detailed business process A subset of the business process. For example, the detailed business process named Determine Cash Position is a subset of the business process called Cash Management.

dimension In PeopleSoft Analytic Calculation Engine, a dimension contains a list of one kind of data that can span various contexts, and it is a basic component of an analytic model. Within the analytic model, a dimension is attached to one or more data cubes. In PeopleSoft Cube Manager, a dimension is the most basic component of an OLAP cube and specifies the PeopleSoft metadata to be used to create the dimension's rollup structure. Dimensions and data cubes in PeopleSoft Analytic Calculation Engine are unrelated to dimensions and OLAP cubes in PeopleSoft Cube Manager.

directory information tree In PeopleSoft Directory Interface, the representation of a directory's hierarchical structure.

division In PeopleSoft Enterprise Campus Solutions, the lowest level of the three-level classification structure that you define in PeopleSoft Enterprise Recruiting and Admissions for enrollment management. You can define a division level, link it to other levels, and set enrollment target numbers for it.

See also *population* and *cohort*.

document sequencing A flexible method that sequentially numbers the financial transactions (for example, bills, purchase orders, invoices, and payments) in the system for statutory reporting and for tracking commercial transaction activity.

dynamic detail tree A tree that takes its detail values—dynamic details—directly from a table in the database, rather than from a range of values that are entered by the user.

edit table A table in the database that has its own record definition, such as the Department table. As fields are entered into a PeopleSoft application, they can be validated against an edit table to ensure data integrity throughout the system.

effective date A method of dating information in PeopleSoft applications. You can predate information to add historical data to your system, or postdate information in order to enter it before it actually goes into effect. By using effective dates, you don't delete values; you enter a new value with a current effective date.

EIM ledger Abbreviation for *Enterprise Incentive Management ledger.* In PeopleSoft Enterprise Incentive Management, an object to handle incremental result gathering within the scope of a participant. The ledger captures a result set with all of the appropriate traces to the data origin and to the processing steps of which it is a result.

elimination set In PeopleSoft General Ledger, a related group of intercompany accounts that is processed during consolidations.

entry event In PeopleSoft General Ledger, Receivables, Payables, Purchasing, and Billing, a business process that generates multiple debits and credits resulting from single transactions to produce standard, supplemental accounting entries.

equitization In PeopleSoft General Ledger, a business process that enables parent companies to calculate the net income of subsidiaries on a monthly basis and adjust that amount to increase the investment amount and equity income amount before performing consolidations.

equity item limit In PeopleSoft Enterprise Campus Solutions, the amounts of funds set by the institution to be awarded with discretionary or gift funds. The limit could be reduced by amounts equal to such things as expected family contribution (EFC) or parent contribution. Students are packaged by Equity Item Type Groups and Related Equity Item Types. This limit can be used to assure that similar student populations are packaged equally.

event A predefined point either in the Component Processor flow or in the program flow. As each point is encountered, the event activates each component, triggering any PeopleCode program that is associated with that component and that event. Examples of events are FieldChange, SavePreChange, and RowDelete.

In PeopleSoft Human Resources, also refers to an incident that affects benefits eligibility.

event propagation process In PeopleSoft Sales Incentive Management, a process that determines, through logic, the propagation of an original PeopleSoft Enterprise Incentive Management event and creates a derivative (duplicate) of the original event to be processed by other objects. Sales Incentive Management uses this mechanism to implement splits, roll-ups, and so on. Event propagation determines who receives the credit.

exception In PeopleSoft Receivables, an item that either is a deduction or is in dispute.

exclusive pricing In PeopleSoft Order Management, a type of arbitration plan that is associated with a price rule. Exclusive pricing is used to price sales order transactions.

fact In PeopleSoft applications, facts are numeric data values from fields from a source database as well as an analytic application. A fact can be anything you want to measure your business by, for example, revenue, actual, budget data, or sales numbers. A fact is stored on a fact table.

financial aid term In PeopleSoft Enterprise Campus Solutions, a combination of a period of time that the school determines as an instructional accounting period and an academic career. It is created and defined during the setup process. Only terms eligible for financial aid are set up for each financial aid career.

forecast item A logical entity with a unique set of descriptive demand and forecast data that is used as the basis to forecast demand. You create forecast items for a wide range of uses, but they ultimately represent things that you buy, sell, or use in your organization and for which you require a predictable usage.

fund In PeopleSoft Promotions Management, a budget that can be used to fund promotional activity. There are four funding methods: top down, fixed accrual, rolling accrual, and zero-based accrual.

gap In PeopleSoft Enterprise Campus Solutions, an artificial figure that sets aside an amount of unmet financial aid need that is not funded with Title IV funds. A gap can be used to prevent fully funding any student to conserve funds, or it can be used to preserve unmet financial aid need so that institutional funds can be awarded.

generic process type In PeopleSoft Process Scheduler, process types are identified by a generic process type. For example, the generic process type SQR includes all SQR process types, such as SQR process and SQR report.

gift table In PeopleSoft Enterprise Campus Solutions, a table or so-called *donor pyramid* describing the number and size of gifts that you expect will be needed to successfully complete the campaign in PeopleSoft Contributor Relations. The gift table enables you to estimate the number of donors and prospects that you need at each gift level to reach the campaign goal.

GL business unit Abbreviation for *general ledger business unit.* A unit in an organization that is an independent entity for accounting purposes. It maintains its own set of accounting books.

See also *business unit*.

GL entry template Abbreviation for *general ledger entry template.* In PeopleSoft Enterprise Campus Solutions, a template that defines how a particular item is sent to the general ledger. An item-type maps to the general ledger, and the GL entry template can involve multiple general ledger accounts. The entry to the general ledger is further controlled by high-level flags that control the summarization and the type of accounting—that is, accrual or cash.

GL Interface process Abbreviation for *General Ledger Interface process.* In PeopleSoft Enterprise Campus Solutions, a process that is used to send transactions from PeopleSoft Enterprise Student Financials to the general ledger. Item types are mapped to specific general ledger accounts, enabling transactions to move to the general ledger when the GL Interface process is run.

group In PeopleSoft Billing and Receivables, a posting entity that comprises one or more transactions (items, deposits, payments, transfers, matches, or write-offs).

In PeopleSoft Human Resources Management and Supply Chain Management, any set of records that are associated under a single name or variable to run calculations in PeopleSoft business processes. In PeopleSoft Time and Labor, for example, employees are placed in groups for time reporting purposes.

incentive object In PeopleSoft Enterprise Incentive Management, the incentive-related objects that define and support the PeopleSoft Enterprise Incentive Management calculation process and results, such as plan templates, plans, results data, user interaction objects, and so on.

incentive rule In PeopleSoft Sales Incentive Management, the commands that act on transactions and turn them into compensation. A rule is one part in the process of turning a transaction into compensation.

incur In PeopleSoft Promotions Management, to become liable for a promotional payment. In other words, you owe that amount to a customer for promotional activities.

initiative In PeopleSoft Enterprise Campus Solutions, the basis from which all advancement plans are executed. It is an organized effort targeting a specific constituency, and it can occur over a specified period of time with specific purposes and goals. An initiative can be a campaign, an event, an organized volunteer effort, a membership drive, or any other type of effort defined by the institution. Initiatives can be multipart, and they can be related to other initiatives. This enables you to track individual parts of an initiative, as well as entire initiatives.

inquiry access In PeopleSoft Enterprise Campus Solutions, a type of security access that permits the user only to view data.

See also *update access.*

institution In PeopleSoft Enterprise Campus Solutions, an entity (such as a university or college) that is independent of other similar entities and that has its own set of rules and business processes.

integration A relationship between two compatible integration points that enables communication to take place between systems. Integrations enable PeopleSoft applications to work seamlessly with other PeopleSoft applications or with third-party systems or software.

integration point An interface that a system uses to communicate with another PeopleSoft application or an external application.

integration set A logical grouping of integrations that applications use for the same business purpose. For example, the integration set ADVANCED_SHIPPING_ORDER contains all of the integrations that notify a customer that an order has shipped.

item In PeopleSoft Inventory, a tangible commodity that is stored in a business unit (shipped from a warehouse).

In PeopleSoft Demand Planning, Inventory Policy Planning, and Supply Planning, a noninventory item that is designated as being used for planning purposes only. It can represent a family or group of inventory items. It can have a planning bill of material (BOM) or planning routing, and it can exist as a component on a planning BOM. A planning item cannot be specified on a production or engineering BOM or routing, and it cannot be used as a component in a production. The quantity on hand will never be maintained.

In PeopleSoft Receivables, an individual receivable. An item can be an invoice, a credit memo, a debit memo, a write-off, or an adjustment.

item shuffle In PeopleSoft Enterprise Campus Solutions, a process that enables you to change a payment allocation without having to reverse the payment.

joint communication In PeopleSoft Enterprise Campus Solutions, one letter that is addressed jointly to two people. For example, a letter might be addressed to both Mr. Sudhir Awat and Ms. Samantha Mortelli. A relationship must be established between the two individuals in the database, and at least one of the individuals must have an ID in the database.

keyword In PeopleSoft Enterprise Campus Solutions, a term that you link to particular elements within PeopleSoft Student Financials, Financial Aid, and Contributor Relations. You can use keywords as search criteria that enable you to locate specific records in a search dialog box.

KPI An abbreviation for *key performance indicator.* A high-level measurement of how well an organization is doing in achieving critical success factors. This defines the data value or calculation upon which an assessment is determined.

LDIF file Abbreviation for *Lightweight Directory Access Protocol (LDAP) Data Interchange Format file.* Contains discrepancies between PeopleSoft data and directory data.

learner group In PeopleSoft Enterprise Learning Management, a group of learners who are linked to the same learning environment. Members of the learner group can share the same attributes, such as the same department or job code. Learner groups are used to control access to and enrollment in learning activities and programs. They are also used to perform group enrollments and mass enrollments in the back office.

learning components In PeopleSoft Enterprise Learning Management, the foundational building blocks of learning activities. PeopleSoft Enterprise Learning Management supports six basic types of learning components: web-based, session, webcast, test, survey, and assignment. One or more of these learning component types compose a single learning activity.

learning environment In PeopleSoft Enterprise Learning Management, identifies a set of categories and catalog items that can be made available to learner groups. Also defines the default values that are assigned to the learning activities and programs that are created within a particular learning environment. Learning environments provide a way to partition the catalog so that learners see only those items that are relevant to them.

learning history In PeopleSoft Enterprise Learning Management, a self-service repository for all of a learner's completed learning activities and programs.

ledger mapping You use ledger mapping to relate expense data from general ledger accounts to resource objects. Multiple ledger line items can be mapped to one or more resource IDs. You can also use ledger mapping to map dollar amounts (referred to as *rates*) to business units. You can map the amounts in two different ways: an actual amount that represents actual costs of the accounting period, or a budgeted amount that can be used to calculate the capacity rates as well as budgeted model results. In PeopleSoft Enterprise Warehouse, you can map general ledger accounts to the EW Ledger table.

library section In PeopleSoft Enterprise Incentive Management, a section that is defined in a plan (or template) and that is available for other plans to share. Changes to a library section are reflected in all plans that use it.

linked section In PeopleSoft Enterprise Incentive Management, a section that is defined in a plan template but appears in a plan. Changes to linked sections propagate to plans using that section.

linked variable In PeopleSoft Enterprise Incentive Management, a variable that is defined and maintained in a plan template and that also appears in a plan. Changes to linked variables propagate to plans using that variable.

LMS Abbreviation for *learning management system.* In PeopleSoft Enterprise Campus Solutions, LMS is a PeopleSoft Student Records feature that provides a common set of interoperability standards that enable the sharing of instructional content and data between learning and administrative environments.

load In PeopleSoft Inventory, identifies a group of goods that are shipped together. Load management is a feature of PeopleSoft Inventory that is used to track the weight, the volume, and the destination of a shipment.

local functionality In PeopleSoft HRMS, the set of information that is available for a specific country. You can access this information when you click the appropriate country flag in the global window, or when you access it by a local country menu.

location Locations enable you to indicate the different types of addresses—for a company, for example, one address to receive bills, another for shipping, a third for postal deliveries, and a separate street address. Each address has a different location number. The primary location—indicated by a *1*—is the address you use most often and may be different from the main address.

logistical task In PeopleSoft Services Procurement, an administrative task that is related to hiring a service provider. Logistical tasks are linked to the service type on the work order so that different types of services can have different logistical tasks. Logistical tasks include both preapproval tasks (such as assigning a new badge or ordering a new laptop) and postapproval tasks (such as scheduling orientation or setting up the service provider email). The logistical tasks can be mandatory or optional. Mandatory preapproval tasks must be completed before the work order is approved. Mandatory postapproval tasks, on the other hand, must be completed before a work order is released to a service provider.

market template In PeopleSoft Enterprise Incentive Management, additional functionality that is specific to a given market or industry and is built on top of a product category.

mass change In PeopleSoft Enterprise Campus Solutions, mass change is a SQL generator that can be used to create specialized functionality. Using mass change, you can set up a series of Insert, Update, or Delete SQL statements to perform business functions that are specific to the institution.

See also *3C engine*.

match group In PeopleSoft Receivables, a group of receivables items and matching offset items. The system creates match groups by using user-defined matching criteria for selected field values.

MCF server Abbreviation for *PeopleSoft MultiChannel Framework server.* Comprises the universal queue server and the MCF log server. Both processes are started when *MCF Servers* is selected in an application server domain configuration.

merchandising activity In PeopleSoft Promotions Management, a specific discount type that is associated with a trade promotion (such as off-invoice, billback or rebate, or lump-sum payment) that defines the performance that is required to receive the discount. In the industry, you may know this as an offer, a discount, a merchandising event, an event, or a tactic.

meta-SQL Meta-SQL constructs expand into platform-specific Structured Query Language (SQL) substrings. They are used in functions that pass SQL strings, such as in SQL objects, the SQLExec function, and PeopleSoft Application Engine programs.

metastring Metastrings are special expressions included in SQL string literals. The metastrings, prefixed with a percent (%) symbol, are included directly in the string literals. They expand at run time into an appropriate substring for the current database platform.

multibook In PeopleSoft General Ledger, multiple ledgers having multiple-base currencies that are defined for a business unit, with the option to post a single transaction to all base currencies (all ledgers) or to only one of those base currencies (ledgers).

multicurrency The ability to process transactions in a currency other than the business unit's base currency.

national allowance In PeopleSoft Promotions Management, a promotion at the corporate level that is funded by nondiscretionary dollars. In the industry, you may know this as a national promotion, a corporate promotion, or a corporate discount.

need In PeopleSoft Enterprise Campus Solutions, the difference between the cost of attendance (COA) and the expected family contribution (EFC). It is the gap between the cost of attending the school and the student's resources. The financial aid package

	is based on the amount of financial need. The process of determining a student's need is called *need analysis.*
node-oriented tree	A tree that is based on a detail structure, but the detail values are not used.
pagelet	Each block of content on the home page is called a pagelet. These pagelets display summary information within a small rectangular area on the page. The pagelet provide users with a snapshot of their most relevant PeopleSoft and non-PeopleSoft content.
participant	In PeopleSoft Enterprise Incentive Management, participants are recipients of the incentive compensation calculation process.
participant object	Each participant object may be related to one or more compensation objects. See also *compensation object.*
partner	A company that supplies products or services that are resold or purchased by the enterprise.
pay cycle	In PeopleSoft Payables, a set of rules that define the criteria by which it should select scheduled payments for payment creation.
payment shuffle	In PeopleSoft Enterprise Campus Solutions, a process allowing payments that have been previously posted to a student's account to be automatically reapplied when a higher priority payment is posted or the payment allocation definition is changed.
pending item	In PeopleSoft Receivables, an individual receivable (such as an invoice, a credit memo, or a write-off) that has been entered in or created by the system, but hasn't been posted.
PeopleCode	PeopleCode is a proprietary language, executed by the PeopleSoft component processor. PeopleCode generates results based on existing data or user actions. By using various tools provided with PeopleTools, external services are available to all PeopleSoft applications wherever PeopleCode can be executed.
PeopleCode event	See *event.*
PeopleSoft Pure Internet Architecture	The fundamental architecture on which PeopleSoft 8 applications are constructed, consisting of a relational database management system (RDBMS), an application server, a web server, and a browser.
performance measurement	In PeopleSoft Enterprise Incentive Management, a variable used to store data (similar to an aggregator, but without a predefined formula) within the scope of an incentive plan. Performance measures are associated with a plan calendar, territory, and participant. Performance measurements are used for quota calculation and reporting.
period context	In PeopleSoft Enterprise Incentive Management, because a participant typically uses the same compensation plan for multiple periods, the period context associates a plan context with a specific calendar period and fiscal year. The period context references the associated plan context, thus forming a chain. Each plan context has a corresponding set of period contexts.
person of interest	A person about whom the organization maintains information but who is not part of the workforce.
personal portfolio	In PeopleSoft Enterprise Campus Solutions, the user-accessible menu item that contains an individual's name, address, telephone number, and other personal information.
plan	In PeopleSoft Sales Incentive Management, a collection of allocation rules, variables, steps, sections, and incentive rules that instruct the PeopleSoft Enterprise Incentive Management engine in how to process transactions.

plan context In PeopleSoft Enterprise Incentive Management, correlates a participant with the compensation plan and node to which the participant is assigned, enabling the PeopleSoft Enterprise Incentive Management system to find anything that is associated with the node and that is required to perform compensation processing. Each participant, node, and plan combination represents a unique plan context—if three participants are on a compensation structure, each has a different plan context. Configuration plans are identified by plan contexts and are associated with the participants that refer to them.

plan template In PeopleSoft Enterprise Incentive Management, the base from which a plan is created. A plan template contains common sections and variables that are inherited by all plans that are created from the template. A template may contain steps and sections that are not visible in the plan definition.

planned learning In PeopleSoft Enterprise Learning Management, a self-service repository for all of a learner's planned learning activities and programs.

planning instance In PeopleSoft Supply Planning, a set of data (business units, items, supplies, and demands) constituting the inputs and outputs of a supply plan.

population In PeopleSoft Enterprise Campus Solutions, the middle level of the three-level classification structure that you define in PeopleSoft Enterprise Recruiting and Admissions for enrollment management. You can define a population level, link it to other levels, and set enrollment target numbers for it.

See also *division* and *cohort*.

portal registry In PeopleSoft applications, the portal registry is a tree-like structure in which content references are organized, classified, and registered. It is a central repository that defines both the structure and content of a portal through a hierarchical, tree-like structure of folders useful for organizing and securing content references.

price list In PeopleSoft Enterprise Pricer, enables you to select products and conditions for which the price list applies to a transaction. During a transaction, the system either determines the product price based on the predefined search hierarchy for the transaction or uses the product's lowest price on any associated, active price lists. This price is used as the basis for any further discounts and surcharges.

price rule In PeopleSoft Enterprise Pricer, defines the conditions that must be met for adjustments to be applied to the base price. Multiple rules can apply when conditions of each rule are met.

price rule condition In PeopleSoft Enterprise Pricer, selects the price-by fields, the values for the price-by fields, and the operator that determines how the price-by fields are related to the transaction.

price rule key In PeopleSoft Enterprise Pricer, defines the fields that are available to define price rule conditions (which are used to match a transaction) on the price rule.

primacy number In PeopleSoft Enterprise Campus Solutions, a number that the system uses to prioritize financial aid applications when students are enrolled in multiple academic careers and academic programs at the same time. The Consolidate Academic Statistics process uses the primacy number indicated for both the career and program at the institutional level to determine a student's primary career and program. The system also uses the number to determine the primary student attribute value that is used when you extract data to report on cohorts. The lowest number takes precedence.

primary name type In PeopleSoft Enterprise Campus Solutions, the name type that is used to link the name stored at the highest level within the system to the lower-level set of names that an individual provides.

process category In PeopleSoft Process Scheduler, processes that are grouped for server load balancing and prioritization.

process group In PeopleSoft Financials, a group of application processes (performed in a defined order) that users can initiate in real time, directly from a transaction entry page.

process definition Process definitions define each run request.

process instance A unique number that identifies each process request. This value is automatically incremented and assigned to each requested process when the process is submitted to run.

process job You can link process definitions into a job request and process each request serially or in parallel. You can also initiate subsequent processes based on the return code from each prior request.

process request A single run request, such as a Structured Query Report (SQR), a COBOL or Application Engine program, or a Crystal report that you run through PeopleSoft Process Scheduler.

process run control A PeopleTools variable used to retain PeopleSoft Process Scheduler values needed at runtime for all requests that reference a run control ID. Do not confuse these with application run controls, which may be defined with the same run control ID, but only contain information specific to a given application process request.

product A PeopleSoft or third-party product. PeopleSoft organizes its software products into product families and product lines. Interactive Services Repository contains information about every release of every product that PeopleSoft sells, as well as products from certified third-party companies. These products are displayed with the product name and release number.

product category In PeopleSoft Enterprise Incentive Management, indicates an application in the Enterprise Incentive Management suite of products. Each transaction in the PeopleSoft Enterprise Incentive Management system is associated with a product category.

product family A group of products that are related by common functionality. The family names that can be searched using Interactive Service Repository are PeopleSoft Enterprise, PeopleSoft EnterpriseOne, PeopleSoft World, and third-party, certified PeopleSoft partners.

product line The name of a PeopleSoft product line or the company name of a third-party certified partner. Integration Services Repository enables you to search for integration points by product line.

programs In PeopleSoft Enterprise Learning Management, a high-level grouping that guides the learner along a specific learning path through sections of catalog items. PeopleSoft Enterprise Learning Systems provides two types of programs—curricula and certifications.

progress log In PeopleSoft Services Procurement, tracks deliverable-based projects. This is similar to the time sheet in function and process. The service provider contact uses the progress log to record and submit progress on deliverables. The progress can be logged by the activity that is performed, by the percentage of work that is completed, or by the completion of milestone activities that are defined for the project.

project transaction In PeopleSoft Project Costing, an individual transaction line that represents a cost, time, budget, or other transaction row.

promotion In PeopleSoft Promotions Management, a trade promotion, which is typically funded from trade dollars and used by consumer products manufacturers to increase sales volume.

prospects

In PeopleSoft Enterprise Campus Solutions, students who are interested in applying to the institution.

In PeopleSoft Enterprise Contributor Relations, individuals and organizations that are most likely to make substantial financial commitments or other types of commitments to the institution.

publishing

In PeopleSoft Enterprise Incentive Management, a stage in processing that makes incentive-related results available to participants.

rating components

In PeopleSoft Enterprise Campus Solutions, variables used with the Equation Editor to retrieve specified populations.

record group

A set of logically and functionally related control tables and views. Record groups help enable TableSet sharing, which eliminates redundant data entry. Record groups ensure that TableSet sharing is applied consistently across all related tables and views.

record input VAT flag

Abbreviation for *record input value-added tax flag.* Within PeopleSoft Purchasing, Payables, and General Ledger, this flag indicates that you are recording input VAT on the transaction. This flag, in conjunction with the record output VAT flag, is used to determine the accounting entries created for a transaction and to determine how a transaction is reported on the VAT return. For all cases within Purchasing and Payables where VAT information is tracked on a transaction, this flag is set to Yes. This flag is not used in PeopleSoft Order Management, Billing, or Receivables, where it is assumed that you are always recording only output VAT, or in PeopleSoft Expenses, where it is assumed that you are always recording only input VAT.

record output VAT flag

Abbreviation for *record output value-added tax flag.*

See *record input VAT flag.*

recname

The name of a record that is used to determine the associated field to match a value or set of values.

recognition

In PeopleSoft Enterprise Campus Solutions, the recognition type indicates whether the PeopleSoft Enterprise Contributor Relations donor is the primary donor of a commitment or shares the credit for a donation. Primary donors receive hard credit that must total 100 percent. Donors that share the credit are given soft credit. Institutions can also define other share recognition-type values such as memo credit or vehicle credit.

reference data

In PeopleSoft Sales Incentive Management, system objects that represent the sales organization, such as territories, participants, products, customers, channels, and so on.

reference object

In PeopleSoft Enterprise Incentive Management, this dimension-type object further defines the business. Reference objects can have their own hierarchy (for example, product tree, customer tree, industry tree, and geography tree).

reference transaction

In commitment control, a reference transaction is a source transaction that is referenced by a higher-level (and usually later) source transaction, in order to automatically reverse all or part of the referenced transaction's budget-checked amount. This avoids duplicate postings during the sequential entry of the transaction at different commitment levels. For example, the amount of an encumbrance transaction (such as a purchase order) will, when checked and recorded against a budget, cause the system to concurrently reference and relieve all or part of the amount of a corresponding pre-encumbrance transaction, such as a purchase requisition.

regional sourcing

In PeopleSoft Purchasing, provides the infrastructure to maintain, display, and select an appropriate vendor and vendor pricing structure that is based on a regional sourcing model where the multiple ship to locations are grouped. Sourcing may occur at a level higher than the ship to location.

relationship object In PeopleSoft Enterprise Incentive Management, these objects further define a compensation structure to resolve transactions by establishing associations between compensation objects and business objects.

remote data source data Data that is extracted from a separate database and migrated into the local database.

REN server Abbreviation for *real-time event notification server* in PeopleSoft MultiChannel Framework.

requester In PeopleSoft eSettlements, an individual who requests goods or services and whose ID appears on the various procurement pages that reference purchase orders.

reversal indicator In PeopleSoft Enterprise Campus Solutions, an indicator that denotes when a particular payment has been reversed, usually because of insufficient funds.

role Describes how people fit into PeopleSoft Workflow. A role is a class of users who perform the same type of work, such as clerks or managers. Your business rules typically specify what user role needs to do an activity.

role user A PeopleSoft Workflow user. A person's role user ID serves much the same purpose as a user ID does in other parts of the system. PeopleSoft Workflow uses role user IDs to determine how to route worklist items to users (through an email address, for example) and to track the roles that users play in the workflow. Role users do not need PeopleSoft user IDs.

roll up In a tree, to roll up is to total sums based on the information hierarchy.

run control A run control is a type of online page that is used to begin a process, such as the batch processing of a payroll run. Run control pages generally start a program that manipulates data.

run control ID A unique ID to associate each user with his or her own run control table entries.

run-level context In PeopleSoft Enterprise Incentive Management, associates a particular run (and batch ID) with a period context and plan context. Every plan context that participates in a run has a separate run-level context. Because a run cannot span periods, only one run-level context is associated with each plan context.

SCP SCBM XML message Abbreviation for *Supply Chain Planning Supply Chain Business Modeler Extensible Markup Language message.* PeopleSoft EnterpriseOne Supply Chain Business Modeler uses XML as the format for all data that it imports and exports.

search query You use this set of objects to pass a query string and operators to the search engine. The search index returns a set of matching results with keys to the source documents.

search/match In PeopleSoft Enterprise Campus Solutions and PeopleSoft Enterprise Human Resources Management Solutions, a feature that enables you to search for and identify duplicate records in the database.

seasonal address In PeopleSoft Enterprise Campus Solutions, an address that recurs for the same length of time at the same time of year each year until adjusted or deleted.

section In PeopleSoft Enterprise Incentive Management, a collection of incentive rules that operate on transactions of a specific type. Sections enable plans to be segmented to process logical events in different sections.

security event In commitment control, security events trigger security authorization checking, such as budget entries, transfers, and adjustments; exception overrides and notifications; and inquiries.

serial genealogy In PeopleSoft Manufacturing, the ability to track the composition of a specific, serial-controlled item.

serial in production In PeopleSoft Manufacturing, enables the tracing of serial information for manufactured items. This is maintained in the Item Master record.

service impact In PeopleSoft Enterprise Campus Solutions, the resulting action triggered by a service indicator. For example, a service indicator that reflects nonpayment of account balances by a student might result in a service impact that prohibits registration for classes.

service indicator In PeopleSoft Enterprise Campus Solutions, indicates services that may be either withheld or provided to an individual. Negative service indicators indicate holds that prevent the individual from receiving specified services, such as check-cashing privileges or registration for classes. Positive service indicators designate special services that are provided to the individual, such as front-of-line service or special services for disabled students.

session In PeopleSoft Enterprise Campus Solutions, time elements that subdivide a term into multiple time periods during which classes are offered. In PeopleSoft Contributor Relations, a session is the means of validating gift, pledge, membership, or adjustment data entry . It controls access to the data entered by a specific user ID. Sessions are balanced, queued, and then posted to the institution's financial system. Sessions must be posted to enter a matching gift or pledge payment, to make an adjustment, or to process giving clubs or acknowledgements.

In PeopleSoft Enterprise Learning Management, a single meeting day of an activity (that is, the period of time between start and finish times within a day). The session stores the specific date, location, meeting time, and instructor. Sessions are used for scheduled training.

session template In PeopleSoft Enterprise Learning Management, enables you to set up common activity characteristics that may be reused while scheduling a PeopleSoft Enterprise Learning Management activity—characteristics such as days of the week, start and end times, facility and room assignments, instructors, and equipment. A session pattern template can be attached to an activity that is being scheduled. Attaching a template to an activity causes all of the default template information to populate the activity session pattern.

setup relationship In PeopleSoft Enterprise Incentive Management, a relationship object type that associates a configuration plan with any structure node.

share driver expression In PeopleSoft Business Planning, a named planning method similar to a driver expression, but which you can set up globally for shared use within a single planning application or to be shared between multiple planning applications through PeopleSoft Enterprise Warehouse.

single signon With single signon, users can, after being authenticated by a PeopleSoft application server, access a second PeopleSoft application server without entering a user ID or password.

source key process In PeopleSoft Enterprise Campus Solutions, a process that relates a particular transaction to the source of the charge or financial aid. On selected pages, you can drill down into particular charges.

source transaction In commitment control, any transaction generated in a PeopleSoft or third-party application that is integrated with commitment control and which can be checked against commitment control budgets. For example, a pre-encumbrance, encumbrance, expenditure, recognized revenue, or collected revenue transaction.

speed key See *communication key.*

SpeedChart A user-defined shorthand key that designates several ChartKeys to be used for voucher entry. Percentages can optionally be related to each ChartKey in a SpeedChart definition.

SpeedType A code representing a combination of ChartField values. SpeedTypes simplify the entry of ChartFields commonly used together.

staging A method of consolidating selected partner offerings with the offerings from the enterprise's other partners.

standard letter code In PeopleSoft Enterprise Campus Solutions, a standard letter code used to identify each letter template available for use in mail merge functions. Every letter generated in the system must have a standard letter code identification.

statutory account Account required by a regulatory authority for recording and reporting financial results. In PeopleSoft, this is equivalent to the Alternate Account (ALTACCT) ChartField.

step In PeopleSoft Sales Incentive Management, a collection of sections in a plan. Each step corresponds to a step in the job run.

storage level In PeopleSoft Inventory, identifies the level of a material storage location. Material storage locations are made up of a business unit, a storage area, and a storage level. You can set up to four storage levels.

subcustomer qualifier A value that groups customers into a division for which you can generate detailed history, aging, events, and profiles.

Summary ChartField You use summary ChartFields to create summary ledgers that roll up detail amounts based on specific detail values or on selected tree nodes. When detail values are summarized using tree nodes, summary ChartFields must be used in the summary ledger data record to accommodate the maximum length of a node name (20 characters).

summary ledger An accounting feature used primarily in allocations, inquiries, and PS/nVision reporting to store combined account balances from detail ledgers. Summary ledgers increase speed and efficiency of reporting by eliminating the need to summarize detail ledger balances each time a report is requested. Instead, detail balances are summarized in a background process according to user-specified criteria and stored on summary ledgers. The summary ledgers are then accessed directly for reporting.

summary time period In PeopleSoft Business Planning, any time period (other than a base time period) that is an aggregate of other time periods, including other summary time periods and base time periods, such as quarter and year total.

summary tree A tree used to roll up accounts for each type of report in summary ledgers. Summary trees enable you to define trees on trees. In a summary tree, the detail values are really nodes on a detail tree or another summary tree (known as the *basis* tree). A summary tree structure specifies the details on which the summary trees are to be built.

syndicate To distribute a production version of the enterprise catalog to partners.

system function In PeopleSoft Receivables, an activity that defines how the system generates accounting entries for the general ledger.

TableSet A means of sharing similar sets of values in control tables, where the actual data values are different but the structure of the tables is the same.

TableSet sharing Shared data that is stored in many tables that are based on the same TableSets. Tables that use TableSet sharing contain the SETID field as an additional key or unique identifier.

target currency The value of the entry currency or currencies converted to a single currency for budget viewing and inquiry purposes.

tax authority In PeopleSoft Enterprise Campus Solutions, a user-defined element that combines a description and percentage of a tax with an account type, an item type, and a service impact.

template A template is HTML code associated with a web page. It defines the layout of the page and also where to get HTML for each part of the page. In PeopleSoft, you use templates to build a page by combining HTML from a number of sources. For a PeopleSoft portal, all templates must be registered in the portal registry, and each content reference must be assigned a template.

territory In PeopleSoft Sales Incentive Management, hierarchical relationships of business objects, including regions, products, customers, industries, and participants.

third party A company or vendor that has extensive PeopleSoft product knowledge and whose products and integrations have been certified and are compatible with PeopleSoft applications.

3C engine Abbreviation for *Communications, Checklists, and Comments engine.* In PeopleSoft Enterprise Campus Solutions, the 3C engine enables you to automate business processes that involve additions, deletions, and updates to communications, checklists, and comments. You define events and triggers to engage the engine, which runs the mass change and processes the 3C records (for individuals or organizations) immediately and automatically from within business processes.

3C group Abbreviation for *Communications, Checklists, and Comments group.* In PeopleSoft Enterprise Campus Solutions, a method of assigning or restricting access privileges. A 3C group enables you to group specific communication categories, checklist codes, and comment categories. You can then assign the group inquiry-only access or update access, as appropriate.

TimeSpan A relative period, such as year-to-date or current period, that can be used in various PeopleSoft General Ledger functions and reports when a rolling time frame, rather than a specific date, is required. TimeSpans can also be used with flexible formulas in PeopleSoft Projects.

trace usage In PeopleSoft Manufacturing, enables the control of which components will be traced during the manufacturing process. Serial- and lot-controlled components can be traced. This is maintained in the Item Master record.

transaction allocation In PeopleSoft Enterprise Incentive Management, the process of identifying the owner of a transaction. When a raw transaction from a batch is allocated to a plan context, the transaction is duplicated in the PeopleSoft Enterprise Incentive Management transaction tables.

transaction state In PeopleSoft Enterprise Incentive Management, a value assigned by an incentive rule to a transaction. Transaction states enable sections to process only transactions that are at a specific stage in system processing. After being successfully processed, transactions may be promoted to the next transaction state and "picked up" by a different section for further processing.

Translate table A system edit table that stores codes and translate values for the miscellaneous fields in the database that do not warrant individual edit tables of their own.

tree The graphical hierarchy in PeopleSoft systems that displays the relationship between all accounting units (for example, corporate divisions, projects, reporting groups, account numbers) and determines roll-up hierarchies.

tuition lock In PeopleSoft Enterprise Campus Solutions, a feature in the Tuition Calculation process that enables you to specify a point in a term after which students are charged a minimum (or *locked*) fee amount. Students are charged the locked fee amount even if they later drop classes and take less than the normal load level for that tuition charge.

unclaimed transaction In PeopleSoft Enterprise Incentive Management, a transaction that is not claimed by a node or participant after the allocation process has completed, usually due to missing or incomplete data. Unclaimed transactions may be manually assigned to the appropriate node or participant by a compensation administrator.

universal navigation header Every PeopleSoft portal includes the universal navigation header, intended to appear at the top of every page as long as the user is signed on to the portal. In addition to providing access to the standard navigation buttons (like Home, Favorites, and signoff) the universal navigation header can also display a welcome message for each user.

update access In PeopleSoft Enterprise Campus Solutions, a type of security access that permits the user to edit and update data.

See also *inquiry access.*

user interaction object In PeopleSoft Sales Incentive Management, used to define the reporting components and reports that a participant can access in his or her context. All Sales Incentive Management user interface objects and reports are registered as user interaction objects. User interaction objects can be linked to a compensation structure node through a compensation relationship object (individually or as groups).

variable In PeopleSoft Sales Incentive Management, the intermediate results of calculations. Variables hold the calculation results and are then inputs to other calculations. Variables can be plan variables that persist beyond the run of an engine or local variables that exist only during the processing of a section.

VAT exception Abbreviation for *value-added tax exception.* A temporary or permanent exemption from paying VAT that is granted to an organization. This terms refers to both VAT exoneration and VAT suspension.

VAT exempt Abbreviation for *value-added tax exempt.* Describes goods and services that are not subject to VAT. Organizations that supply exempt goods or services are unable to recover the related input VAT. This is also referred to as exempt without recovery.

VAT exoneration Abbreviation for *value-added tax exoneration.* An organization that has been granted a permanent exemption from paying VAT due to the nature of that organization.

VAT suspension Abbreviation for *value-added tax suspension.* An organization that has been granted a temporary exemption from paying VAT.

warehouse A PeopleSoft data warehouse that consists of predefined ETL maps, data warehouse tools, and DataMart definitions.

work order In PeopleSoft Services Procurement, enables an enterprise to create resource-based and deliverable-based transactions that specify the basic terms and conditions for hiring a specific service provider. When a service provider is hired, the service provider logs time or progress against the work order.

worker A person who is part of the workforce; an employee or a contingent worker.

workset A group of people and organizations that are linked together as a set. You can use worksets to simultaneously retrieve the data for a group of people and organizations and work with the information on a single page.

worksheet A way of presenting data through a PeopleSoft Business Analysis Modeler interface that enables users to do in-depth analysis using pivoting tables, charts, notes, and history information.

worklist The automated to-do list that PeopleSoft Workflow creates. From the worklist, you can directly access the pages you need to perform the next action, and then return to the worklist for another item.

XML link The XML Linking language enables you to insert elements into XML documents to create a links between resources.

XML schema An XML definition that standardizes the representation of application messages, component interfaces, or business interlinks.

XPI Abbreviation for *eXtended Process Integrator.* PeopleSoft XPI is the integration infrastructure that enables both real-time and batch communication with EnterpriseOne applications.

yield by operation In PeopleSoft Manufacturing, the ability to plan the loss of a manufactured item on an operation-by-operation basis.

zero-rated VAT Abbreviation for *zero-rated value-added tax.* A VAT transaction with a VAT code that has a tax percent of zero. Used to track taxable VAT activity where no actual VAT amount is charged. Organizations that supply zero-rated goods and services can still recover the related input VAT. This is also referred to as exempt with recovery.

Index

A

access keys, setting 308
access profiles
  accessing Upgrade Copy processes 499
  locking/unlocking definitions 428
  understanding 37
  using deferred mode 318
accessibility
  deactivating image labels 182
  designing accessible pages 178
  labelling buttons/links 182
  labelling grids/scroll areas 181
  labels, using 179
    See Also labels
  ordering page tabs 182
  understanding 179
  using colors 181, 182
  using deferred mode 182
  using instructional text 182, 185
  using status icons 181
activities, workflow 25
Add Translate Table Value dialog box 85
additional documentation xxvi
alignment
  controlling via style classes 343
  setting button label 232
  setting in style sheets 346
  setting page control 255, 267, 286
  setting page label 271
  setting static text 198
Alter process
  confirming table alterations 165
  creating temporary tables 165
  creating/running alter scripts 160
  determining tables to alter after field changes 161
  forcing without table changes 164
  handling data conversions 156
  performing Alter in Place operations 164
  renaming table fields 72
  running 162
  setting alter options 156, 162
  setting column options 163
  setting custom options 164
  understanding 155
  when to run 161
alternate search keys
  setting for records 118
  understanding 117
  using in indexes 151
analytic model 25
application classes 25
application data tables
  creating/understanding 87
  synchronizing with records 139
  using the Alter process 161
Application Designer
  configuring 45
  hiding the interface 14, 137
  implementing 3
  setting undo/redo layers 22
  setting Word Wrap for editors 21
  starting 12, 406
  understanding 3, 9
  window 14
    See Also Application Designer window
Application Designer window
  definition workspace 20
    See Also definition workspace
  menus 15
  navigating 14
  output window 20
    See Also output window
  project workspace 19
    See Also project workspace
  using the components 14
  using the toolbar 19
application development
  eight steps 10
  planning records, control tables, and tablesets 87
Application Engine programs
  import 396
    See Also import program
  understanding 25
  using temporary tables 109
application fundamentals xxv
application packages

accessing associated PeopleCode programs 24
Application Packages Editor 24
understanding 25
Applications and Fields report 548
approval rule sets 25
auditing
change tracking 10
creating audit records 113
naming audit records 107, 112
setting field audit options 119
setting for upgrades 453
using record-level audits 112

B

backgrounds
changing colors for tabs 356, 358, 360
colors, using 182
pages, overriding style sheets for 296
pages, selecting backgrounds for 243
referencing image URLs 351
selecting for edit boxes 266
selecting for grids 216
style classes, setting attributes for 348, 350
style classes, using 343
style classes, using default 527
Body Area Row Action Button Properties dialog box 216
borders
displaying for grids 216
hiding for frames 192
setting for group boxes 193
setting for page reports 298
setting for record definition reports 127
style classes, setting attributes for 344, 351
style classes, using default 527
browsers
adjusting time fields for time zones 66, 91
changing default 290
configuring options 41
defining tableset controls 100
displaying fonts 345
displaying migrated images 499
editing/viewing DDL 170
HTML tables and performance 192, 287
indicating link status to users 355
opening for component search pages 315
ordering tabs 283
overriding date field formats 66
PeopleSoft Pure Internet Architecture 9
setting edit box colors 266
setting the base URI 22
sizing page controls 262, 267
spacing page controls 285
supporting buttons 232
supporting calendar prompts 252
supporting images 365, 368
supporting style class attributes 343
using GIF and WBMP images 364
using mouse-over text 180
View in Browser function 255
See Also View in Browser function
viewing HTML for pages 292
viewing pages 288
wrapping long words 274
buffers
adding/deleting rows 177, 219
controlling scrollable data 239
displaying the buffer size for file layouts 390
setting undo/redo layers 22
understanding component buffers 302
Build dialog box 132, 135
Build menu 17, 132
Build process
Alter process 155
See Also Alter process
Build Settings dialog box 133
See Also Build Settings dialog box
building script files 135
configuring 136
creating triggers 166
errors for project builds 137
errors, navigating to 146
granting build authority 132
indexes, creating 139, 150, 152
indexes, setting create options for 142
logs (sample), output build 144
logs, setting options for build 142
monitoring 134
running 135
selecting the scope 135, 136
setting options 136
setting parameters 17
setting script options 146

table builds, confirming 150
tables, building SQL 11
tables, creating 139, 140
tables, setting create options for 141
understanding 42, 131
using the Build menu 132
viewing messages 21
views, creating 166
views, setting create options for 142
views, setting the build order for dynamic 129
Build Settings dialog box
opening 136
setting alter options 162
setting create options 141
setting logging options 142
setting script options 146
understanding 133
bulk operations
deletions 544
insertions 541
modifications 543
performing in PeopleSoft financial applications 541
understanding 541
Business Interlink 26
business processes 26
buttons
activating via the Enter key 226
adding for grids 229
adding for scroll areas 229
adding for scroll bars 229
adding instant messaging 228
adding scroll action buttons 239
associating with PeopleCode commands 228
calendar prompt 251
See Also calendar prompts
enabling for display-only access 226
HTML entries for 291
inserting 225, 256
jumping to page anchors 228
labels, applying 182
labels, setting images for 232
labels, setting text for 231
prompt/lookup 229
See Also prompt buttons
running processes 229
secondary pages, accessing 229
secondary pages, associating primary pages with 241
setting as external/internal links 227
setting destination types 226
toolbar 255
See Also toolbars
understanding 190, 225
using default style classes 527

C

calendar prompts
button image for 371
understanding 251
Change Control Change Control locking
understanding 423
Change Control feature
appointing an administrator 428
enabling/disabling 428
history 425
See Also Change Control history
implementation considerations 426
locking 423
See Also Change Control locking
reporting information 434
setting up 18, 427
stamping 426
See Also Change Control stamping
supported definition types 439
understanding 10, 423
understanding security 427
using distributed development environments 430
using multiple databases for development 429
using projects 429
Change Control history
enabling 428
implementation considerations 426
inserting definition comments 432
inserting/prompting automatically 425
opening entries 434
reporting 440
understanding 425
upgrading applications 426
using the PSCHGCTLHIST table 434
viewing 433
Change Control locking
copying projects to a target database 499
definitions, automatically locking 431

definitions, deleting 426
definitions, identifying locked 423
definitions, locking 430
definitions, locking all 429, 431
definitions, viewing locked 432
enabling 428
entering comments 425
implementation considerations 426
projects 424
understanding upgrades 424
understanding version control 424
using the PSCHGCTLLOCK table 434
Change Control stamping
stamping target databases 510
understanding 426
change projects
file type codes, understanding 37
tracking fixed incidents 501
understanding 54
Change Record Indexes dialog box 152
change sets 429
Change Space dialog box 169
change tracking 10
channels 26
character fields
attributes for the Alter process, setting 156
attributes, setting 62
creating 60
Japanese 63
long 60
See Also long character fields
understanding 60, 62
characters
applying uppercase automatically 81
character fields 60
See Also character fields
end of file (EOF) 402
interpreting backslashes as escape characters 391
long character fields 60
See Also long character fields
naming definitions 30
naming records 107
replacing blank edit box spaces with fill characters 269
using lexical, literal and meta 74, 81
using Smart Punctuation 80
ChartFields
setting styles 528
understanding 541
charts
ChartFields 541
See Also ChartFields
drawing chart placeholders 188
inserting 257
using 191
check boxes
associating with records 198
HTML entries for 291
inserting 256
labels, enabling/disabling colons in 272
labels, using default 198
setting properties 198
understanding 189
using default style classes 527
using in deferred mode 177
child tables 115
Class dialog box
setting backgrounds 348
setting border attributes 351
setting fonts 344
setting margin attributes 353
setting miscellaneous attributes 354
setting spacing and alignment 346
colors
background 182
See Also backgrounds
changing colors for tabs 356, 358, 360
modifying system colors 35
optimizing accessibility 181
selecting for edit boxes 266
setting for borders 352
setting for fonts 346
setting for grids 220
setting for page controls 266
setting for upgrade reports 457
style classes, setting attributes for 348
style classes, using 343
style classes, using default 527
understanding in HTML 357
using for accessibility 182
using hexadecimal codes 357
columns, grid
aligning labels 271
deleting 207
enabling View All 221
freezing 210
inserting/manipulating 206
moving 207

ordering 205
setting heading properties 217
setting options in the Alter process 163
setting properties 208
showing when cells hidden 221
sizing 106, 208
sorting 106, 219
command line
building projects 136
parameters 12
See Also command line parameters
starting Application Designer 12
command line parameters
building projects 407
comparing definitions 416, 480
copying definitions 409, 503
project builds 137
referencing selections 519
starting Application Designer 406
starting Data Mover 406
syntax 12, 405
understanding 405
comments
enabling the prompt for definitions 433
including/excluding alter comments 147
inserting for definitions 432
comments, submitting xxx
common elements xxxi
comparison reports
accessing 469
finding definitions 469
moving files 470
printing 469
component definition window 303
component interfaces
deleting 32
understanding 26
Component Properties dialog box
opening 310
setting general properties 310
setting Internet properties 313
setting use properties 310
ComponentChanged function 226
components
adding to a portal registry 334
adding to permission lists 334
assigning to portals 332
Component Properties dialog box 309
See Also Component Properties dialog box
ComponentChanged function 226
customizing the display 315, 316
defining 303, 304
defining pagebars 315
definitions, creating 11
definitions, opening 305
definitions, opening record 303
deleting 32
displaying toolbar actions 314
displaying/updating record rows 312
enabling the Expert Entry feature 315
enabling the Expert Entry feature via PeopleTools Security 319
including the Refresh button 318
interfaces 26
See Also component interfaces
links, displaying 315
links, selecting components for internal 230
menu navigation, including components for 312
menus, adding components to 324, 334
menus, creating custom 321
menus, finding components that reference 309
opening attached PeopleCode 304
ordering within folders 333
page attributes, setting 307
page definitions, opening 303
page items/attributes, viewing 303
page level information, viewing 303
pages based on work records, adding 317
pages, adding 305
pages, copying/moving between components 306
pages, enabling deferred mode for 307
pages, hiding 307
pages, naming 307
pages, navigating 302, 308, 315
pages, reordering 306
processing modes based on users, setting 318
processing modes, setting 315
registering 11, 332
registering in multiple portals 336
search page history, enabling check boxes 314

search page options, setting 313
search pages, using instructional text for 314
search records, overriding 317
search records, setting 311
setting access keys 308
setting market-specific 309
setting properties 309
See Also Component Properties dialog box
setting the thee-tier execution location 312
spell check errors, understanding 39
spell check, enabling mandatory 312
tabs, displaying 315
tabs, labelling 307
understanding 26, 301
understanding buffers 302
validating 21
viewing record/role information 303
viewing update history 310
Consolidate Images dialog box 368
contact information xxx
content references
assigning names 332
assigning to portals 332
creating for components 326, 334
creating for pages 326
labelling 333
understanding 331
using default style classes 527
control tables
prompt tables 107
See Also prompt tables
record groups 100
See Also record groups
sharing values 92, 93
tablesets 93
See Also tablesets
understanding 92
Convert Images dialog box 368
Convert Scroll to Grid function 240
Copy from File process
performing 500
Copy to File process
performing 500
copy-to-and-from-file support 444
Create Table process 139
cross-reference reports, *See* Crystal reports
cross-references xxix
Crystal reports
running 549
understanding 547
CSV files
converting tabs to spaces 391
importing fields 397
inserting segments/fields 403
interpreting backslash quotes (\") 392
interpreting backslashes as escape characters 391
interpreting double quotes (" ") 391
parsing file fields 391
parsing support 383
previewing input data 397
selecting definition delimiters 390
selecting field qualifiers 390, 395
trimming field spaces 395
troubleshooting input data 399
understanding 380, 382
currencies
displaying symbols 268
multicurrency fields 194, 198, 273
cursors
selecting page control groups 261
style classes, setting attributes for 355
style classes, using 344
using the page control toolbar 260
Custom Filtering dialog box 496
custom indexes
adding 154
understanding 151
Customer Connection website xxvi

D

Data Definition Language (DDL), *See* DDL
data interchange, *See* EDI
Data Mover 406
databases
Change Control stamping 426
Change Control, using 429
command line parameters 405
comparing for upgrade 463
See Also Upgrade Compare process
comparing via command line parameters 416, 480
copying between databases via command line parameters 409, 503
copying projects to target 499
indexes 150
See Also indexes

normalized relational 88
saving script files 147
selecting types 519
stamping target 510
synchronizing definitions 42
synchronizing during upgrade 464
tables for PeopleTools applications 87
triggers 166
See Also triggers
understanding forms 89
using master development databases 430
viewing space allocation 18
date fields
creating 60
enabling four-digit century entries 267
field length in file layouts 388
setting attributes 66
understanding 60, 66
dates
date fields 60
See Also date fields
DateTime fields 60
See Also DateTime fields
effective 84
See Also effective dates
selecting formats/separators for file fields 394
understanding reasonable 124
using the ReadRowset method 388
DateTime fields
creating 60
displaying time zones 268
field length in file layouts 388
setting attributes 66
understanding 60, 66
DB2 UDB
altering tables – impact on views 161
functional indexes 152, 514
maximum image field size 67
performing Alter in Place operations 165
saving script files 147
DDL
administering 168
editing 155
understanding 132
understanding the Build process 131
upgrades, setting DDL for 454
using record DDL 168
viewing parameters for creating tables, indexes, and tablespaces 170
DDL Model Defaults page 170
Debug menu 17
decimal precision
inserting decimals automatically for page controls 268, 269
meta symbols 74
selecting for file fields 395
setting for field definitions 104
setting for numeric fields 65
using CSV files 383
using FIXED files 388, 391
using XML files 384
deferred mode
adding multiple rows 177
enabling for page controls 277, 297
enabling for pages 297, 307
limiting refreshes 182
setting fields with edit tables 176
setting for components 315
setting for grids/scroll areas 219
triggering server processing 174
understanding 174
understanding performance issues 287
using check boxes and radio buttons 177
using drop-down list boxes 176
using error/warning messages 178
using on prompt tables 176
using PeopleCode 175
using related displays 177
using the Expert Entry feature 318
deferred processing mode, *See* deferred mode
definition properties dialog box 28
definition workspace
cascading/closing/grouping/tiling definitions 18
opening definitions 27
understanding 20
using the multiple document interface (MDI) 43
definitions
access profiles 37
See Also access profiles
Change Control history, viewing 433
Change Control implementation considerations 426
Change Control stamping 426

See Also Change Control stamping
Change Control, definitions supported by 439
closing 30
comments, enabling the prompt for 433
comments, entering 425
comments, inserting 432
comparing across databases 463
See Also Upgrade Compare process
component 11
See Also components
constructing SQL 23
creating 29
definition workspace 14
See Also definition workspace
deleting 32
drag-and-dropping 43
field 11
See Also fields
field formats 35
file type code 37
See Also file type codes
locked, viewing 432
locking 10, 423, 430
locking all 429, 431
locking automatically 431
naming 30
opening 15, 27
page 11
See Also pages
PeopleCode definition types/IDs 438
PeopleCode, parent definitions for 22
PeopleCode, viewing 23
PeopleCode, viewing characteristics 16
PeopleTools definition types/IDs 436
performing bulk operations 18
projects, accessing definitions for 48
projects, finding in 461
projects, inserting into 17, 51, 55, 460
projects, modifying definitions for 49
projects, printing all definitions in 461
projects, removing from 53, 452, 497
projects, using 47
properties, editing 15, 28
properties, viewing 28
record 11
See Also records
references, finding 16
See Also Find Definition References process
references, understanding 33
references, viewing 16
related definitions, finding 16
See Also Find Definition References process
related definitions, understanding 33
reports for definitions, viewing 15
reports, finding definitions in 469
saving 30, 56
selecting types 519
setting default owner IDs 22
styles 36
See Also styles
synchronizing database definitions 42
system colors 35
See Also colors
understanding the Build process 131
understanding types 25
upgrade definition window 449
See Also upgrade definition window
upgrade errors, checking for 462
upgrade process support by type 444
upgrade, displaying definitions available for 49
upgrades, performing actions on definitions for 497
upgrades, selecting/tagging definitions for copying/deleting during 497
upgrades, setting definitions to copy during 511
upgrading 443
using definition keys 434
viewing 15, 28
Delete Definition dialog box 32, 72
development database 429
Development view
identifying locked definitions 423
understanding 48
using 48
viewing upgrade-only definitions 53
device independent bitmap (DIB) images 367
DIB images 367
documentation
printed xxvi
related xxvi
updates xxvi
DoModal function 191
drag-and-drop
adding file fields to file layouts 386

adding file records to file layouts 386
copying/moving controls within/between pages 263
dragging field definitions from records to pages 259
dragging fields from the project workspace to a page 259
dragging pages into components 306
dragging record definitions onto pages 260
inserting columns into grids 206
inserting fields into records 110
moving fields between records 125
moving fields within records 124
moving grid columns 207
moving HTML areas 223
moving page control labels 264
ordering page controls via the order list 284
reordering component pages 306
using 43
drop-down list boxes
default base styles 275
default style classes 527
HTML entries for 291
inserting 256
positioning labels 271
setting properties 199
understanding 189
using 251
using deferred mode 176
using display-only 275
using the Expert Entry feature 319
wrapping long words 274
duplicate order keys
ordering in records 117
setting for records 118
using in records 116
dynamic views
creating select statements 129
defining records as 108
naming records as 107
setting the build order 129
using cross-platform meta-SQL 167

E

EDI
applying file layouts to 380
EDI Manager 381
See Also EDI Manager
performing 396
using segments 386
EDI Manager
CSV file properties 382
FIXED file properties 381
Edit Box Properties dialog box
setting general properties 277
setting label properties 269
setting record properties 264
setting styles 340
setting use properties 272
edit boxes
default base styles 275
default style classes 527
enabling 1000 separators 268
enabling spell check 268
HTML entries for 291
inserting 256
labels, applying 200
labels, enabling/disabling colons in 272
labels, positioning 271
long 189
See Also long edit boxes
replacing blank spaces with fill characters 269
sizing 267
understanding 189
using display-only 200, 275
wrapping long words 274
Edit menu 15, 254
editors 23
See Also Application Packages Editor; PeopleCode Editor; SQL Editor
Edits Display mode 104
%EditTable function 176
effective dates
level-based controls 249
translate table values, adding 86
translate table values, understanding 84
understanding 90
using drop-down list boxes 176
using in components 312
electronic data interchange (EDI), *See* EDI
end of file (EOF) characters 402
Enter key, activating links/buttons via 226
EOF characters 402
errors
displaying in deferred mode 178
handling for pages/page-controls 297
handling for project builds 137

logging during alter processes 136
setting build log options 142
setting error message styles 528
spell check results 38
troubleshooting file layout input data 399
upgrade errors, checking for 462
viewing for PeopleCode 21
events
naming records with event fields 108
triggering server processing 174
viewing for field definitions 24, 105
Excel, Microsoft, *See* MS Excel
Expert Entry feature
enabling 315, 318
enabling via PeopleTools Security 319
understanding 318
understanding limitations 319
using the Refresh button 318

F

Field Display mode 104
Field Listing report 548
fields
applying uppercase automatically 81
character 60
See Also character fields
containing PeopleCode 105
date 60
See Also date fields
datetime 60
See Also DateTime fields
definitions, changing 71
definitions, creating 11, 60
definitions, deleting 72
definitions, dragging 259
definitions, opening 69
definitions, printing 73
definitions, renaming 71
definitions, setting attributes for 61
definitions, understanding 59
definitions, viewing 70, 104
file fields 380
See Also file fields
format families, changing 77
formats and notation, understanding 74
formats, adding display formats to stored 80
formats, adding stored 79
formats, deleting stored 80
formats, editing 79
formats, testing 81
formats, understanding 35
formats, updating display 80
image 60
See Also image fields
ImageReference 60
See Also ImageReference fields
key 104
See Also key fields
label IDs, setting 120
labels, adding 68
labels, applying 180
labels, deleting 68
labels, selecting record field 68
labels, using multiple 67
long character 60
See Also long character fields
numeric 60
See Also numeric fields
page controls, setting properties for 264
page field attributes, bulk changes for 544
page fields, bulk modification of 543
pages, bulk insertion into 542, 543
pages, deleting from 126
pages, dragging fields from the project workspace to 259
record field properties, understanding 115
record field use properties, setting 117
record fields, bulk modification of 543
records, adding SetIDs to 98
records, bulk insertion into 542, 543
records, deleting from 125
records, inserting into 110
records, moving between 125
records, moving within 124
records, understanding fields in 59, 109
records, using audit fields in 113
records, using search fields in 119
refreshing 174
related display 177
See Also related display
reordering 106
report, Applications and Fields 548
report, Field Listing 548
report, Fields and Pages 547
report, Fields and Records 126, 547

report, Fields Referenced by PeopleCode Programs 126, 548
report, PeopleCode Programs and Field References 548
report, Records and Fields 547
set control 96
See Also set control fields
setting as required 123
setting audit options 119
setting default values 120
setting edit properties 123
setting related date fields 121
setting the maximum display length 78
setting time zone fields 121
table data, converting 156
tables to alter after field changes, determining 161
tables, enabling prompt 123
tables, enabling translate 123
testing for reasonable dates 124
time 60
See Also time fields
types, changing 71
types, understanding 60
understanding 26
understanding derived/work 253
understanding model fields 542
understanding spell check errors 40
using smart punctuation 80
using the Upgrade Compare process 464
viewing editing options 104
viewing key-related characteristics and default values 104
Fields and Pages report 547
Fields and Records report 126, 547
Fields Referenced by PeopleCode Programs report 126, 548
file fields
adding to file layouts 385, 386, 403
converting text to uppercase 394
entering descriptions 395
entering the decimal precision 395
including/excluding 397
interpreting backslashes as escape characters 391
naming 387, 394
parsing 391
selecting data types 394
selecting date formats/separators 394
selecting delimiters 390, 393
selecting inheritance 396
selecting qualifiers 390, 393, 395
selecting XML tags 395
setting lengths 395
setting properties 393
spaces, converting tabs to 391
spaces, trimming 395
stripping characters 395
using read/write methods 387
File Layout Definition Properties dialog box 389
File Layout Field Properties dialog box 393
File Layout Segment Properties dialog box 392
File Layout window 385
file layouts
applying to data interchanges 380
creating definitions 385
creating definitions (sample) 400
exporting data 400
field properties, setting 393
fields, adding 385, 386, 403
fields, including/excluding 397
format, CSV 382
See Also CSV files
format, FIXED 381
See Also FIXED files
format, XML 383
See Also XML files
formats, applying 388
formats, flat file 380
formats, viewing 390
import programs, generating /running 400
import programs, understanding 396
input data, previewing 397
input data, troubleshooting 399
naming 387
producing a sample 400
records, adding 385, 386
records, root-level 397
reordering nodes 387
segments 386
See Also segments
setting properties 388, 402
understanding 26, 379
using read/write methods 387
File menu 15, 254

file records
adding to file layouts 385, 386
assigning file record IDs 393
assigning identification sequence numbers 393
entering descriptions for 393
naming 387, 393
selecting delimiters 390, 393
selecting qualifiers 390, 393
selecting XML tags 393
setting maximum combined field lengths 393
setting properties 392
understanding hierarchy 397
using read/write methods 387
file type codes
understanding 37
filtering
custom filtering for upgrades 496
setting report options for upgrades 457
setting upgrade view options 16, 451, 495
Find Definition References process
changing field definitions 71
deleting definitions 32
deleting fields 126
deleting page controls 263
deleting pages 297
finding menus that reference components 309
running 16, 33
upgrading definitions 451
viewing referenced definitions 21
FIXED files
importing fields 397
input data, previewing 397
input data, troubleshooting 399
inserting segments/fields 403
outputting numbers to 388
properties 381
trimming field spaces 395
understanding 380, 381
flat files
understanding file layouts 379
understanding formats 380
folders
content references 333
ordering components within 333
Project 48
tabs for 315
See Also tabs
fonts
setting attributes for specific languages 346
setting color, style, variant and weight 345
setting families 345
setting for grids 220
setting for page controls 266
setting in style sheets 344
sizing 345
sizing page controls 267
understanding generic/installed 344
using default style classes 527
using style class attributes 343
using style inheritance 36
footers
printing in reports 298
setting borders for ChartFields 528
setting footer areas for grids 217
setting for scroll areas 236
Format Families dialog box 77
Formats dialog box 79
forms 89
frames
grouping page controls 188
inserting 256
understanding performance issues 287
using 192
using default style classes 527
functional indexes
DB2 UDB 514
Informix 515
MSSQL Server 513
platform support 152
functions
Alter 155
See Also Alter process
ComponentChanged 226
Convert Scroll to Grid 240
DoModal 191
%EditTable 176
Generate HTML 255
See Also Generate HTML function
GetHTMLText 376
iScripts 331
See Also iScripts
naming records containing 108
ScrollSelect 218
SetDBFieldNotUsed 104

View in Browser 255
See Also View in Browser function

G

Generate HTML function
understanding 255
using 291
GetHTMLText function 376
GIF images
converting 367
importing 366
understanding 364
glossary 555
Graphics Interchange Format (GIF)*, See* GIF images
Grid Properties dialog box
setting body area properties 215
setting general properties 211
setting use properties 218
grids
button images for 370
buttons, providing 229
collapsing to header bars 221
column heading properties, setting 217
columns properties, setting 208
columns, deleting 207
columns, freezing 210
columns, inserting/manipulating 206
columns, moving 207
columns, resizing 208
converting from scroll bars 240
customizing at runtime 205
default settings 205
displaying/hiding 255
dragging record definitions into 260
enabling/disabling personalizations 210
HTML tag 291
inserting 257
inserting page controls 204
inserting subpages 203
inserting/resizing 206
label properties, setting 212
labels, aligning column 271
labels, applying column 180
labels, applying title 181
nesting in scroll areas 248
ordering 284
ordering in bulk 544
processing in deferred mode 219
resizing in bulk 544
row selection indicators, setting 220
rows, controlling styles for 220
rows, inserting multiple 219
selecting pop-up menus 220
setting body area properties 215
setting display options 220
setting footer area properties 217
setting general properties 211
setting header area properties 213
setting the View All feature 215
setting use properties 218
tab separators, inserting 256
tabs, creating grids with 209
tabs, setting styles for 361
understanding 190, 204
understanding performance issues 287
using default style classes 527
using multiple 210
using page layout grids 257
using the Page Control Inspector 263
group boxes
associating with multicurrency processing 194
changing labels 193
collapsing 194
grouping page controls 188
hiding fields 194
inserting 192, 256
moving 192
setting properties 193, 194
understanding performance issues 287
using default style classes 527

H

Header Navigation Bar Properties dialog box 213
headers
collapsing grids to header bars 221
printing for reports 298
setting backgrounds for ChartFields 528
setting for scroll areas 236
setting header areas for grids 213
Help menu 18
history
Change Control 425
See Also Change Control history
displaying/updating rows for component records 312

effective dates for data rows 90
enabling history check boxes on search pages 314
homepages
customizing xxxiii
registering pagelets 333
setting templates for homepage pagelets 333
using default style classes 527
horizontal rules
drawing 188, 195
inserting 256
ordering tabs 195
setting properties 195
using default style classes 527
hot keys
disabling 314
invoking spell check 269
refreshing pages 174, 319
saving pages 312
viewing related displays 177
HTML
converting page controls 291
definitions, creating 375
definitions, naming 376
definitions, opening 376
definitions, referencing 376
definitions, understanding 375
HTML areas 190
See Also HTML areas
understanding colors 357
using the Generate HTML function 255
See Also Generate HTML function
viewing for pages 291
HTML Area Properties dialog box 223
HTML areas
changing labels 225
generating trees in 222
HTML definitions, referencing 376
HTML definitions, understanding 375
inserting 223, 256
populating 222, 223
understanding 190, 221

I

image catalog
general images 371
look-up page images 371
portal images 374
query images 372
scroll/grid action buttons 370
search page images 371
tab images 371
trees images 373
understanding 364
using 370
image fields
creating 60
setting attributes 67
understanding 60, 67, 363
ImageReference fields
creating 60
setting attributes 67
understanding 60, 67, 363
images
associating with records 197
background images in style sheets, setting 349
background images, referencing URLs for 351
catalog 364
See Also image catalog
changing display sizes 367
consolidating 368
creating alternate types 366
definitions, creating 364
definitions, opening 366
definitions, understanding 363, 364
definitions, updating 366
drawing image frames 188
formats, converting 368
formats, selecting 67, 364, 365
formats, setting storage 22, 367
GIF 364
See Also GIF images
image fields 60
See Also image fields
ImageReference fields 60
See Also ImageReference fields
importing 366
inserting 256
JPG 364
See Also JPG images
labels properties, setting 197
labels, button/link 232
labels, deactivating 182
labels, functional image 180
naming 370
printing a snapshot of your page design 298

setting properties 197, 365
showing status via icons 181
static 67
See Also static images
tabs, creating images for 360
tabs, naming images for 358
understanding 363
using controls 363
using default style classes 527
using in workflow maps 365
WBMP 364
See Also WBMP images
import process, *See* import program
import program
generating/running 400
understanding 396
incidents
tracking 501
indexes
custom, adding 154
custom, understanding 151
editing DDL 155
functional 513
See Also functional indexes
ordering keys 152
search 152
setting Alter process options 164
specifying creation options 142
supported platforms 152
understanding 150
understanding DDL 132
using record DDL 168
viewing DDL 170
when to create (based on record changes) 152
Informix
altering tables – impact on views 161
converting table data 156
functional indexes 152, 515
maximum image field size 67
performing Alter in Place operations 165
saving script files 147
inheritance
file fields 396
styles 36
Insert into Project dialog box 51
Insert menu 16, 254, 261, 305
Install process 3
instant messaging 228
interactive mode
setting for components 315
triggering server processing 174
understanding 173
using the Expert Entry feature 318
interfaces
component 26
See Also component interfaces
hiding the Application Designer 14, 137
multiple document interface (MDI) 43
International Organization for Standardization (ISO) 8601
standards 388
Internet
Internet scripts 331
See Also iScripts
PeopleSoft Pure Internet Architecture 9
setting component properties 313
iScripts
naming records 108
registering 332
understanding 331
ISO 8601 standards 388

J

Japanese characters 63
joins 167
Joint Photographic Experts Group (JPEG), *See* JPEG images
JPG images
converting other formats to 367, 368
understanding 364

K

key fields
descending keys 119
effective dates and level-based controls 249
identifying 118, 304
ordering 117, 282
setting search keys 119
understanding 104, 117
using in child/parent tables 115
using multiple keys in records 115
using records without keys 116
key lists
understanding 249

using data from current page for searches 230
keys
accessing pages 249
alternate search 117
See Also alternate search keys
duplicate order 116
See Also duplicate order keys
fields 104
See Also key fields
indexes 151
See Also indexes
maximum number 152
normalized databases 89
ordering 117, 152
search records 317
See Also search records
setting access keys 308
sharing tables 95
using definition keys 434
using drop-down list boxes 176
using for views 250
viewing key-related field characteristics 104

L

labels
buttons/links, applying image labels to 232
buttons/links, applying text labels to 231
buttons/links, labelling 182
check boxes, labelling 199
choosing text 184
component tabs, labelling 307
content references, labelling 333
drop-down lists, labelling 199
edit boxes, labelling 200
field label IDs, setting 120
fields, deleting labels for 68
fields, labelling 68
fields, labelling data-entry 180
functional images, labelling 180
grid columns, labelling 180
grids, labelling 181, 212
group boxes, changing for 193
horizontal rules, labelling 195
HTML areas, changing for 225
images, deactivating for 182
images, labelling 197
menus, labelling 323
page controls, aligning for 271
page controls, displaying text for 270
page controls, inserting line feeds in labels for 271
page controls, labelling 269, 271, 272
page controls, labelling invisible 274
page controls, labelling related display 272
page controls, moving for 271
page controls, moving labels for 264
page controls, selecting label IDs for 271
page controls, using blanks for 270
pages, labelling 179
pages, positioning on 255
radio buttons, labelling 200, 201
record fields, labelling 68
scroll areas, labelling 181, 236
scroll bars, labelling 237
static text, labelling 198
subpages, labelling 203
understanding multiple 68
languages
codes for 524
setting font attributes 346
setting related language records 112
support for spell check 268
translations, database 18
Layout Grid dialog box 257
Layout menu 255
lexical characters 74, 81
library, PeopleSoft Online 19
licensing
definition license codes 448
PeopleTools xxxiii
line feeds (for page labels) 271
links
activating via the Enter key 226
adding prompts 229
associating with PeopleCode commands 228
destination pages, selecting 230
destination pages, selecting action modes for 230
destination types, setting 226
destinations, selecting components /menus for 230
displaying for components 315
enabling for display-only access 226

external, setting as 227
external, setting URLs for 230
HTML entries for 291
indicating link status to users 355
inserting 225, 256
internal, selecting nodes for 230
internal, selecting portals for 230
internal, setting as 228
labels, applying 182
labels, setting image 232
labels, setting text 231
page anchors, jumping to 228
page data for searches, using current 230
secondary pages, accessing 229
secondary pages, associating primary pages with 241
understanding 190, 225
using default style classes 527
using for toolbar actions 229
using pseudo classes 355
list-item markers, setting styles for 354
literal characters 74, 81
logging
Build process 134
sample output for Build logs 144
setting build options 142, 143
setting levels 143
spell check results 38
long character fields
converting table data 156
creating 60
positioning via builds 139
setting attributes 64
understanding 60, 64
Long Edit Box Properties dialog box, *See* Edit Box Properties dialog box
long edit boxes
enabling 1000 separators 268
enabling spell check 268
expanding at runtime 274
HTML entries for 291
inserting 256
labels, applying 200
labels, enabling/disabling colons in 272
labels, positioning 271
replacing blank spaces with fill characters 269
sizing 267
understanding 189
using default base styles 275
using default style classes 527
using display-only 200, 275
wrapping long words 274
look-up pages 371
lookup buttons, *See* prompt buttons

M

Maintain Record DDL dialog box 168
margins
setting for page reports 298
setting for record definition reports 127
style classes, setting attributes for 344, 353
style classes, using default 527
%Market system variable 309
MDI 43
menu import process 326
Menu Listing report 317, 325, 548
Menu Properties dialog box 323
menus
Application Designer window 15
Build menu 17, 132
component menus, creating custom 321
components in navigation, including 312
components, adding 324, 334
components, finding menus that reference 309
Debug menu 17
defining pages 254
defining transfer 328
definitions, copying 325
definitions, printing 325
definitions, renaming 324
Edit menu 15
entering descriptions for 323
File menu 15
Help menu 18
importing custom menu groups into portals 326
Insert menu 16, 261
item properties, setting 322
item types, selecting 323
items, deleting 325
Menu Listing report 548
modifying 324
naming 322
pop-up 44
See Also pop-up

selecting for link destinations 230
setting properties 323
setting up security 326
Tools menu 17
understanding 26, 321
upgrade menu 451
using dynamic 44
View menu 16, 46
viewing modification history 324
Window menu 18, 43
Merge Projects dialog box 53
message catalog
accessing 317
setting button/link labels 232
setting image labels 197
understanding spell check errors 38
using static text 189
messaging
instant messaging 228
message catalog 38
See Also message catalog
publishing messages in PeopleCode 176
setting error message styles 528
suppressing system message boxes 14
understanding message channels 26
understanding message definitions 26
upgrade messages, clearing 462
upgrade messages, printing 462
upgrade messages, viewing 461
meta characters 74, 81
meta-SQL 167
methods
Alter 155
See Also Alter process
ReadRowset 384, 387, 388
WriteRecord 387, 393, 400
WriteRowset 387, 393, 400
Microsoft Excel, *See* MS Excel
Microsoft SQL Server, *See* MSSQL Server
MMA Partners xxvi
mobile applications
setting system IDs 56
using record auto-update options 112
mobile pages
registering 336
understanding 26
modes
deferred 174
See Also deferred mode
Edits Display 104
Field Display 104
interactive 173
See Also interactive mode
PeopleCode Debugger 17
See Also PeopleCode Debugger
PeopleCode Display 105
processing modes 173
See Also processing modes
selecting action modes for link destination pages 230
selecting action modes for search pages 314
selecting action modes for transfer menus 329
setting quiet mode 14
Use Display 104
View in Browser 283
See Also View in Browser function
Modify Order of Page Grid Fields dialog box 544
MS Excel
downloading grid data 214
parsing file fields 391
parsing support for CSV files 383
MSSQL Server
altering tables – impact on views 160
functional indexes 152, 513
maximum image field size 67
performing Alter in Place operations 165
saving script files 147
multiple document interface (MDI) 43

N

navigation
components/pages 302, 308, 315
including components in menu navigation 312
setting header areas for grids 213
Upgrade view 449
using command line parameters 405
using default style classes 527
using the pagebar 315
nodes
reordering file layout nodes 387
selecting for internal links 230
setting for the base URI 41
Tree Manager buttons 373
normal forms (databases) 88

normalized tables 88
notes xxix
notifications, enabling user 315
numeric fields
creating 60
enabling 1000 separators 268
inserting decimals automatically 268, 269
setting attributes 64, 156
setting to zero 267
understanding 60, 64

O

Open Definition dialog box
deleting fields 73
opening definitions 27
renaming fields 72
optimization
selecting delete records 112
understanding problem types 27
Options dialog box
configuring browser options 41
setting PeopleTools options 21
setting project options 55
Oracle
altering tables – impact on views 161
converting table data 156
maximum character field size 64
maximum image field size 67
performing Alter in Place operations 165
running alter scripts on tables with logs 160
saving script files 147
using PL/SQLF 156, 160
output window
activating/deactivating 16
navigating to build errors 146
understanding 14, 20
viewing build log output 143
owner IDs
setting for components 310
setting for content references 334
setting for definitions 28
setting for fields 70
setting for menus 324
setting for pages 293
setting for projects 51
setting for records 111
setting the definitions default 22

P

PAALTERNATE sub-style sheet 341
Page Control Inspector 262
page controls
accessing PeopleCode 287
adding static text 189
aligning 255, 267, 286
applying anchor tags 278
associating with multicurrency processing 273
buttons 190
See Also buttons
charts 188
See Also charts
check boxes 189
See Also check boxes
converting to HTML 291
copying/moving within/between pages 263
deferred mode, enabling 277, 297
deleting 263
display control and related fields, positioning 279
display control and related fields, using 279
display controls, ordering 284
displaying currency symbols 268
drop-down list boxes 189
See Also drop-down list boxes
edit boxes 189
See Also edit boxes
enabling save warnings 277
enabling spell check 268
finding in page definitions 285
frames 188
See Also frames
function and data processing 190
grids 190
See Also grids
group boxes 188
See Also group boxes
grouping 188
hiding password entries 268
horizontal rules 188
See Also horizontal rules
HTML areas 190
See Also HTML areas
images 188
See Also images

inserting 256
inserting decimals automatically 268, 269
invisible controls, creating 281
invisible controls, modifying 274
invisible controls, setting labels for 274
invisible, setting as 273
labels, applying 269
labels, applying related display 272
labels, moving 264
labels, setting invisible control 274
level-based controls and effective dates 249
level-based, understanding 246
level-based, understanding nested 247
links 190
See Also links
long edit boxes 189
See Also long edit boxes
manipulating 261
naming (system only) 278
order rules, applying 283
order testing 283
order, using the default 285
ordering 255, 281
ordering display controls 284
ordering logically 282
ordering via the order list 284
ordering visually 282
overlapping 285
populating automatically 268
printing a list of 298
properties, setting general 277
properties, setting use 272
radio buttons 190
See Also radio buttons
scroll areas 191
See Also scroll areas
scroll bars 191
See Also scroll bars
secondary pages 191
See Also secondary pages
selecting 261
setting control relationships between fields 274
setting record/field properties 264
setting to display only 273
setting to display-only 275
sizing 262, 267
spacing 281, 285
static images 188
See Also static images
static text 189
See Also text
style classes, overriding 340
style classes, setting 266
style classes, using 339
style classes, using default 527
subpages 190
See Also subpages
trees 190
See Also trees
understanding 187
understanding performance issues 286
using aesthetic 188
using data-entry 189
using the Page Control Inspector 262
using the page control toolbar 256, 260
wrapping long words 274
page definition report 298
Page Listing report 548
Page Properties dialog box
changing general information 293
changing use information 294
defining secondary pages 242
pagebars, defining 315
pagelets
moving/removing 374
registering homepage 333
setting templates for homepage pagelets 333
sizing pages 296
pages
accessing PeopleCode 287
accessing via keys 249
browsers, verifying page design in 289
browsers, viewing in 288
buttons 225
See Also buttons
charts 191
See Also charts
check boxes 198
See Also check boxes
components 301
See Also components
creating 259
customizing end user pages 253
deferred mode, designing transactions for 175
deferred mode, enabling 297

deferred mode, using 182
definition menus, using 254
definition reports, reading 298
definitions, cloning 258
definitions, creating 11
definitions, identifying online 292
definitions, printing 297
definitions, understanding 245
deleting 297
designing accessible 178
designing inquiry pages 285
displaying multiple data occurrences 250
dragging record definitions onto pages 260
drop-down list boxes 199
See Also drop-down list boxes
edit boxes 200
See Also edit boxes
field attributes, bulk modifications of 544
field definitions, dragging 259
fields (record), bulk insertion of 542
fields, bulk insertion of 543
fields, bulk modification of 543
fields, deleting 126
fields, dragging 259
frames 192
See Also frames
grids 204
See Also grids
group boxes 192
See Also group boxes
homepages 333
See Also homepages
HTML areas 221
See Also HTML areas
HTML, generating 291
HTML, viewing 291
images 195
See Also images
labels 179
See Also labels
levels and runtime processing 249
links 225
See Also links
long edit boxes 200
See Also long edit boxes
look-up pages 371
See Also search pages
maximizing performance 286
mobile 26
See Also mobile pages
navigating in components 302
optimizing performance 173
page controls 187
See Also page controls
page definition toolbar 255
producing 293
properties, setting general 293
properties, setting use 294
radio buttons 200
See Also radio buttons
refreshing 174, 182
renaming 297
report, Fields and Pages 547
report, Page Listing 548
report, Pages with PeopleCode 548
report, Records and Pages 549
reports, reading definition 298
saving 297
scroll areas 233
See Also scroll areas
scroll bars 233
See Also scroll bars
search 121
See Also search pages
secondary 191
See Also secondary pages
setting style sheets 341, 356
setting styles 296
sizing 295
sizing for hidden fields 297
subpages 190
See Also subpages
tabs 182
See Also tabs
understanding 26
understanding layout 263
understanding spell check errors 40
using default style classes 527
using derived/work fields 253
using hidden 253
using instructional text 182, 185
using prompts 251
using related displays 177
using sensitive data 253
using static text 198
Pages with PeopleCode report 548
parent tables 115

passwords
command line parameters 13, 138
hiding user entries 268
PeopleBooks
ordering xxvi
PeopleCode
Debugger 17
See Also PeopleCode Debugger
definition types/IDs 438
definitions, accessing PeopleCode in page 287
definitions, viewing for 16
definitions, viewing related 23
deleting records 127
Display mode 105
editing in subrecords 111
Editor 24
See Also PeopleCode Editor
opening PeopleCode for components 304
overriding style classes for page controls 340
publishing messages 176
report options, setting 456
report, Fields Referenced by PeopleCode Programs 548
report, Pages with PeopleCode 548
report, PeopleCode Programs and Field References 548
searching for text strings 16
selecting PeopleCode menu items 323
understanding 22
using deferred mode 175
validating 17
viewing program types 105
PeopleCode Debugger
running with undocked windows 46
starting 17
viewing errors 21
PeopleCode Display mode 105
PeopleCode Editor
understanding 24
viewing program types 105
PeopleCode events, *See* events
PeopleCode functions, *See* functions
PeopleCode Programs and Field References report 548
PeopleCode, typographical conventions xxviii
PeopleSoft Application Designer, *See* Application Designer
PeopleSoft Application Engine programs, *See* Application Engine programs
PeopleSoft application fundamentals xxv
PeopleSoft Data Mover, *See* Data Mover
PeopleSoft EDI Manager, *See* EDI Manager
PeopleSoft financial applications 541
PeopleSoft Online Library 19
PeopleSoft Process Scheduler, *See* Process Scheduler
PeopleSoft Pure Internet Architecture
converting page controls to HTML 291
supporting button/link features 225
supporting style class attributes 343
understanding 9
understanding applications 9
PeopleSoft splash screen 13
PeopleSoft Tree Manager 373
PeopleTools
administering DDL 168
definition types/IDs 436
licensing xxxiii
PeopleCode 22
See Also PeopleCode
setting options 21
tables 87
See Also PeopleTools tables
using the default style sheet 341
viewing release, database, server and user information 19
PeopleTools tables
synchronizing with system catalog tables 139
understanding/viewing 87
performance issues
designing pages and controls 286
locking target database definitions for upgrades 499
optimizing page performance 173
ordering index keys 152
setting commits for upgrades 453
using prompts/drop-down lists for grids 204
permission lists
adding components 334
copying/preserving references during upgrades 454
understanding 331
personalizations, grid 210

Personalize Column and Sort Order page 205
PL/SQL 156, 160
pop-up menus
  associating with page fields 328
  button images for 326, 372
  creating 327
  defining transfer menu items 328
  selecting for grids 220
  understanding 276, 326
  upgrade menu 451
  using 44
Portal Registry
  adding components 334
  copying structures 502
  spell check errors 39
  understanding 331
portals
  assigning components 332
  button images for 374
  importing custom menu groups 326
  Portal Registry 331
    See Also Portal Registry
  registering components in multiple 336
  selecting for internal links 230
  using default style classes 527
  viewing pages in 295
PPLTOOLS project 88
prerequisites xxv
Print Setup dialog box 298
printed documentation xxvi
printing
  all definitions in a project 461
  button image for 372
  comparison reports 469
  list of page controls and parameters 298
  menu definitions 325
  page definitions 297
  page design snapshot 298
  page report headers, footers and borders 298
  projects 15
  record definitions 127
  setting page margins 298
  upgrade definition window contents 498
  upgrade messages 462
procedural language/Structured Query Language (PL/SQL) 156, 160
Process Scheduler
  running Crystal reports 549
  running processes 229
Process Scheduler Request page 549
processes
  Alter 155
    See Also Alter process
  batch 25
    See Also Application Engine programs
  Build 11
    See Also Build process
  business 26
  Copy from File 500
  Copy to File 500
  Create Table 139
  Find Definition References 16
    See Also Find Definition References process
  import 396
    See Also import program
  Install 3
  menu import 326
  Process Scheduler 229
    See Also Process Scheduler
  processing groups 312
  processing modes 173
  Upgrade Compare 424
    See Also Upgrade Compare process
  Upgrade Copy 424
    See Also Upgrade Copy process
processing groups 312
processing modes
  setting based on users 318
  setting for components 315
  understanding 173
production database 429
profiles
  access 37
    See Also access profiles
  user 329
programs
  Application Engine 25
    See Also Application Engine programs
  Fields Referenced by PeopleCode Programs report 126, 548
  PeopleCode Programs and Field References report 548
Project Properties dialog box 50
project workspace
  activating/deactivating 16
  displaying/hiding 255

understanding 19, 48
Upgrade view 49
See Also Upgrade view
viewing definitions 28
projects
building 407
building record subsets 135
building records 17
building via the Build menu 135
building via the command line 136
change 54
See Also change projects
comparing via command line parameters 416, 480
creating 50
definitions, accessing 48
definitions, automatically locking 431
definitions, finding 461
definitions, inserting 17, 51, 55
definitions, inserting comments into 432
definitions, locking 431
definitions, locking all 431
definitions, modifying 49
definitions, printing 461
definitions, removing 53, 497
handling errors for builds 137
locking 424
locking all definitions 431
locking definitions 431
locking definitions automatically 431
merging 15, 53
populating 460
PPLTOOLS 88
printing 15
project workspace 14
See Also project workspace
properties, defining upgrade project 452
properties, editing 15
properties, setting 50
reloading upon startup 56
report, PeopleCode 456
reports, regenerating upgrade 498
reusing 511
saving 15, 50
setting options 21, 55
setting system IDs 56
understanding 19, 27, 47, 429
Upgrade Compare process 17
See Also Upgrade Compare process
Upgrade Copy process 18
See Also Upgrade Copy process
upgrade project properties, defining 452
upgrade reports, regenerating 498
upgrade, preparing for 460
upgrades, accessing projects for 461
upgrading application projects 18
using Change Control 429
validating 17, 21, 56, 511
viewing 48
viewing messages 21
prompt buttons
adding 229
enabling 268
understanding 251
prompt tables
button image for 372
defining records as 124
naming records as 107
setting for fields 105, 123
translate tables 82
See Also translate tables
using deferred mode 176
using effective dates 91
PSALTERNATE sub-style sheet 341
PSAUDIT table 113
PSCHGCTLHIST table 434
PSCHGCTLLOCK table 434
PSIDE.EXE, *See* command line
PSSTYLEDEF style sheet 341
PTSTYLEDEF sub-style sheet 341
Push Button/Hyperlink Properties dialog box
labelling buttons/links 231
setting destination types 226

Q

queries
button images for 372
specifying query security records 112
views 107
See Also query views
query views
defining records as 109
naming records as 107
quiet mode 14

R

radio buttons
HTML entries for 291
inserting 256
linking with records 201
ordering 284
setting label properties 201
setting use properties 201
understanding 190, 200
using default style classes 527
using in deferred mode 177
ReadRowset method 384, 387, 388
reasonable dates 124
record definition report 127
Record Field Properties dialog box
selecting field labels 68
setting field edit properties 123
setting field use properties 117
viewing editing options 104
viewing key-related characteristics and default values 104
record field table (RFT), *See* RFT
record groups
defining 100
understanding 95
Record Properties dialog box 111
records
adding descriptions 111
adding SetIDs 98
Alter process 155
See Also Alter process
altering 17
associating with check boxes 198
associating with images 197
audit options, setting 119
audit records, creating 113
audit records, setting user-defined 112
audits, using record-level 112
building 17
building subsets 135
creating 108
definition, building the active 135
definitions, creating 11
definitions, deleting 126
definitions, dragging 260
definitions, planning 90
definitions, printing 127
definitions, renaming 126
displaying/updating rows for component records 312
dynamic views 108
See Also dynamic views
effective dates, understanding 90
effective dates, using 312
field (record) edit properties, setting 123
field definitions, dragging 259
field definitions, viewing basic 104
field label IDs, setting 120
field labels, selecting 68
field properties, understanding 115
field types, changing 71
field use properties, setting 117
field values, setting default 120
fields (record), bulk insertion of 542
fields, bulk insertion of 542, 543
fields, bulk modifications of 543
fields, defining set control 98
fields, deleting 125
fields, dragging 259
fields, identifying key 118
fields, inserting 110
fields, moving 124, 125
fields, reordering 106
fields, setting related date 121
fields, setting time zone 121
fields, understanding 59, 109
file records 380
See Also file records
groups 95
See Also record groups
indexes, creating 151
indexes, when to create 152
key fields, identifying 118
key-related characteristics and default values, viewing 104
keys on parent/child tables, using 115
keys, ordering 117
keys, using duplicate order 116
keys, using multiple 115
keys, using no 116
linking with radio buttons 201
naming 107, 111
navigating to build errors 146
opening 109
properties for page controls, setting 264
properties, setting 111

properties, setting drop-down list record 199
properties, setting field use 117
properties, setting record field edit 123
properties, understanding field 115
query views 109
See Also query views
relationship to scroll areas/bars 234
report, Fields and Records 126, 547
report, record definition 127
report, Records and Fields 547
report, Records and Pages 549
saving 106
search 119
See Also search records
securing access 112
selecting delete records for optimization 112
setting parent 112
setting related language 112
setting tablespaces 169
specifying relationship settings 112
SQL tables 103
See Also SQL tables
SQL views 108
See Also SQL views
subrecords 107
See Also subrecords
synchronizing databases when comparing records 464
synchronizing with application data tables 139
temporary tables 109
See Also temporary tables
understanding 27, 103
understanding DDL 132
understanding performance issues 287
using auto-update options 112
using subpages 202
using the Upgrade Compare process 464
using third normal form 90
viewing 103
viewing editing options 104
viewing modification history 111
viewing PeopleCode program types 105
viewing records associated with set controls 101
work 107
See Also work records
worklist 107
See Also worklist records
Records and Fields report 547
Records and Pages report 549
refreshing
pages 174
Refresh buttons in components, including 318
related displays 177
upgrade definition window 451
using deferred mode 182
Registration Wizard
accessing 332
registering components 11, 332, 336
registering iScripts 332
registering mobile pages 336
setting menu item properties 322
understanding 331
related display fields
labelling 272
ordering display controls 284
understanding 177
using 279
related documentation xxvi
related edit fields, creating 280
release numbers, available 525
Rename Definition dialog box 30, 71
reports
Applications and Fields 548
Change Control information 434
comparison 469
See Also comparison reports
creating compare reports via command line parameters 416, 480
cross-reference 547
See Also Crystal reports
Field Listing 548
Fields and Pages 547
Fields and Records 126, 547
Fields Referenced by PeopleCode Programs 126, 548
generating ad hoc 549
Menu Listing 548
page definition 298
Page Listing 548
Pages with PeopleCode 548
PeopleCode Programs and Field References 548
PeopleTools Menu Listing 317, 325

printing 15
record definition 127
Records and Fields 547
Records and Pages 549
reporting Change Control history 440
upgrade report colors, setting 457
upgrade report filter options, setting 457
upgrade report options, setting 456
upgrade reports, printing 15
upgrade reports, regenerating 498
viewing 15
viewing a print preview 15
viewing for definitions 15
Window Listing 549
RFT
setting button/link labels 180, 228, 232
setting field names 61, 270
setting image labels 197
rows
adding multiple rows in deferred mode 177
grids, controlling row styles for 220
grids, disabling row insertion/deletion for 219
grids, inserting multiple rows into 219
grids, setting fixed row height for 221
grids, setting odd/even row style for 221
grids, setting row selection indicators for 220
scroll bars, deleting rows from 239
scroll bars, disabling row insertion/deletion for 239
scroll bars, identifying rows in 239
scroll bars, inserting rows into 239
scroll bars, navigating in 239

S

scripts
build options, setting 146
building script files 135
builds, selecting file name options for 149
builds, selecting file options for 148
builds, selecting file overwrite options for 148
iScripts 331
See Also iScripts
modifying invisible page controls via JavaScript 274
reviewing/updating 136
running 136
saving script files 147
using comments 147
Scroll Area Properties dialog box 237
scroll areas
button images for 370
buttons, providing 229
inserting 257
label properties, setting 236
labelling 181
labels, displaying 272
manipulating fields 235
nesting grids 248
ordering 284
processing in deferred mode 219
processing pages 234
properties, setting body area 236
properties, setting display 220
properties, setting footer area 236
properties, setting general 234
properties, setting header area 236
properties, setting label 236
properties, setting use 237
record relationships 234
understanding 191, 233, 234
understanding performance issues 287
using default style classes 527
Scroll Bar Properties dialog box 237
scroll bars
button images for 370
buttons, adding scroll action 239
buttons, providing 229
controlling scrollable data 239
converting to grids 240
inserting 257
ordering 284
processing pages 234
record relationships 234
setting attributes 238
setting field use options 238
setting label properties 237
setting use properties 237
understanding 191, 233
understanding performance issues 287
ScrollSelect function 218
search indexes 152
search pages

adding from/through logic 121
button images for 371
disabling advanced search features 119
enabling history check boxes 314
enforcing required property and table edits 119
opening new browser windows 315
setting component options 313
using instructional text 314
search records
adding from/through search logic 121
designing inquiry pages 285
key lists 249
See Also key lists
overriding 317
selecting search fields 119
setting for components 311
understanding 317
searches
alternate search keys 117
See Also alternate search keys
definitions and their references 16
See Also Find Definition References process
finding definitions in reports 469
PeopleCode programs 16
projects 21
projects, finding definitions in 461
records 119
See Also search records
running for components 311
search pages 121
See Also search pages
SQL programs 16
secondary pages
accessing via buttons/links 229
associating with primary pages 241
defining 242
inserting 257
inserting controls 243
selecting style sheets 243
sizing 243, 255
understanding 191, 240
security
accessing projects for upgrade 461
Change Control 426, 427
enabling the Expert Entry feature 318, 319
granting build authority 132
modifying invisible page controls via JavaScript 274
performing bulk operations 541
setting up for menus 326
specifying query security records 112
using sensitive data on pages 253
segments
inserting into file layouts 386, 403
setting properties 392
using 386
servers
optimizing transmissions 173
triggering processing 174
using deferred mode 174, 182, 315
using interactive mode 315
using the Refresh button 318
set control fields
assigning 97
defining 98
defining for trees 101
enabling 123
modifying 99
overriding 124
understanding 96
using associated records 105
viewing associated records 101
Set System Default Colors dialog box 35
SetDBFieldNotUsed function 104
setIDs
adding to records 98
assigning default 99
creating 99
sizing sets 132
smart punctuation 80
spell check
button image for 372
enabling for Application Designer 21, 40
enabling for component fields 314
enabling for components 312
enabling for edit boxes 268
launching portal pages 41
understanding 37
understanding results 38
splash screen, PeopleSoft 13
splitter bars 45
SQL
constructing definitions 23
DDL 132
See Also DDL

Editor 23
See Also SQL Editor
running as part of the Build process 136
searching for text strings in programs 16
tables 42
See Also SQL tables
understanding definitions 27
views 107
See Also SQL views
SQL Alter
creating indexes 151
renaming database table fields 72, 126
synchronizing database/PeopleSoft definitions 42
SQL Editor
opening 130
understanding 23
SQL tables
building 11
changing field definitions 71
creating 42
naming 129
records 103
See Also records
understanding the Build process 131
SQL views
creating select statements 129
defining records as 108
naming records as 107
updating select statements 123
static images
adjusting size/shape 196
changing dynamically at runtime 67
drawing frames 188
HTML tag 291
inserting 256
setting properties 196
using controls 363
using default style classes 527
status
activating/deactivating the status bar 16
indicating link status to users 355
showing via icons 181
viewing in the output window 20
See Also output window
style classes
accessing attributes 344
adding to style sheets 342
assigning at runtime 341
overriding for page controls 340
understanding 339
understanding attributes 343
understanding pseudo classes 355
using custom 340
using defaults 340, 527
style sheets
background attributes, setting 348
background image URLs, referencing 351
changing 341
classes 339
See Also style classes
colors, changing tab 356
colors, understanding 357
colors, using 182
creating 342
creating tab images 360
default, changing 356
default, using 341
font attributes for specific languages, setting 346
fonts, setting 344
fonts, understanding 344
pages, selecting for 296
pages, selecting style sheets for secondary 243
pages, setting for 356
pages/applications, setting for 341
setting border attributes 351
setting margins 353
setting spacing and alignment 346
specifying miscellaneous attributes 354
sub-style sheets 339
See Also sub-style sheets
understanding 27, 339
styles
classes 339
See Also style classes
default base styles for page controls 275
inheritance 36
setting for page control labels 271
setting for page controls 266
style sheets 27
See Also style sheets
understanding 36
sub-style sheets
creating 342

inserting into style sheets 342
understanding 339
using default style classes 341, 527
subpages
defining 202
inserting 257
inserting into grids 203
inserting into pages 203
setting informational labels 203
sizing 255
understanding 190, 202
subrecords
defining records as 109
editing PeopleCode 111
inserting into records 110
naming 107
nesting 111
printing 129
viewing 110
suggestions, submitting xxx
Sybase
altering tables – impact on views 160
maximum image field size 67
performing Alter in Place operations 165
saving script files 147
synchronization
Build process 42
See Also Build process
synchronizing database/PeopleSoft definitions 42
synchronizing databases during upgrade 464
synchronizing records with application data tables 139
using views online 166
when to run the Alter process 161
system catalog tables
creating/understanding 87
synchronizing with PeopleTools tables 139
understanding the Build process 139
system IDs, setting 56
system variables
entering default field values 120
%Market 309

T

Table Sharing feature 97, 105
tables
altering 155
See Also Alter process
application data 87
See Also application data tables
confirming builds 150
control 92
See Also control tables
creating 140
creating audit tables 113
defining record groups 100
fields with edit tables 176
maximum columns 140
naming non-standard SQL tables 109
PeopleTools 87
PSAUDIT 113
PSCHGCTLHIST 434
PSCHGCTLLOCK 434
set control fields, assigning 97
set control fields, using 105
SetIDs, adding 98
setIDs, creating 99
setting create options 141
sharing 95
SQL 42
See Also SQL tables
system catalog 87
Table Sharing feature 97, 105
tablesets 93
See Also tablesets
tablespaces 169
See Also tablespaces
temporary 107
See Also temporary tables
translate 82
See Also translate tables
understanding effective dates 90
understanding normalized 88
understanding performance issues 287
understanding the Build process 139
URL Maintenance 230, 351, 365
using child/parent 115
using key fields 115
viewing DDL 170
tablesets
creating TableSet IDs 99
defining controls 100
defining record groups 100
PeopleSoft applications 95
sharing record groups 95
sharing tables 96

sharing trees 101
understanding 93
tablespaces
setting 169
viewing DDL 170
tabs
displaying for components 315
grid tab separators, inserting 256
grids, creating tabbed 209
images, creating 360
images, naming 358
navigation buttons 371
order testing 255
ordering 182, 195, 282
setting styles 361
specifying component labels 307
understanding definitions 356
using default style classes 527
templates
page 258
record DDL 168
setting for homepage pagelets 333
temporary tables
creating via the Alter process 165
defining records as 109
naming 107
running Alter scripts 160
terms 555
test database 429
Test Format dialog box 81
testing
applications 12
field formats 81
page control order 283
reasonable dates 124
tab order 255
using the test database 429
text
aligning 198
instructional text for pages 182, 185
instructional text for search pages, using 314
label text properties, setting 198
labels for page controls, setting text 270
labels, setting button/link text 231, 232
multicurrency processing 198
setting styles 198
static text for page controls, adding 189
static text, HTML tag for 291
static, inserting 256
three-tier execution 312
time fields
creating 60
displaying time zones 268
field length in file layouts 388
setting attributes 66
understanding 60, 66
time zones
adjusting time fields 66, 91
displaying for fields 268
understanding time zone fields 121
toolbars
activating/deactivating 16
Application Designer window 19
buttons, adding 229
defining for components 314
page control 256, 260
page definition 255
using dockable 46
using dynamic 44
Tools menu 17, 254
transactions
button image for 372
components 301
See Also components
optimizing accessibility 179
running in deferred mode 175, 176
using related displays 177
using the Expert Entry feature 318
transfer menus, defining 328
translate tables
adding values 85
attributes 83
changing values 86
deleting values 86
effective dates 84
enabling for fields 123
related display fields 274
saving 86
understanding 82
using 83
translation
base and operator language databases 18
entering page control labels 270
Tree Manager 373
trees
dynamic tree controls (deprecated) 190
generating in HTML areas 222

inserting 257
sharing 101
Tree Manager buttons 373
triggers
creating/understanding 166
triggering server processing 174
typographical conventions xxviii

U

Universal Resource Identifier (URI), setting the base 22, 334
Upgrade Compare process
checking for errors 462
definition types, support for 444
definitions by project, comparing 464
definitions by type, comparing 464
locking and upgrades 424
performing 466
setting options 454
setting report filter options 457
synchronizing databases 464
understanding 463
viewing messages 461
Upgrade Copy process
checking for errors 462
copying projects from files 500
copying projects to files 500
database, copying projects to a target 499
databases for development, using multiple 429
databases, locking 424
databases, synchronizing 464
definition types, support for 444
definitions to copy, setting 511
setting options 459
tracking fixed incidents 501
understanding 498
viewing messages 461
upgrade definition window
finding definitions in projects 461
printing contents 498
resetting Done check boxes 511
setting custom filtering 496
setting filtering 495
understanding the columns 450
using 449
using the upgrade menu 451
upgrade menu 451
Upgrade Options dialog box
accessing 452
setting compare options 454
setting copy options 459
setting general options 452
setting report filter options 457
setting report options 456
Upgrade Project report 15
Upgrade view
checking for errors 462
navigating 449
setting filtering 16, 495
understanding 48
using 49
viewing upgrade-only definitions 53
upgrading applications
Change Control history 426
See Also Change Control history
Change Control stamping 426
See Also Change Control stamping
checking for errors 462
copying projects via command line parameters 409, 503
databases, comparing 463
See Also Upgrade Compare process
locking 424
See Also Change Control locking
messages, clearing upgrade 462
messages, printing upgrade 462
messages, viewing upgrade 461
overriding upgrade defaults 496
projects definitions, printing all 461
projects, accessing 461
projects, copying 498
See Also Upgrade Copy process
projects, finding definitions in 461
projects, populating 460
projects, preparing 460
projects, reusing 511
recommendations 253
recording upgrade settings 498
reports, comparison 469
See Also comparison reports
reports, regenerating upgrade 498
reviewing upgrade settings 495
selecting custom view settings 496
selecting view options 495
setting Alter process options 164
Tools menu Upgrade item 18
understanding 443
Upgrade Compare process 463

See Also Upgrade Compare process
Upgrade Copy process 424
See Also Upgrade Copy process
upgrade menu 451
upgrade support for definition types 444
Upgrade view 49, 449
See Also Upgrade view
viewing actions 21
URI, setting the base 22, 334
URL Maintenance table 230, 365
URLs
content references 331
See Also content references
controlling via style classes 344
copying to the clipboard 315
referencing background image URLs 351
setting for images 365
URL Maintenance table 351
Use Display mode 104
user IDs
Change Control implementation considerations 426
locked definitions, identifying 423
locking, understanding 423
sharing IDs 428
upgrades and locking 424
upgrades and stamping 426
user profiles 329

V

validation
components 21
fields with edit tables 176
PeopleCode 17
project integrity 511
projects 17, 21, 56
version control 424
View in Browser function
activating 255
testing page control order 283
understanding 255
using 289
View in Browser mode 283
See Also View in Browser function
View menu 16, 46, 254
views
altering tables 160
creating 142, 167
Development 48
See Also Development view
dynamic 107
See Also dynamic views
query 107
See Also query views
SQL 107
See Also SQL views
understanding 166
Upgrade 48
See Also Upgrade view
using joins 167
using keys 250
visual cues xxix

W

warnings xxix
adding to Build logs 143
displaying in deferred mode 178
enabling save warnings for field changes 277
enabling save warnings for grid changes 220
enabling save warnings for leaving pages 226
handling for pages/page-controls 297
image file size 365
WBMP images
converting 367
importing 366
understanding 364
Window Listing report 549
Window menu 18, 43
windows
accessing context-sensitive help 19
activating 43
Application Designer window components 14
opening links in new windows 226
using dockable 46
using splitter bars 45
Window Listing report 549
Window menu 18
Windows
building projects via the command line 135, 137
functional indexes 152
saving script files 147
setting the thee-tier execution location 312

sizing pages 296
wireless bitmap (WBMP), *See* WBMP images
work records
adding pages based on work records to components 317
defining records as 109
naming 107
naming for SQR reports 107
referencing for pages 286
using derived/work fields 253
using hidden pages 253
varying prompt tables 124
workflow maps
understanding definitions 25
using images 365
worklist records
accessing/viewing 315
naming 107
workspaces
definition workspace 14
See Also definition workspace
project workspace 14
See Also project workspace
Upgrade view 449
See Also Upgrade view
using splitter bars 45
WriteRecord method 387, 393, 400
WriteRowset method 387, 393, 400

X

XML files
file layouts, associating tags with 390
file layouts, displaying the buffer size for 390
generating 400
importing fields 397
properties 383
selecting XML tags for fields 395
understanding 380, 383