PeopleTools 8.54: Data Migration Workbench

July 2014
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Preface

Understanding the PeopleSoft Online Help and PeopleBooks

The PeopleSoft Online Help is a website that enables you to view all help content for PeopleSoft Applications and PeopleTools. The help provides standard navigation and full-text searching, as well as context-sensitive online help for PeopleSoft users.

PeopleSoft Hosted Documentation

You access the PeopleSoft Online Help on Oracle’s PeopleSoft Hosted Documentation website, which enables you to access the full help website and context-sensitive help directly from an Oracle hosted server. The hosted documentation is updated on a regular schedule, ensuring that you have access to the most current documentation. This reduces the need to view separate documentation posts for application maintenance on My Oracle Support, because that documentation is now incorporated into the hosted website content. The Hosted Documentation website is available in English only.

Locally Installed Help

If your organization has firewall restrictions that prevent you from using the Hosted Documentation website, you can install the PeopleSoft Online Help locally. If you install the help locally, you have more control over which documents users can access and you can include links to your organization’s custom documentation on help pages.

In addition, if you locally install the PeopleSoft Online Help, you can use any search engine for full-text searching. Your installation documentation includes instructions about how to set up Oracle Secure Enterprise Search for full-text searching.

See PeopleTools Installation for your database platform, “Installing PeopleSoft Online Help.” If you do not use Secure Enterprise Search, see the documentation for your chosen search engine.

Note: Before users can access the search engine on a locally installed help website, you must enable the Search portlet and link. Click the Help link on any page in the PeopleSoft Online Help for instructions.

Downloadable PeopleBook PDF Files

You can access downloadable PDF versions of the help content in the traditional PeopleBook format. The content in the PeopleBook PDFs is the same as the content in the PeopleSoft Online Help, but it has a different structure and it does not include the interactive navigation features that are available in the online help.

Common Help Documentation

Common help documentation contains information that applies to multiple applications. The two main types of common help are:

• Application Fundamentals
• Using PeopleSoft Applications

Most product families provide a set of application fundamentals help topics that discuss essential information about the setup and design of your system. This information applies to many or all applications in the PeopleSoft product family. Whether you are implementing a single application, some combination of applications within the product family, or the entire product family, you should be familiar with the contents of the appropriate application fundamentals help. They provide the starting points for fundamental implementation tasks.

In addition, the PeopleTools: Applications User's Guide introduces you to the various elements of the PeopleSoft Pure Internet Architecture. It also explains how to use the navigational hierarchy, components, and pages to perform basic functions as you navigate through the system. While your application or implementation may differ, the topics in this user’s guide provide general information about using PeopleSoft Applications.

Field and Control Definitions

PeopleSoft documentation includes definitions for most fields and controls that appear on application pages. These definitions describe how to use a field or control, where populated values come from, the effects of selecting certain values, and so on. If a field or control is not defined, then it either requires no additional explanation or is documented in a common elements section earlier in the documentation. For example, the Date field rarely requires additional explanation and may not be defined in the documentation for some pages.

Typographical Conventions

The following table describes the typographical conventions that are used in the online help.

<table>
<thead>
<tr>
<th>Typographical Convention</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key+Key</td>
<td>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.</td>
</tr>
<tr>
<td>... (ellipses)</td>
<td>Indicate that the preceding item or series can be repeated any number of times in PeopleCode syntax.</td>
</tr>
<tr>
<td>{ } (curly braces)</td>
<td>Indicate a choice between two options in PeopleCode syntax. Options are separated by a pipe (</td>
</tr>
<tr>
<td>[ ] (square brackets)</td>
<td>Indicate optional items in PeopleCode syntax.</td>
</tr>
<tr>
<td>&amp; (ampersand)</td>
<td>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.</td>
</tr>
<tr>
<td>⇒</td>
<td>This continuation character has been inserted at the end of a line of code that has been wrapped at the page margin. The code should be viewed or entered as a single, continuous line of code without the continuation character.</td>
</tr>
</tbody>
</table>
ISO Country and Currency Codes

PeopleSoft Online Help topics use International Organization for Standardization (ISO) country and currency codes to identify country-specific information and monetary amounts.

ISO country codes may appear as country identifiers, and ISO currency codes may appear as currency identifiers in your PeopleSoft documentation. Reference to an ISO country code in your documentation does not imply that your application includes every ISO country code. The following example is a country-specific heading: "(FRA) Hiring an Employee."

The PeopleSoft Currency Code table (CURRENCY_CD_TBL) contains sample currency code data. The Currency Code table is based on ISO Standard 4217, "Codes for the representation of currencies," and also relies on ISO country codes in the Country table (COUNTRY_TBL). The navigation to the pages where you maintain currency code and country information depends on which PeopleSoft applications you are using. To access the pages for maintaining the Currency Code and Country tables, consult the online help for your applications for more information.

Region and Industry Identifiers

Information that applies only to a specific 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 region-specific heading: "(Latin America) Setting Up Depreciation"

Region Identifiers

Regions are identified by the region name. The following region identifiers may appear in the PeopleSoft Online Help:

- 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 the PeopleSoft Online Help:

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

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.
Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Using and Managing the PeopleSoft Online Help

Click the Help link in the universal navigation header of any page in the PeopleSoft Online Help to see information on the following topics:

• What’s new in the PeopleSoft Online Help.
• PeopleSoft Online Help accessibility.
• Accessing, navigating, and searching the PeopleSoft Online Help.
• Managing a locally installed PeopleSoft Online Help website.

PeopleTools Related Links

Oracle's PeopleSoft PeopleTools 8.54 Documentation Home Page (Doc ID 1664613.1)

PeopleSoft Information Portal

My Oracle Support

PeopleSoft Training from Oracle University

PeopleSoft Video Feature Overviews on YouTube

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Chapter 1

Getting Started with Data Migration Workbench

Data Migration Workbench Overview

Data Migration Workbench facilitates the Configuration Management process using Application Data Sets (ADS) as its underlying transport technology. Data Migration Workbench provides the ability to move, compare, validate, and merge configuration data. Configuration data includes:

- setup data
- application data
- tools configuration
- managed objects

The Data Migration Workbench is designed to manage the complexity of migrating configuration data across multiple PeopleSoft systems. It is very common to have four or more databases in a PeopleSoft environment, including one or more for development, another for quality assurance, as well as the primary production system. PeopleTools migrates managed objects between environments in PeopleSoft projects that are extracted from one database and imported into another, which works well for PeopleTools metadata however it does not handle application configuration data.

The Data Migration Workbench provides the ability for any authorized developer to easily define application data sets, create and modify projects and to compare and copy the objects in the projects similar to the way managed objects have been copied and compared for many years.

Application Data Sets:

- Enable developers to use PeopleSoft Pure Internet Architecture (PIA) to create data set definitions as a hierarchy of records with some collective properties. A data set definition defines the \textit{shape} of data set instances. It consists of the following elements:
  - A root record. The primary keys of the root record are then keys of the data set instance
  - An optional hierarchy of related child records, where each child record includes the keys of its parent record.
  - An optional set of properties.
  - An optional set of relationships to other data sets, and their properties.
  - An optional set of attribute groups and their properties.
• An optional application class having Peoplecode that controls the behavior of the data set instances at copy, compare and validate time.

Data set definitions are like record definitions: record definitions define a group of fields that constitute a record; data set definitions define a group of records that constitute a data set. Both record definitions and data set definitions are metadata that define the shape of data.

• Starting with PeopleTools 8.54 data sets support relations and groups. Relations make it possible to associate two or more data sets based on keys, criteria and properties. Data Sets that include relationships with the family property make it possible to merge the attributes when the data set is copied to the target database. Groups can be used to define records and fields that can be safely merged or that should be hidden from compare.

• Enable developers or administrators using PIA to insert data sets instances (data content) into projects to represent a unit of work as a data migration project. Data migration projects are like managed object projects: a collection of data set instances having various data set definitions.

• Enable developers or administrators using PIA or Change Assistant to copy, compare, validate, and merge projects containing data sets.

• Enable PIA-based copy and compare to use powerful servers rather that the Windows workstations required for PeopleSoft Integrated Development Environment (PSIDE)-based copy and compare.

• Integrate with the Enterprise Components Approval Framework to provide administrative control of the project copy from file process.

• Provide enhanced security to assure that the data set definitions are suitable for copying data, that the user has access to the PIA data set pages, and that user has the right to copy and compare the data.

• Provide an alternative to Data Mover that offers greater visibility and control for managed changes of a customer's environment.

• Allow pre-defined target configuration fields values to be preserved within each instance. The object owner defines what fields can be preserved using groups. The customer can review and choose to override default behavior with interactive PIA-based compare.

The main interactive of components the Data Migration Workbench are:

• Data Set Designer, used to define the structure and properties of data sets.

• Project Manager, used to:
  • Define data migration project content.
  • Launch copy, compare and validation operations for projects.
  • View compare and validation results, and modify the instances and groups that will be copied.

• File Location Manager, used to determine file locations where project files can be copied to or from, results, and modify the instances and groups that will be copied.

Data Migration Workbench shows the current status of a project and prevents inconsistent actions. Once you have defined the data migration project, you can copy the data to a file that can later be compared or copied from file on another PeopleSoft database.
The Data Migration Workbench uses a Project Repository as a place in the file system where project files can be copied to and from. The Project Repository is defined in the database as a repository name, an associated file path, and one or more areas (sub folders) that can contain project files. The purpose of Project Repository is to avoid manually copying project files from one system to another by promoting common definition of shared file locations and providing better security for administrative control of the places that project files can be copied to.

**Image: Main Data Set Components**

This diagram illustrates the main components for Data Sets: Data Set Definition and Data Migration Workbench

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**Data Set Integration with PeopleSoft Update Manager**

PeopleSoft Update Manager (PUM) is used by Peoplesoft to deliver maintenance to customers. PUM processes data set projects to migrate both Peopletools-owned objects like Pivot Grids and Activity Guides, and application-owned objects like Global Payroll. The principle change in 8.54 integration with PUM was to create a composite project of customer-selected units of work containing DMW projects and their dependents for ADS in a manner similar to what has been done for IDE objects in 8.53. Thus when a customer selects units of work to apply, and the dependency calculation adds addition dependent units of work, a single composite DMW project is generated. This simplifies downstream processing.

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**Deployment of Application Data Using Data Sets**

In previous releases, Data Mover scripts were the only option available to load application data. There was no way to compare the data that is copied by Data Mover. Data sets provide the ability to compare and copy the content data.
Note: Data Mover scripts are still being used to load application data, however you now have another alternative using data sets.
This diagram shows the overall flow for creating and copying Data Set Migration projects.

**Image: Data Set Flow**

This diagram shows the flow for creating and copying data sets. On the source database, you create a data set definition in PIA just once. The data set definition is a traditional managed object, so it can be copied and compared using the IDE (Integrated Development Environment). You can then include data defined by the data set definition into data migration projects. Each project can contain data from multiple data set definitions. Once the data migration project contains data content it can be copied to a file. The file will be located in one of the Project Repositories defined for your environment. Before you can copy the data migration project to a PeopleSoft target database, the data set definition must exist on the target database. To copy the data set definition, you will need to create an IDE project in Application Designer that contains the data set definition. You can then copy the IDE project to a file and copy it from the file to the target database. A restriction in 8.53 is that the data set definitions on the source and target must be the same – that constraint will be relaxed in a future release. On the target database, you will load the data migration project from the Project File repository location, this step copies the project definition from the file to the target, but none of the project content is copied. You can then compare the project and update the copy options, or, if approvals are not enabled on the target or the approval rules do not require a compare, you may copy the project without doing a compare. When you are ready to copy the project, you will submit for copy. If approvals are enabled on the target database, it will enter the approval
process; otherwise the copy will be initiated. If the approval process is enabled, then only approved projects are scheduled for copy, if the project is rejected there is no copy.

Application Data Set Implementation

This section discusses the steps used to implement and migrate data using data sets:
Steps | Reference
--- | ---
1. Create Data Set Definition. | See Creating and Editing Data Set Definition.
2. Create or select then populate Data Migration Project. | See Defining Data Migration Project.
3. Copy to file. | See Copying Project to File.
5. Review compare and validation reports. | See Viewing Compare Reports.
6. Copy Data Migration Project from file. | See Submitting for Copy.

Data Migration Workbench Limitations and Recommendations

This section lists some limitations and recommendations for Data Migration Workbench.

Limitations

Keep in mind the following limitations for Data Migration Workbench:

• The Application Server and Process Scheduler used must both be able to access the project files using the same path. This will require that both are running on Operating Systems that use compatible file access conventions. For example, Microsoft Windows and UNIX-derived operating systems do not have compatible native file access conventions.

• Although data set security has been improved in PeopleTools 8.54, and is more secure than some other migration technologies, data migration via DMW is intended to be used for data that does not contain sensitive data.

• The data set definition must exist on the target database before you load a data set project to the target database.

• The shape of a data set is defined by the records and fields included in the data set. Data set shape changes were not allowed in the GA release of 8.53, but 8.53 was patched to allow shape changes similar to what is allowed for IDE projects. The allowed shape changes include adding records or fields to a data set definition. Allowed shape changes do not require PeopleCode.

Additional shape changes, such as supplying data values for a newly added field or moving data from one record to another may require a custom transform program. The application classes associated with data sets can support various data transformations expressed using the rowset PeopleCode API. In 8.53 transforms are possible at copy from file time, and in 8.54 transforms can be implemented at both copy to and from file times.

• Data set records must be physical records that have at least one primary key. All child records must include the primary keys of the parent record, but may also have additional primary keys.

Recommendations

The following practices are strongly recommended:
• Data set projects are meant for relatively small data sets of relatively static data.

**Note:** Data Set projects are not recommended for large data sets.

• Do not change the source Data Migration Project file after the compare been performed. If the source data file is changed, any compares must be re-run.

**Note:** The decision of which objects to copy is based on the compare report, which is stored in the database. If the data set project is changed after the compare, you may not get the desired results. Changing the target database may be necessary to fix validation errors, but caution is required to avoid changes to the target database that might create validation errors during copy that were not seen in compare.

• Setting up the Project Repositories and areas is a one time activity. The directories should first be created by a system administrator with read/write access permissions for the users who will start the application and process schedule servers.
Chapter 2

Using Data Set Designer

Understanding Data Set Designer

The Data Set Designer defines a data set as a hierarchy of strongly related records and their collective properties. In the Data Set Designer, you will build the record hierarchy structure of the data set. You can manually build the data set structure or generate the data set structure from a component. This data set is stored as the Data Set Definition.

The equivalent, but not necessarily equal, data set definition must exist in any PeopleSoft database that participates in a data set copy or compare. Once the data set definition is created, you can use the project copy in Application Designer to migrate the data set definition to other PeopleSoft databases.

Creating and Editing Data Set Definition

This section describes how to:

• Search for and create data sets.
• Define a data set.

Searching For and Creating Data Sets

Use the Data Set Designer search page (PTADSDEFNSEARCH) to search for, add, or delete a data set.

Navigation

PeopleTools, Lifecycle Tools, Migrate Data, Data Set Designer

Image: Data Set Designer Search Page

This example illustrates the fields and controls on the Data Set Designer Search page. You can find definitions for the fields and controls later on this page.

The Data Set Search page has two tabs Search, and Add.
Search

Search is the default action for Data Set Designer. Users can search for existing data sets and open an existing data set for modification. Users can also delete one or more data sets from the search result set.

You can search for an existing data set using:

- Data Set Name
- Description
- Owner ID

Basic and advance search is provided so users can search based on one or multiple search keys. The search result produces a grid. Users can select one or multiple data sets in the grid to delete. Users can open the data set for modification using the link for the data set name.

Image: Data Set Search Results

This example illustrates the fields and controls on the Data Set Designer Search page.

Create New Data Set

Select the Add tab to create a new data set.

Enter a Data Set Name and a description for the new data set. Data Set Name and Description are mandatory fields. When you click the Add button, the identity page is displayed.

See Defining the Data Set.
Defining the Data Set

Use the General page (PSADSDEFNPAGE) to identify the top-level properties of the data set.

Navigation

PeopleTools, Lifecycle Tools, Migrate Data, Data Set Designer

Image: General Page

This example illustrates the fields and controls on the General page. You can find definitions for the fields and controls later on this page.

Data Set Name
Uniquely identifies the data set definition. Each data set definition describes a distinct shape, and there can be many instances of that type.

Description
A description of the data set instance. Instances are distinguished by having distinct bindings.
Long Description
A long description providing additional information such as guidance, limitations or cautions regarding this data set.

Owner ID
Identifies the product that will own the data set definition and content.

Is Copyable
Selecting this check box indicates that the data included in the data set definition is suitable for copy from one database to another. Data is suitable for copy only if doing so will produce a valid object on the target and not corrupt any other data on the target. This field is only editable if Allow setting Copy Compare attributes on ADS definitions is selected for the users Data Migration security profile.

See Setting Data Migration Permissions.

Derivation Type
This indicates if the data set definition was created manually or generated from a component.

Note: In PeopleTools 8.54, the generate option is no longer available.

Add Record to Root
Select the parent record, which will become the root record and is placed in the Record Hierarchy section.

Record Hierarchy
This section shows the record hierarchy for the data set. Use the Insert Record icon to add additional child records.

There is at least one row for every record in the data set definition. Related language tables are automatically added by the system and should not be deleted.

Note: If you delete a related language record, you can not add it back. You will need to delete the parent of the related language record and add the parent back.

Use the Insert Record icon to build the record hierarchy.

Image: Icon to insert child record
When you insert child records, the list will be restricted to records that include all keys (and possibly additional keys) of the corresponding parent record and have not already been selected for the current parent record name.

When you insert records, the list will be restricted to records that include all keys (and possibly additional keys) of the corresponding parent record and have not already been selected for the current parent record name.
When you select the Insert Record icon, a child record insertion dialog will open with child record lookup. A child record is a record having the same keys as parent record. The child record may also contain additional keys. The lookup shows only those records which qualify to be the child record of the original record.

In record hierarchy, the related language record plays a significant role. When a record added to a data set definition (either as root record or as a child record) has a related language record, it is implicitly included in the data set as a child record.

You can also use the Details icon to view the keys and labels for a record

**Image: Record Details page**

This example illustrates the fields and controls on the Record Details page. You can find definitions for the fields and controls later on this page.

![Record Details](image)

The field and record labels are shown in compare reports. The object owner can select a different field label to use in the Override Report Label ID column.

**Record Restrictions**

The records in data set definitions have the following restrictions:

- Application Data Set definitions can only contain records that are physical tables.
- The 8.53 data set designer allows a record to appear only once in the record hierarchy, whether the data set was manually created or generated from components.
- All records in a data set must have unique keys as defined in the key view of the record in Application Designer.
- The keys of the parent record must also be keys of the child record, though a child record may have some keys that are not in the parent record.
- There is a limit of 32 records in a data set definition in 8.53.
- The root record cannot be deleted from the data set hierarchy.

**Defining Relations**

Use the Relations page (PSADSRELATION) to define the relationship of this data set to other data sets.
Navigation

From the General page, select the Relations tab.

Image: Relations page

This example illustrates the fields and controls on the Relations page. You can find definitions for the fields and controls later on this page.

Relations

To Data Set  Enter the name of the data set to include in the relationship.
Relation Name  Enter a name for the relation.
Description  Enter a description for the relation.
Long Description  Enter a long description for the relation.
From Cardinality  Enter the cardinality for the referencing data set.

The values of cardinality are as follows:

- 0..1
  0 or 1 (optional)
- 1
  exactly 1
- 0..*
  0 or more
- 1..*
  1 or more
1 or more

**To Cardinality**
Enter the cardinality for the referenced data set.

The values of cardinality are as follows:

- 0..1
  0 or 1 (optional)
- 1
  exactly 1
- 0..*
  0 or more
- 1..*
  1 or more

**Relation Mapping**
The relation mapping section is used to define a set of foreign key fields in a referencing data set to key fields in a referenced data set. Enter one row for each key that needs to be mapped.

Both the From (referencing) and the To (referenced) keys can be in either the parent record or child record of the data set definition.

**From Data Set Record**
Enter the name of the record in the current data set that will be used to map to a record on the To Data Set.

**From Data Set Field**
Enter the name of the field in the current data set that will be used to map to a record on the To Data Set.

**From Set Control**
Select this check box if the data set uses set control processing and the set control value is on the From record/field.

**To Data Set Record**
Enter the name of the record in the to data set that will be used to map to a record on the From Data Set.

**To Data Set Field**
Enter the name of the field in the to data set that will be used to map to a field on the From Data Set.

**To Set Control**
Select this check box if the data set uses set control processing and the set control value is on the To record/field.

**Relation Criteria**
The Relation Criteria section is used to specify conditions imposed on the relation mapping between records within the data set definitions. Both the To and From records can be either the root or child record. This criteria modifies whether or not the relationship applies. The criteria applies to all uses of the relationship.
The value is a WHERE clause-like expression containing only table names, record names, SQL operators, and literals. There may be verbs introduced to avoid entering anything other than table name, record name, SQL operator, and literals.

Use this section to build the WHERE clause.

**Open**
If you are entering multiple criteria, select the appropriate open parentheses necessary to group the criteria.

**Record Field Name**
Enter the record field name. Use the prompt button to see all the record fields available on both the From and To data sets.

**Operation**
Select the operator. All standard SQL operators are available from the drop down list.

**Values**
Enter the value or values for your expression.

**Details Lookup Icon**
Use the lookup icon to select values for the record field name selected.

**Close**
If you are entering multiple criteria, select the appropriate close parentheses necessary to group the criteria.

**Logical**
When you specify two or more selection criteria, You need to indicate the logical operator – AND or OR.

**Relation Properties**
There is an underlying set of relationship APIs used by all the behavioral APIs to get related objects. In cases where some but not all of the related objects are desired, relation properties are used as filters. Relationship properties are name, value pairs that are associated with a relationship.

**Image: Definition and Instance Relationship**
This diagram illustrates a relationship named X.Y between two instance having data set definitions named X and Y, respectively. Each instance has one key, whose values are A and B, respectively. The relationship metadata is part of data set definition X.

![Diagram](image)

PeopleSoft delivers the following relationship properties:
• Family

The **Family** property is used when there is custom Peoplecode to synchronize merging of two or more instances in parallel. This can occur when the mergeable attributes in one instance affect values in another instance. For example, families are used for Pivot Grids, Activity Guides, and Related Content instances.

• Insert Inverse Relation and Insert into Project

Use these properties to designate if and how related objects should be inserted into a project.

The **Insert Inverse Relation** applies to the forward reference: whether to insert instances referenced by an instance that is being inserted. For the relation X.Y illustrated in the Definition and Instance Relationship diagram above, the **Insert Inverse Relation** property applies to determine whether B should be inserted when A is being inserted.

The **Insert Into Project** applies to the backward reference: whether to insert instances referenced by an instance that is being inserted. For the relation X.Y illustrated in the Definition and Instance Relationship diagram above, the **Insert Into Project** property applies to determine whether A should be inserted when B is being inserted.

There are 2 value options:

• **PROMPT**, the user will be prompted whether or not to insert the object type.

• **FORCE**, the related objects will be inserted even if not selected by the user if the other partner in the relationship is selected.

• Insert Recursion Limit

The **Insert Recursion Limit** property is used to define how many levels of relations beyond the nearest neighbor should be inserted into the project. If not specified, the default is that the insertion applies only to nearest neighbor.

• Validate Integrity

The **Validate Integrity** property is used to verify all required **To Data Set** instances exist for all **From Data Set** instances in the project. Set the severity level for missing references.

• Validate Inverse Relation

The **Validate Inverse Relation** property is used to verify all required From Data Set instances exist for all **To Data Set** instances in the project. Set the severity level for missing references.

---

**Defining Groups**

Groups are used to define sets of records and/or fields for which some common processing is required. The processing is controlled by the properties associated with the groups.
Use the Groups page (PSADSGROUP) to define the records and fields to be included in the group, as well as assigning the group properties.

**Image: Groups page**

This example illustrates the fields and controls on the Groups page. You can find definitions for the fields and controls later on this page.

- **Group Code** Enter a group code.
- **Group Name** Enter a group name.
- **Description** Enter a group description

**Group Members**

Use this section to add records and fields to the group. The record must exist in the data set and the field must exist on the selected record.

Fields are optional. If no field is chosen, the entire record is within the group. Omitting record and field would be equivalent to an object property.

If the user deletes a record from the data set definition via the tree on the General tab, the corresponding group members will be deleted. If a field is deleted on a record the file is removed from the group. If the data set definition is deleted, group rows will be deleted as well. If the records or fields are renamed or deleted, the group members will be renamed or deleted.

**Group Properties**

Group properties apply to the members of the group. Currently in PeopleTools 8.54 Merge is the only group property available.

The MERGE property is used during copy to preserve any configuration changes made on the target data set instance if the fields changed are part of this data set group.

Merge group allows the object owner to declare that the attributes within the group are relations and can be changed independently of other attributes.
A group with or without properties can be used in compare visualization for filtering purposes. For example, it might be useful to create a group of all translatable text attributes, or all position attributes on a page.

### Defining Data Set Properties

Use the Properties page to assign properties to the data set.

**Navigation**

From the General page, select the Properties tab.

**Image: Properties page**

This example illustrates the fields and controls on the Properties page. You can find definitions for the fields and controls later on this page.

The following properties are available on this page:

- **MO_DEL_TABLE (Managed Object Delete Table)**
  
  The MO_DEL_TABLE property is used to identify the name of the delete table for the managed object. This information is used to delete cache when an object is deleted or renamed. Objects that do not have a C++ manager should omit this property

- **MO_NAME (Managed Object Name)**
  
  The MO_NAME property is used to designate the data set as a managed object. If the object has a C++ manager, the property value is the C++ acronym for that object, such as RDM. Objects that do not have a C++ manager should leave this blank.

- **MO_VERSION (Managed Object Version)**
  
  The MO_VERSION property is used to specify the OBJECTTYPENAME of a row in PSVERSION and PSLOCK for the managed object. This information is used to synchronize cache when the object is updated. Objects that do not have a C++ manager should omit this property

### Defining Validation

Use the Validation page (PSADSVVALIDATION) to define the extension application class that will be used by the object owner to provide custom PeopleCode validate, transforms, and merge data set instances.
Navigation

From the General page, select the Validation tab.

**Image: Validation page**

This example illustrates the fields and controls on the Validation page. You can find definitions for the fields and controls later on this page.

The applicant class the user specifies on this page will extend the PTADSDEFN:AdsValidationBase application class that is part of the data set framework. Specific methods of the AdsValidationBase application class or its extension class are invoked at a particular time during processing.

There are five areas of functionality controlled by in the AdsValidationBase application class that are designed to be implemented by object owners:

- Validations
- DB Integrity Checks
- To File Custom Transforms
- From File Custom Transforms
- From File Custom Merging

**Validations**

Validations can be executed prior to copy or compare. The objects in the project file are validated against the target database.

There are 2 modes of validation:

- Interleaved: validation is interleaved with compare or copy operations
- Stand-alone: validation is the only operation

There are 2 types of validations that are supported for data sets:

- Basic Validation
Basic validation refers to static prompt table validation at the record field level. Prompt validations will be run for the entire project before a copy or compare. If errors are found, the copy or compare will not run. This process does not require any additional PeopleCode.

Basic validation is available without specifying an application class on the Validation page – it is implemented in the AdsValidationBase application class.

The DoADSValidations method provided in the AdsValidationBase base class validates for static prompts, translates, Y/N values, and required fields. If a validation error is detected, information about the error is written to a target database table and DoADSValidations returns false to the C++ layer. Thus even if no application class has been associated with the ADS definition, this method will perform the default validations.

- Application Class Extension

Developers can extend the PTADSDEFN:AdsValidationBase base class to define specific validation logic. AdsValidationBase provides an empty implementation of the methods of the Application Class that a data set definition may be associated with. To provide validation or transformation logic in PeopleCode, a developer will override the appropriate base class methods and provide additional methods and properties as necessary.

Validation is implemented in the CustomValidate method. See CustomValidate.

**Important!** Unless mentioned in this document as being designed for extension other methods in the AdsValidationBase base class are used internally so changing or overriding them will modify basic behavior.

DB Integrity Checks

DB Integrity Checks use the same code as Validations but can be executed on the source or after copy from file on the target. The objects in the project file are validated against the target database. The difference is that, unlike Validate, all objects in the project will also be in the database, some references that were unresolved in Validate because the resolving object was not yet in the target will be resolved in the DB Integrity Checks.

DB Integrity Check is implemented in the CustomValidate method. See CustomValidate.

To File Custom Transforms

To File Custom Transforms are used by the owners of a few objects to implement custom transform instances from a newer PeopleTools release to an older release, such as from 8.54 to 8.53. This transform is applied at copy to file time and on the newer release. The ADS and record definitions of both the newer and older release must be present.

The transform is implemented in the DoTransform method. See DoTransform.

From File Custom Transforms

From File Custom Transforms might be used by the owners of a few objects in a few circumstances such as:

1. To implement custom transform instances from a older PeopleTools release to an newer release, such as from 8.53 to 8.54.
2. To provide value transforms when data in the object needs to be adjusted in some way.

3. To perform custom merging outside of merge groups.

This transform is applied prior to compare, validate or copy from file time on the newer release. The ADS and record definitions of both the newer and older release must be present.

The transform is implemented in the CustomTransform method. See `CustomTransform`

**From File Custom Merging**

This is for adjusting the automated merging performed when merge groups are present. Attribute values that are in a merge group are, by default, merged to the source from the target. However, there may be additional adjustments that need to be made to the object to assure the object has consistent data. In some cases other objects in the same FAMILY may also be adjusted at this time.

The transform is implemented in the CustomMerge method. See `CustomValidate`

### CustomValidate

**Syntax**

```
CustomValidate(& ADSRowset, & ADSName, & CompareType)
```

**Description**

Implemented by object owners to provide custom validation logic.

**Parameters**

- `& ADSRowset` Specifies the current in-memory data set instance as a rowset object.
- `& ADSName` Specifies the ADS name as a string.
- `& CompareType` Specifies the compare type as integer:
  - 4 indicates premerge validation
  - 1 indicates post merge validation
  - 6 indicates Check DB Integrity

The premerge validation is performed only if there are merge groups in the data set.

**Returns**

Integer.
DoTransform

Syntax

```
DoTransform(&AdsNameArray)
```

Description

Implemented by object owners to provide custom copy to file transform, often to an older PeopleTools release.

Parameters

```
&ADSNameArray
```

AdsNameArray is an array of ADSM:AdsNameRowset.

An ADSM:AdsNameRowset is a (data set name, data set rowset) pair. When the function is called, this array will contain a single ADS instance in the form of the newer release. On return this array will contain 0 or more rowsets in the form of the target release. There can be more that one output rowset if the data set in one release was represented as several data sets in another release. There would be no rowsets in the array on return if the data set definition did not exist in the older release.

The target release is passed as a property named TargetRelease to the AdsValidationBase constructor – this can be used to determine what transform to apply.

Returns

Integer.

CustomTransform

Syntax

```
CustomTransform(&ADSRowset,&ADSName)
```

Description

Implemented by object owners to provide custom transform logic at compare, validate or copy from file time.

Parameters

```
&ADSRowset
```

Specifies the current in-memory data set instance as a rowset.

```
&ADSName
```

Specifies the ADS name as a string.

Returns

Integer.
CustomMerge

Syntax

\texttt{CustomMerge}(\&ADSRowset, \&ADSName, \&CompareType)

Description

This method is implemented by object owners to provide custom merge logic. If merge groups are present in the data set, then prior to compare, validate and copy each instance in the source project file is copied to memory, and the corresponding target is also copied into memory. The merge groups attributes from the in-memory source rowset are copied into the in-memory target rowset. The resulting rowset is then passed to CustomeMerge to allow programmatic adjustments.

Parameters

\begin{itemize}
  \item \texttt{\&ADSRowset} Specifies the current in-memory data set instance as a rowset object.
  \item \texttt{\&ADSName} Specifies the ADS name as a string.
  \item \texttt{\&CompareType} Specifies the compare type as integer:
    \begin{itemize}
      \item 4 indicates premerge
        The premerge call is called after the default merge has been performed but before compare is run and before the user modifies merge options.
      \item 1 indicates post merge
        The post merge validation is executed after a user has changed the merge options and prior to copy.
    \end{itemize}
\end{itemize}

Flow for the To File Process

The only To File process is Copy to File.

During copy to file the framework iterates over instances in the project, and for each instance calls the OnCopyToFile base class method. In turn, OnCopyToFile calls DoTransform. The base class DoTransform makes no changes, but if the derived class implements this method then the source object may change when copied to the project XML file.

Flow for the From File Processes

The From File processes are Compare from File, Validate from File, Copy from File.

During From File processing the framework iterates over instances in the project, and for each instance calls the OnPreCopyCompare then OnPreUpdate base class methods. OnPreCopyCompare is implemented in the base class to make the roughly following preliminary calls:

1. CustomTransform: any special \textit{from file} transforms.
2. Validate: standard validations of original source if DB Integrity or Validate is selected.

3. CustomValidate: any special validations.

4. Merge: perform default merge of merge groups. This includes a compare of original source object.

5. CustomMerge: any special adjustments to merge.

6. Compare: compare merged rowset if compare was requested and merging was performed.

7. Validate and CustomValidate: validate merged rowset if validate was requested and merging was performed.

8. Copy: if copy was requested. If compare was run, then the user’s compare selections will be honored.
# Chapter 3

## Using Data Migration Workbench

### Understanding Data Migration Projects

Once you have created a data set definition, you can create a data migration project to define the data contents that include instances of that data set. In the main Data Migration Workbench page, you first select a data sets to include in the project, then click the Data Set link to select the instances of that data set to insert into the project. What ultimately gets inserted into the database is a set of single data set instances each identified by a unique set of root-level keys. The data contents are filtered based on the keys in the data set. Once you select the search values for your keys, a SQL statement is generated to select the data.

You can define multiple projects with different criteria for the same data set.

*Image: Content Data is Defined in Projects*

This example illustrates that the content data is defined in a data migration project.

Once data set content has been inserted into a project and security criteria fulfilled on source, the project can be copied to a file. Once the data set project has been copied to a file, it can be loaded into a target database and compared from file on the target database.

**Note:** The target database must contain the Data Set definition, however the ADS structure or the record structure may be different on the source database, requiring a shape transform.
Searching for, Adding and Deleting Projects

Use the Project Search page (PTADSDMWSEARCH) to search for or create new data migration projects.

Navigation

PeopleTools, Lifecycle Tools, Migrate Data, Data Migration Workbench

Image: Project Search page

This example illustrates the fields and controls on the Project Search page. You can find definitions for the fields and controls later on this page.

When you click the Search button on the Project Search page, a grid displaying projects matching the criteria is displayed.

Click the Project Name link to open the data set project for modification.

Deleting Projects

To delete projects:

1. Select PeopleTools, Lifecycle Tools, Migrate Data, Data Migration Workbench.
2. Click Search.
3. Select the projects to delete.
4. Click the Delete Selected Rows link.

Adding Projects

To add a project:

1. Select PeopleTools, Lifecycle Tools, Migrate Data, Data Migration Workbench.
2. Click the Add a New Value link.
3. Enter a Project Name and Description.
4. Click Add.

**Loading Project from File**

To load a project from file:

1. Select PeopleTools, Lifecycle Tools, Migrate Data, Data Migration Workbench.
2. Click the Load Project from File link.
3. Select the file location and area.
4. Click Add.

*Note: The data set definition must exist on the target database before you can load the project. Only the project definition and data set bindings are copied, no data content is copied.*

---

**Defining Data Migration Project**

Use the Project Definition page (PTADSDMWMRJDEFN) to define the data migration project.

**Navigation**

PeopleTools, Lifecycle Tools, Migrate Data, Data Migration Workbench

**Image: Project Definition page**

This example illustrates the fields and controls on the Project Definition page. You can find definitions for the fields and controls later on this page.

<table>
<thead>
<tr>
<th>Description</th>
<th>Enter a description for the project. The description should include information about the project.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
<td>Optionally you can add comments to the project.</td>
</tr>
<tr>
<td>Project State</td>
<td>Display only field that shows the current state of the project. You can use the Refresh button to obtain the most recent state. Progress state on the source will show:</td>
</tr>
</tbody>
</table>

License: Copyright © 1988, 2014, Oracle and/or its affiliates. All rights reserved.
• New project
• Created
• Scheduled for copy to file
• Copying to file
• Copy to file succeeded

Progress state on the target will show:
• Loaded from file
• Scheduled for file compare
• Comparing from file
• Copying from file
• Compare from file succeeded
• Scheduled for copy from file
• Copy from file succeeded

Validation errors, if any, are also shown.

**Progress**
Display only field that shows the progress of the project copy or compare.

**Data Set Name**
Select one or more existing data sets from the lookup. Look up will show all the existing data sets that have *Is Copyable* selected in the data set definition.

**Content Description**
This is description associated with the data set content.

**Search**
Use this link to search for a data set that was generated based on a component, using PeopleSoft folder navigation.

**Add a new row (+)**
Click to add another data set to the project.

**Delete a row (-)**
Click to delete a data set from the project.

---

**Note:** Data Migration projects are not shown in Application Designer project search and cannot be opened in Application Designer.

---

**Defining Data Set Content**

Use the Data Set Content page (PTADSDMWMCONTENT) to define the data content for the project.
Navigation

From the Project Definition page, click on the data set name link.

Image: Data Content page

This example illustrates the fields and controls on the Data Content Page. You can find definitions for the fields and controls later on this page.

Use the Insert Content button to define the data content for the project.

See Inserting Data Content

After data has been inserted into the project, you can select which rows of data you want to process.

Image: Data Set Content page with data

This example illustrates the fields and controls on the Data Set Content page with data. You can find definitions for the fields and controls later on this page.

Select
Use this check box to select the rows to include in the data content.

Action
By default, the action type is Copy. You can change the action type to Delete.

Select All
Use the Select All button to select all rows.

Deselect All
Use the Un-select All button to unselect all rows.

Delete
Use to delete select rows.

Update Data Set Action
Use to change the action for multiple rows.
Data Set Action

The Data Set Action window allows you to change the action on multiple rows.

Image: Data Set Actions window

This example illustrates the fields and controls on the Data Set Actions window.

<table>
<thead>
<tr>
<th>Data Set Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Update Data Set Action</td>
</tr>
<tr>
<td>To update &quot;Copy Action&quot;, please select &quot;From Action&quot; and &quot;To Action&quot; in dropdown list.</td>
</tr>
<tr>
<td>From Action</td>
</tr>
</tbody>
</table>

Inserting Data Content

To insert content into the project:

1. Click the link for the data set on the project definition page.
2. Click the Insert Data button.

Use the Insert Data Content page (PTADSDMWCONTENTSCH) to insert data content into the Data Migration project.

Navigation

Click the Insert Content button on the Data Set Content page.

Image: Insert Data Content page

This example illustrates the fields and controls on the Insert Data Content page. You can find definitions for the fields and controls later on this page.

Field Name

There are two types of fields in the grid.
### Chapter 3 Using Data Migration Workbench

- **Read-only:** These are the key fields of the record selected while defining the data set definition. These fields can not be removed.

  See [Creating and Editing Data Set Definition](#).

- **Non Key:** You can add any other non key fields of root record of the data set definition. This addition is not in the data set definition, it is specific to this data set content in this specific data migration project.

**Operation**

Select the operation to use for this field. Valid operations are:

- `!=` (not equal)
- `<` (less than)
- `<=` (less than or equal)
- `=` (equal)
- `>` (greater than)
- `>=` (greater than or equal)
- `All`
- `Between`
- `In`
- `Like` (Value contains specified text)

**Values**

Enter the value for the SQL.

For every operation other than `All` you need to supply one or more values in this text box. Based on the operator and value, the system will build the actual WHERE clause for the filter condition on the root record of the data set definition.

See [Using Operators to Build the WHERE Clause](#).

**Search button**

Click the Search button to display the rows meeting the filter criteria and display them on the Search Results grid.

**Search Results Grid**

Use the Search Results grid to select the rows of data to include in the data set content.

**Select All**

Use the Select All button to select all rows.

**Deselect All**

Use the Un-select All button to unselect all rows.

**InsertContent button**

Click the Insert button to insert the selected rows into the data set content and remain on the page.
Insert and Return
Click the Insert button to insert the selected rows into the data set content and return to the Data Set Content page.

Insert Related Data Sets
If the data set selected contains relationships to other data sets, the Insert Related Data Sets grid is displayed. Depending on how the related data sets were defined, they will either always be included, or the user will be able to select which related data sets to include in the project.

See Defining Relations.

Using Operators to Build the WHERE Clause
This section provides examples for building WHERE Clauses.

Numeric Operators
For any of the numeric operators, select the operator and provide a value.

Image: Example Equal Criteria
This example illustrates using the equal operation.
Between

The Between operator expects an AND keyword in the values field.

**Image: Example Between Criteria**

This example illustrates using the Between operation.

---

In

In interprets the , (comma) as the separator for the literals.

**Image: Example In Criteria**

This example illustrates using the In criteria.
Like

Like will implicitly add % (percent sign) with the string.

**Image: Example Like Criteria**

This example illustrates using the Like operation.
Chapter 4

Copying and Comparing Projects

Copy Compare Overview

The Data Migration Workbench is used to copy and compare projects. The ability to compare or copy a project is determined by the data set definition parameter Is Copyable. The user initiating the copy or compare must also have permission to the data contained in the Data Migration Project.

Data Migration Workbench provides the ability to:

- Copy a data migration project to a file.
- Compare a data migration project from file.
- Copy a data migration project from file.

Related Links
Setting Data Migration Permissions

Copy to File

Once the Data Migration project is defined it can be copied to file. The system will prompt you to select the file location from the available file locations defined on the Manage File Locations page. When the copy to file has succeeded, the Project State will be updated to Copy to file succeeded.

Compare

Before you can do a compare, the data set definition must exist on both the source and the target databases. There may be cases where the shape of the data set definition is different. Shape refers to the metadata describing the data migration project, including the data set definition itself, the record definitions that are part of the data set definition, and the fields that are part of the records that are part of the data set definitions.

Any time there is a shape difference between the source and target data set definition, a data transform is necessary. There are 2 categories of shape changes:

- Regular shape change

  This type of shape change is supported by the Data Migration Framework and no custom transform PeopleCode is necessary. Examples of a regular shape change are:

  - Add or remove a record that is included in a data set definition.
• Add or remove a non-key field from a record that is included in a data set definition.

• Irregular shape change
  This type of shape change requires custom transform PeopleCode.
  • Change the key structure of a record.
  • Change the meaning of a field value.
  • Change the field size.
  • Add a new data set definition or removing an existing data set definition.
  • Provide default values on target that do not exist in the source.
  • Change a field type or format.
  • Rename a record, field or data set definition.
  • Move data from one record to another.
  • Refactor by splitting an object into 2 or more objects.
  • Refactor by combining 2 or more objects into a single object.
  • Change in data migration pathway such as an object formerly migrated using IDE project or Data Mover is migrated using Data Migration Framework.

Compare looks for the following type of differences:

• Row Difference – Based on the record keys compares if the row exists in both the source and target databases. All differences will be captured and shown as Absent on the database where the key is not present.

• Field Difference – The value of a field differs between source and target.

For data sets that contain managed objects, the compare will examine the LASTUPDDTMM and LASTUPDOPRID fields to detect whether the object has been changed by the customer. This is the same logic used in an IDE project compare.

**Comparing From File**

When you select to compare, the system performs the following:

1. An application engine program is executed that copies each data set instance in the Data Migration Project from XML to memory as a PeopleSoft rowset (not to the database) and the corresponding object is copied from SQL to memory as a different PeopleSoft rowset.

2. The two in-memory rowsets are then compared record-by-record, row-by-row, and field-by-field.
   
   In this case the file is the source and the local node is the target.

3. Any differences found in compare are stored in a table on the target database.
Note: It is stored in the same table used for managed object compare.

4. The differences found can be seen by running the compare viewer, which reads the compare output table.

Using Compare Viewer

Once the compare is completed, you can use the viewer to view differences and determine which data set instances you want to include in the copy.

Copy from File

Once you have reviewed the compare reports on the target database and selected which data set instances in the project should be copied, you can submit the data migration project for copy. If approval workflow has been configured for the Data Migration Workbench, you will receive a message that the project has entered the approval workflow. If approvals are not required for the project or when all approvals have been obtained, the copy will be scheduled to run through the Process Scheduler.

Managing Data Migration Project File Locations

The project file locations are managed by a system administrator in the Project Repository to restrict the places where Data Migration Project files can be placed. Before you can copy a Data Migration Project to a file, you must set up the Project Repository to use. Typically, this task will be performed by a system administrator.

There are two parts to the Project Repository setup process:

1. Creating the file system folders for a specified path and the areas under that path. These folders should be manually created by a system administrator with appropriate access permissions for those users who will be starting the application and process scheduler servers or running Change Assistant. The system administrator should manually create both the path folders and the area folders.

   Note: On non-Windows operating systems, folder names are case sensitive. At run-time area names are upper cased, so the names of area folders should also be upper cased.

2. Registering the path and area folders in the database as locations for holding project files. These database locations are the Project Repository.

This section describes the page to registration the path and area folders of the Project Repository.

Use the Manage File Locations page (PTPRJREPOSDEFN) to register the path and area folders of the Project Repository.
Navigation

PeopleTools, Lifecycle Tools, Data Migration Workbench, Manage File Locations

Image: Manage File Locations page

This example illustrates the fields and controls on the Manage File Locations page. You can find definitions for the fields and controls later on this page.

<table>
<thead>
<tr>
<th>Manage File Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location Name</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
</tr>
<tr>
<td><strong>Path</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area Name</td>
</tr>
<tr>
<td>AREA1</td>
</tr>
<tr>
<td>AREA2</td>
</tr>
</tbody>
</table>

**Location Name**

Assign a name for your file location.

**Description**

Optionally add a description for the file location.

**Path**

The specified path must be accessible from both the application server and the process scheduler server. Absolute network paths are less prone to issues in this respect as all servers are not likely to be running on the same machine, thus may not have access to a local or relative path.

If the application server is on Windows and the process scheduler server is on non-Windows or conversely, your system administrator will need to provide special setup to share files across machine boundaries.

**Note:** On Windows, you must use a UNC naming convention, such as \<servername>\<sharename>. On UNIX based platforms, you must use absolute path, such as /<rootdir>/<subdir>.../<subdir>.

**Area**

The area grid is populated with the sub directories in the path.

---

**Copying Project to File**

To copy a data migration project to a file:

1. Select PeopleTools, Lifecycle Tools, Migrate Data, Data Migration Workbench
2. Select the Copy button.

3. Select the file location and area to copy the file.

4. Click the Run button.

**Note:** If the file already exists, you will be prompted whether or not to replace it.

5. On the Process Scheduler Request page, click OK.
   The copy will run in the Process Scheduler.

6. Click OK to return to the Project Definition page.
   The Project State is displayed. Use the Refresh button to check the progress of the copy.

**Image: Copy To File page**

This example illustrates the fields and controls on the Copy To File page.

---

### Loading Project from File

In order to load a project from file on the target system the data set definition must exist on the target database.

When you load a data migration project to the target database, it does not load the data content from the data migration project. Load from file causes the source project definition to be copied from the file to the target database. It does not copy the data set instances.

### Defining the Data Set Definition on the Target Database

Before the project can be loaded, copied or compared from file, the data set definitions (including records and fields) on the target must exist on the source. Depending on the releases and patch level of your environment, the data set definitions may have different shapes.

See **Comparing From File**

If you have created your own custom data set definition and it does not exist on the target, you can copy the data set definition using an IDE project.
To migrate the data set definition and related objects using IDE project:


2. Insert the data set definitions into the IDE project. Insert, Definitions into Project, select Definition Type: Data set Definitions, select the specific data set definitions to include, click Insert.

   Insert all the records definitions that are in the data set definition and all the database field definitions that are in the record definitions.

3. Save the IDE project.

4. Copy the IDE project to a file. Tools, Copy Project, To File, enter the export directory, click Copy.

5. On the target database, open Application Designer and compare the IDE project from the file. Tools, Compare and Report, From File.

   It is advisable to run a compare to check whether copying the record and field definitions are the same on the source and target.

6. On the target database, open Application Designer and copy the IDE project from the file. Tools, Copy, From File.

   **Note:** You also have the option of using Copy to Database, if your environment is set up where both the source and target databases are available. If any records were changed or added in the IDE project, it will be necessary to table create or alter to assure that the records exist on the target.

### Loading Project on Target Database

To load the data migration project on the target database:

1. On the target database, select PeopleTools, Lifecycle Tools, Data Migration, Data Migration Workbench, Load Project From File.

2. Select the File Location and Area. A list of projects in that location will be displayed.

3. Select the data migration project to load and click Load.

If the data set definition used in the data migration project does not exist on the target database, you will receive an error message and the project will not load.

### Comparing Data Set Projects

The compare is always executed from the target database. First you must load the data migration project file and then execute the compare.

See **Loading Project on Target Database**

### Comparing From File

To compare a data migration project:
1. On the target database, select PeopleTools, Lifecycle Tools, Migrate Data, Data Migration Workbench

2. Click the Compare button.

3. Select the data sets to compare.

4. Select the languages to compare.

   By default the Include Language-Neutral Data check box is selected.

5. By default, the Validate Project check box is selected.

6. Click the Run button.

7. Set your Process Scheduler options and click OK.

   The process will be scheduled to run in the Process Scheduler.

8. Click OK again to return to the Project Definition page.

9. Click the Refresh icon on the Project Definition page to see the new status for the project.

Use the Compare button on the Project Definition page to compare a project from a file.

**Image: Compare From File page**

This example illustrates the fields and controls on the Compare From File page. You can find definitions for the fields and controls later on this page.
Data Sets

By default all data sets in the project are selected. Use the links to select or deselect all data sets. Select each data set you want to compare.

Validate Project

Select this check box if you want to validate the project when it is compared.

Include Language-Neutral Data

By default this check box is selected.

Language neutral data is data that is not translated. In an IDE project copy this is referred to as COMMON.

Languages

By default all installed languages are selected. Use the links to select or deselect all languages. Select each language you want to compare.

Compare Complete

When the compare is complete, the project status is updated and the compare report summary statistics are displayed.

Image: Compare Report Summary

This example illustrates the fields and controls on the Compare Report Summary. You can find definitions for the fields and controls in Compare. Viewing Compare Reports.

Viewing Compare Reports

After the compare process has completed, a compare summary is displayed on the project definition page.
Navigation

PeopleTools, Lifecycle Tools, Migrate Data, Data Migration Workbench

Image: Project Summary page showing compare results

This example illustrates the fields and controls on the Project Summary page showing compare results. You can find definitions for the fields and controls later on this page.

Filters

Expand and use the filters section to limit the result set shown in the Data Set Content grid. The filter will also alter the statistics shown for each data set object in the project. All criteria specified are cumulative.

Message Type

Select which message types to display. If there are any errors, warning, or info the Message column will indicate the total number of messages.

Type

Select the results types to display.

Copy Action

Select which copy actions to display. Any will display the count for all copy actions.

Copy Done

Select which copy done statuses to display. Any will display the count for all copy done statuses.

Customized

Select if you want to filter on customizations. Customizations are identified by comparing the LASTUPDOPRID to determine if the definition was delivered by PeopleSoft or changed by the customer.
**Project Content Grid**

On the target database, the Project Content grid displays all data sets currently in the project, but prevents changes to the project. Statistics are displayed for each data set in the project to assist the reviewer in determining where the changes or issues are located.

By clicking on one of the hyperlinks displayed in the grid, you can drill in to view the data instances in the project for each data set. When compare or validation counts are displayed, they indicate a count of data set instances, not the number of fields compared or validated within each instance.

Clicking on a compare or validation count will set the filter criteria on the content page appropriate to the selected count. Clicking on the data set name hyperlink will show the content page unfiltered.

<table>
<thead>
<tr>
<th><strong>Data Set Name</strong></th>
<th>Each instance of the data set names is displayed as a hyperlink. When you click the hyperlink, the compare report for that data set instance is displayed.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Additions</strong></td>
<td>The count for additions is displayed as a hyperlink. Addition indicates the root record in the data set instance is new and the action is copy.</td>
</tr>
<tr>
<td><strong>Deletions</strong></td>
<td>The count for deletions is displayed as a hyperlink. Deletion indicates that all records in the data set instance are to be deleted and the copy action is delete.</td>
</tr>
<tr>
<td><strong>Differences</strong></td>
<td>The count for differences is displayed as a hyperlink. Difference indicates that either the root record has changes, or another record in the data set instance is changed, added or deleted, and the copy action is copy.</td>
</tr>
<tr>
<td><strong>Same</strong></td>
<td>The count for same is displayed as a hyperlink. Same indicates that the data set instance is the same on both the source and target, therefore no action is necessary.</td>
</tr>
<tr>
<td><strong>Messages</strong></td>
<td>The count for messages is displayed as a hyperlink.</td>
</tr>
</tbody>
</table>
Compare Report

Use the compare report to review and update the copy action.

Image: Compare Report page

This example illustrates the fields and controls on the Compare Report page. You can find definitions for the fields and controls later on this page.

Filters

The same filters available on the Project Definition page are available for the compare reports. Use the filters to limit the data set content display. All criteria specified are cumulative.

Data Set Content

The data set content section provides the copy action and whether or not the copy has been done at the data set instance level.

Copy Action  Indicates the copy action for the data set instance, the copy action will be:

• Merge
• Copy
• None

See Understanding Copy Actions

Type  Indicates the compare result type, the type will be:

• Difference
• Addition
Details
Use the Details icon to view the details for the data set instance.

Copy Done
When the Copy from File has completed, the Copy Done check box will be checked.

Messages
Click the message icon to view any messages for the data set instance.

Understanding Copy Actions

The copy actions available will depend on the data set instance.

Merge
The merge action is only available when the data set is part of one or more mergeable groups. Merge applies to the data set instance and will copy the data based on the individual item selections made in the detail compare report.

In the detail compare report, the item selections are:

- Keep
  If merge groups have been defined for the data set and there are differences in the values, the action Keep is used to keep the values on the target database.
  If you want to override this select, deselect the Keep Configurations check box and the value will be copied from the source.
- Add
- Delete

Copy
The copy action is used to copy the data from the source database to the target database.

In the detail compare report, the item selections are:

- Add
- Change
- Delete

None
Selecting None for a data set instance that contains mergeable data will retain all your configurations. All item actions are set to Keep.
Compare Report Details

Use the Compare reports page (PTADSCMRPT2) to review the differences and update or change the Upgrade action.

The compare data is stored in two tables, PSCOMPSESSION stores the information about the compare session and PSCOMPOBJDIFF stores the comparison data for each particular instance.

Image: Compare Report Details page

This example illustrates the fields and controls on the Compare Report Details page. You can find definitions for the fields and controls later on this page.

Data Set Instance

Each data set instance is displayed with the copy action and copy status. The compare report details for the data instance are displayed in the Compare Report grid. You can change the copy action. Use the previous and next scroll buttons to view the next data set instance in the project.

Display Order

Display Order is only used with data sets that contain groups. There are 3 different display orders available. By default the compare report differences are displayed as group/record/field. Alternative sort sequences are available to aid in understanding the differences.

Filters

Use the selection criteria to limit the information that will be displayed in the Compare Report grid. All criteria specified are cumulative.

- **Item Action**: Select the item actions to limit which actions are displayed in the compare report grid.
- **Groups**: Select the groups to display in the compare report grid.
Compare Report for Data Sets with Groups

The results from the most recent compare on the data set instance are displayed. If filters have been applied, the compare results will display the filtered data.

Expand the row to view the details for each field. Select the Additional tab to view additional details for the fields.

Image: Compare Report General page

This example illustrates the fields and controls on the Compare Report General page. You can find definitions for the fields and controls later on this page.

<table>
<thead>
<tr>
<th>Context</th>
<th>The context section displays the data set instance content in a tree structure for each of the records in the record hierarchy of the data set definition.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep Configurations</td>
<td>Keep Configurations applies to data sets that include groups. By default the Keep Configuration check box is selected, which means that the target data will not change. If you deselect the Keep Configurations check box, the value from the source will be copied to the target when the data set is copied from file. The Proposed Target column will be updated to reflect the source value.</td>
</tr>
<tr>
<td>Item Action</td>
<td>Display only field that shows the current action. You cannot change this field in the grid, however if you change the Copy Action in the Data Set Instance section at the top of the page, the item action will change also.</td>
</tr>
<tr>
<td>Source Value</td>
<td>Displays the value on the source. This is the value in the project file that was loaded for this data set instance.</td>
</tr>
<tr>
<td>Current Target Value</td>
<td>Displays the current value in the target database.</td>
</tr>
<tr>
<td>Proposed Database Value</td>
<td>Displays the value that will be on the target database when the copy action is performed.</td>
</tr>
</tbody>
</table>
The General tab displays the record and field name, not all users will be familiar with these names. Use the Additional tab to view the record and field names.

**Image: Compare Report Additional page**

This example illustrates the fields and controls on the Compare Report Additional page. You can find definitions for the fields and controls later on this page.

<table>
<thead>
<tr>
<th>Group Name</th>
<th>This column only appears if the data set instance is part of a group. Name of the group.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Names and Values</td>
<td>Indicates the key names and values, displayed as key=value. Multiple keys are separated by comma.</td>
</tr>
<tr>
<td>Record Name</td>
<td>Displays the record name.</td>
</tr>
<tr>
<td>Record Description</td>
<td>Displays the record description.</td>
</tr>
<tr>
<td>Field Name</td>
<td>Displays the field name.</td>
</tr>
<tr>
<td>Field Description</td>
<td>Displays the field description.</td>
</tr>
<tr>
<td>Configuration Value</td>
<td>This column only appears if the data set instance is part of a group. The Configuration value is the value on the current target database.</td>
</tr>
</tbody>
</table>
Compare Report for Data Sets without Groups

If the data set does not contain groups, the compare report details displays the individual fields, with the item action.

Image: Compare Report details for data set without groups

This example illustrates the fields and controls on the Compare Report details for data set without groups. You can find definitions for the fields and controls later on this page.

Context

The context section displays the data set instance content in a tree structure for each of the records in the record hierarchy of the data set definition.

Item Action

Display only field that shows the current action. You cannot change this field in the grid, however if you change the Copy Action in the Data Set Instance section at the top of the page, the item action will change also.

Current Target Value

Displays the current value in the target database.

Proposed Target (Source) Value

Displays the value that will be on the target database when the copy action is performed.

Viewing Validation Reports

Validation is initiated by one of the following processes:

- Check Integrity
  
  On the source database, click Check Integrity on Project Definition page.
  
  See Checking Integrity

- Copy To File
  
  On the source database, click Copy To File on Project Definition page and select the Validate Project check box.
• Validate From File

On the target database, click Validate on Project Definition page.

See Validating Copy From File

• Copy From file

On the target database, click Copy From File on Project Definition page and select the Validate Project check box.

When the validation process is complete, the Project Definition page is updated to indicated the message count. Depending on which process was run, you may see additional columns in the data content grid.

**Image: Validate from file succeeded**

This example illustrates the fields and controls on the Project Summary page when the project status is Validate from file succeeded.

Filters

Use the filters section to limit which validation message to display the count for.

Message

Click the hyperlink for the message count to display the messages.

The data content page will list the individual messages, with an icon:

Informational message
Warning message

Error message

Click on the message icon to view the message details on the Validation Report page (PTADSCMPRPT3).

**Image: Validation Report page**

This example illustrates the fields and controls on the Validation Report page. You can find definitions for the fields and controls later on this page.

You can also use the Filter By section to display the report based on filters for record name, message severity or any combination of those filters.

The report has 5 columns:

<table>
<thead>
<tr>
<th><strong>Record Name</strong></th>
<th>The name of the record.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Validation Type</strong></td>
<td>The type of validation error.</td>
</tr>
<tr>
<td><strong>Message Severity</strong></td>
<td>Indicates the severity of the error.</td>
</tr>
<tr>
<td><strong>Message Text</strong></td>
<td>The message text.</td>
</tr>
<tr>
<td><strong>Explanation</strong></td>
<td>An explanation of the message.</td>
</tr>
</tbody>
</table>

---

**Submitting for Copy**

To copy the project from file:

1. Select Select PeopleTools, Lifecycle Tools, Migrate Data, Data Migration Workbench.
2. Select the *Submit for Copy* button.
3. Select the languages to copy.
4. Select the data sets to copy.
5. Select which options to run.
6. Click the Run button.
7. Click OK.

If Approval Framework has been configured, the request will enter the approval workflow, otherwise the process is scheduled in the Process Scheduler.

**Image: Copy From File page**

This example illustrates the fields and controls on the Copy From File page. You can find definitions for the fields and controls later on this page.

**Merge Target Configurations**

Select this checkbox to indicate that the process should observe all merge actions as defined in the project. If the checkbox is deselected, no data set instances will be merged.

**Validate Project**

Select this checkbox to validate the project when it is copied.

**Check Integrity After Copy**

Select this checkbox to run an integrity check after the copy completes.

Refer to [Scheduling and Approving Copy from File](#) for approving the request.
Chapter 5

Validating Data Sets

Checking Integrity

To run the integrity check on your project in the source database:

1. Select PeopleTools, Lifecycle Tools, Migrate Data, Data Migration Workbench.
2. Open the project.
   The project status must be Created or Check integrity succeeded.
3. Click Check Integrity.
4. Select the data sets to check and click Run.
5. On the process Scheduler request page click OK.
6. Click OK to return to the Project Definition page.
7. Use the Refresh button to check the progress of the copy.
8. When the check integrity report succeeds, the message count for each data set is displayed in the project content grid.

**Image: Check Database Integrity results**

This example illustrates the fields and controls on the Project Definition page after the check integrity succeeded.

For information on viewing the validation reports see Viewing Validation Reports.

---

**Validating Copy From File**

To run the validate from file.

1. Select PeopleTools, Lifecycle Tools, Migrate Data, Data Migration Workbench.
2. Select the project.
3. Click the Validate button.
4. Select the data sets and languages to validate.
5. Click the Run button.
6. On the Process Scheduler Request page, click OK.
7. Click OK to return to the Project Summary page.
8. The Project State is displayed. Use the Refresh button to check the progress of the copy.

Use the Validate from file page to select the data sets and languages to validate.

**Image: Validate From File page**

This example illustrates the fields and controls on the Validate From File page. You can find definitions for the fields and controls later on this page.

**Validate from File Results**

When the Validate From File process completes, the project content grid is updated with the message count for each data set.

**Image: Project Content grid updated with message count**

This example illustrates the fields and controls on the Project Content grid updated with message count.

For information on viewing the validation reports see Viewing Validation Reports.
Understanding Data Set Security

The Data Migration framework allows users to:

1. Define the shape of business objects as data set definitions.
2. Define the contents of a data migration project.
3. Copy or compare the data migration projects to and from files.

Data sets may contain sensitive data, therefore it is critical to define security for data set functions and services. Security for data migration includes security to:

- Create data sets and data migration projects.
- Copy data migration projects to file.
- Compare data migration projects from file.
- View compare reports.
- Copy data migration projects from file.
- Encrypt data set project files.
- Modify PeopleTools owned data sets.

**Important!** PeopleTools owned data set are delivered as read-only and should not be modified. Any modifications necessary will be delivered in an update available from PUM.

This table provides a summary of the security used with Data Migration Workbench.

<table>
<thead>
<tr>
<th><strong>Access To</strong></th>
<th><strong>Set In</strong></th>
<th><strong>Details</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>DMW pages</td>
<td>User profile</td>
<td>ADS Designer role</td>
</tr>
<tr>
<td></td>
<td><a href="#">See Assigning Data Set Permissions to Users</a></td>
<td></td>
</tr>
<tr>
<td>Access Group permission to the access groups that contain the records in the data sets.</td>
<td>Permission List - Data Migration page - Access Group Permission link.</td>
<td>The access groups are used to determine which records the user has access to in Data Migration Workbench.</td>
</tr>
<tr>
<td></td>
<td><a href="#">See Defining Access Group Permissions</a></td>
<td></td>
</tr>
<tr>
<td><strong>Access To</strong></td>
<td><strong>Set In</strong></td>
<td><strong>Details</strong></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Copy Compare permissions</td>
<td>Permission List - Data Migration page - Copy Compare link.</td>
<td>Grant access to copy and compare data migration projects. See Defining Copy Compare Permissions</td>
</tr>
<tr>
<td>Upgrade</td>
<td>Permission List - PeopleTools page - Application Designer link</td>
<td>Grant Full Access to Upgrade. Full access to upgrade allows the user to copy any record without checking the specific authority to that record. See Setting Upgrade Permissions</td>
</tr>
<tr>
<td>PeopleTools Data Access</td>
<td>Permission List - PeopleTools page</td>
<td>Select PeopleTools Data Access to grant access to modify PeopleTools owned data sets. See Setting PeopleTools Data Access</td>
</tr>
<tr>
<td>File Repository</td>
<td>System Administrator creates a directory.</td>
<td>The project repository location must be accessible in order to load, copy and compare data migration projects. See Managing Data Migration Project File Locations</td>
</tr>
</tbody>
</table>

### Assigning Data Set Permissions to Users

PeopleSoft delivers the role *ADS Designer* that grants access to the Data Migration Workbench components. Assign this role to any user that needs access to create and use data sets.

The permission list PTPT3500 provides access to the Migrate Data pages. This permission list is included in the role ADS Designer.

<table>
<thead>
<tr>
<th><strong>Component Reference</strong></th>
<th><strong>Page</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dataset Designer</td>
<td>PTADSDFNSEARCH</td>
</tr>
<tr>
<td></td>
<td>PTADSDFNSEARCH_AD</td>
</tr>
<tr>
<td></td>
<td>PTADSDFNSEARCH_GC</td>
</tr>
<tr>
<td>Data Migration Workbench</td>
<td>PTADSDMSEARCH</td>
</tr>
<tr>
<td></td>
<td>PTADSDMWPRJDEFN</td>
</tr>
<tr>
<td></td>
<td>PTADSDMWCONTENT</td>
</tr>
<tr>
<td>Copy Project to file</td>
<td>RUN_PTADSAEPRCS</td>
</tr>
<tr>
<td>Compare Project</td>
<td>RUN_PTADSAEPRCS</td>
</tr>
<tr>
<td>Manage File Locations</td>
<td>PTPRJREPOSDEFN</td>
</tr>
<tr>
<td></td>
<td>PTPRJREPOSDEFN</td>
</tr>
</tbody>
</table>
Setting Data Migration Permissions

Use the Data Migration permissions page (PERMLIST_ADS) to set the security for migrating data.

**Navigation**

1. PeopleTools> Security> Permissions and Roles> Permission Lists.
2. Select the permission list to update.
3. Select the Data Migration tab.

**Image: Data Migration Permissions page**

This example illustrates the fields and controls on the Data Migration Permissions page. You can find definitions for the fields and controls later on this page.

The Data Migration page has links to the Access Group Permissions page, where you can define the records to which the user can have access in the Data Migration Workbench, and the Copy Compare Permissions page, where you can define the copy and compare operations that the user can perform.

**Defining Access Group Permissions**

Use the Permission List Access Groups page (SCRTY_ADS_ACC_GRPS) to define the query tree and access groups, as well as the read and write privileges.

**Note:** If the permission list grants full access to Upgrade, it is not necessary to include all of the access groups for a Copy from File. The access group security is always used when creating a data migration project.
Navigation

Click the Access Group Permission link on the Data Migration page.

Image: Permission List Access Groups Page

This example illustrates the fields and controls on the Permission List Access Groups Page. You can find definitions for the fields and controls later on this page.

Access groups are nodes in a query tree, which you build with Query Access Manager. After you build a query tree, you give users access to one or more of its access groups. Then, they can generate queries on any tables in the access groups accessible to them.

Data Migration Workbench uses the query trees defined in Query Access Manager (PeopleTools, Security, Query Access Manager).

Users who have access to Data Set Designer can create data set definitions for any records in the database, however in order to copy or compare the data set, the user must have permission to an access group that contains the records to be copied or compared.

To add an access group to a permission list:

1. Open the permission list and select the Data Migration tab, Access Group Permissions.
2. Select a tree name.
3. Select the highest access group that the user can access.

   The system displays access groups in the selected query tree only.

   The access group that you select should be the highest-level tree group to which this permission list needs access.

4. Select the Read check box to grant the user access to the compare reports for this access group.

   Note: Read access is enough for Copy to file and Compare operations.

5. Select the Write check box to grant the user access copy data for this access group from a file.

   Note: Write access is required for Copy from file.

6. Save your changes.
Read Write Privileges

<table>
<thead>
<tr>
<th>Operation</th>
<th>Permission Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy to file</td>
<td>Read</td>
</tr>
<tr>
<td>Copy from file</td>
<td>Write</td>
</tr>
<tr>
<td>Compare from file</td>
<td>Read</td>
</tr>
</tbody>
</table>

Defining Copy Compare Permissions

Use the Copy Compare Permissions page (SCRTY_ADS_PROFILES) to define the access permission for copying and comparing data migration projects.

Navigation

Click the Copy Compare Permissions link on the Data Migration page

Image: Copy Compare Permissions page

Copy Compare Permissions Page

<table>
<thead>
<tr>
<th>Permission List:</th>
<th>PTPT3500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description:</td>
<td>ADS Designer</td>
</tr>
</tbody>
</table>

Use this page to specify the copy and compare options available.

Access

Select the appropriate access level. Options are:

- Full Access: Enables user to copy and compare the data set.
- No Access: User can not copy or compare the data set.
- Read-Only: User can compare the data set.

Allow setting Copy Compare attributes on data set definitions

The user can set the copy and compare options on the data set definition.

This privilege should only be given to architects with a thorough knowledge of the data set definition and its associated data.
content who would certify data set definitions to be copyable and comparable. A flawed data set definition could corrupt a data base. A partial list of considerations for the architect includes the following items to assess:

- The validation rules expressed in the application class must be accurate and complete.
- Records in the data set should represent a tightly coupled set of data.
- Copying the data set must preserve dependency relationships.
- No orphan rows should be created in copy or delete.
- Consideration should be made of validation dependencies: if a dependent object is being copied from the source, it must be copied before the objects that depends on it.

## Access

<table>
<thead>
<tr>
<th>Copy Compare Access</th>
<th>Copy to File</th>
<th>Copy from File</th>
<th>Compare from File</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Access</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Read-Only Access</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Full Access</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

## Setting Upgrade Permissions

In order to copy from file, the user must have all of the appropriate permissions to the records in the file. To simplify this process, you can create a permission list that includes Full Access to Upgrade.

Full access to upgrade allows the user to copy any record without checking the specific authority to that record. Once you create a permission list with this access and assign it to a role, you should limit the number of users who are granted the role.

To assign Full Access to Upgrade:

2. Select the PeopleTools tab.
3. Select the Application Designer check box.
4. Select the Tools Permission link.
5. Select Full Access for Upgrade.
6. Click OK and the save the page.

**Image: Tools Permissions page**

This example illustrates the Tools Permissions page with Upgrade set to full access.

**Tools Permission**

Permission List: UPGRADE

Description: Upgrade

<table>
<thead>
<tr>
<th>Tool</th>
<th>Access Code</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Build / Data Admin.</td>
<td>No access</td>
<td></td>
</tr>
<tr>
<td>Change Control</td>
<td>Supervisor access</td>
<td></td>
</tr>
<tr>
<td>Language Translations</td>
<td>No access</td>
<td></td>
</tr>
<tr>
<td>Peoplecode Debugger</td>
<td>No access</td>
<td></td>
</tr>
<tr>
<td>SQL Editor</td>
<td>No access</td>
<td></td>
</tr>
<tr>
<td>Upgrade</td>
<td>Full access</td>
<td></td>
</tr>
</tbody>
</table>

**Related Links**

"Defining Permissions" (PeopleTools 8.54: Security Administration)

**Setting PeopleTools Data Access**

In order to modify a PeopleTools owned data set definition, the developer must have:

- Full access to copy and compare for data migration.
  
  See Defining Copy Compare Permissions

- Permission list access to the tools tables.
  
  See Defining Access Group Permissions

- PeopleTools Data Set access

To set PeopleTools Data Set access:

2. Select the PeopleTools tab.
3. Select the PeopleTools Data Set Access check box.
4. Save the page.

**Image: Permission List – Tools page**

This example illustrates the fields and controls on the Permission List – Tools page.

---

**Encrypting Data Set Project Files**

Data set project files are stored in project file repositories and should be encrypted for added security. By default, the option to encrypt data set project files is selected.

To set data set project files as encrypted:

1. Select PeopleTools, Utilities, Administration, PeopleTools Options.
2. Select Encrypt Data Set Project Files.

**Image: PeopleTools Options page**

This example illustrates the PeopleTools Options page with Encrypt Data Set Project Files selected.

---

**Important!** If you are migrating a data set project from PeopleTools 8.54 to PeopleTools 8.53 the encryption must be turned off.

---

### Setting Up Approval Framework for Data Migration

Approval Framework is included in PeopleSoft applications as part of Enterprise Components. A set of approvals is included for Data Migration Workbench. If activated and configured, this approval process is triggered when the user clicks the Submit for Copy button.

The ProcessID `MigrateData` contains all of the information necessary to route approvals to the appropriate approvers and take the necessary action when a transaction is approved, denied, or pushed back.

To configure and activate the Approval Framework process for MigrateData:

1. Assign the appropriate role in the user profile for the approvers.
2. Define workflow for user profile.
3. Create and maintain user list definition.
4. Set up the Approval Process for Data Migration.

**Assigning Data Migration Roles**

Two roles are delivered for Data Migration approvals:

- EOMW_REVIEWER
- EOMW_APPROVER

You can use these roles or create new roles as needed for your approvers.

To assign data migration roles to a user profile:

2. Insert the role or roles.
3. Save the page.

**Related Links**

"Defining Role Options" (PeopleTools 8.54: Security Administration)

**Defining Workflow for User Profile**

In order to receive approval notifications, the user must have the worklist option selected in the user profile.

To set up a workflow user:

1. Select PeopleTools, Security, User Profiles, User Profiles
2. Select the user profile, or create a new one.
3. Access the Workflow (USER_WORKFLOW) page.
4. Select the Worklist check box.

**Related Links**

"Specifying Workflow Settings" (PeopleTools 8.54: Security Administration)

**Creating and Maintaining User List Definition**

A *user list* is a collection of users (PeopleSoft User IDs) expressed as the result of a SQL statement, PeopleSoft role, or PeopleSoft Application Class. User lists are used to represent the business process of your approval hierarchy on a transaction-by-transaction basis. PeopleSoft delivers pre-defined user lists. If none of the delivered user lists apply to your organization's hierarchy, then you can define your own using the User List Setup component (Enterprise Components, Approvals, Approvals, User List Setup).

There are two delivered User Lists for Data Migration Workbench, however you can use any of the user lists that apply for your applications.
### User List

<table>
<thead>
<tr>
<th>User List</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MigrateData_Reviewer</td>
<td>Based on the role EOMW_REVIEWER. The transaction will be routed to any user that has the role EOMW_REVIEWER defined in the user profile.</td>
</tr>
<tr>
<td>MigrateData_Approver</td>
<td>Based on the role EOMW_APPROVER. The transaction will be routed to any user that has the role EOMW_APPROVER defined in the user profile.</td>
</tr>
</tbody>
</table>

For more information on setting up user lists see *Approval Framework*, Defining Notification Templates and Users for Approval Framework.

## Setting up the Approval Process for Data Migration

To set up approval process definitions, use the Setup Process Definitions (EOAW_PRCS) component.

Business analysts use this component to define an approval process definition. The process is made up of stages and their paths and steps. The approval steps that you place on the approval path represent the approval levels that are required for a transaction.

<table>
<thead>
<tr>
<th>Approval Flow</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage</td>
<td>A stage is one part of an approval process that can contain multiple paths. The system executes stages in sequence where one must complete the stage before the next one begins. A stage can be at the header or line level. For Data Migration only the header level is used.</td>
</tr>
<tr>
<td>Path</td>
<td>A path contains a sequence of steps. Within a stage, paths execute in parallel. Path entry criteria determines whether or not a path executes for a given transaction.</td>
</tr>
<tr>
<td>Step</td>
<td>A step represents one or more approvers or reviewers. Steps within a path execute in sequence. Separate criteria for each step determines whether or not that step executes. Each step can also have a set of reviewers.</td>
</tr>
</tbody>
</table>

Typical approval processes for Data Migration might include:

- Supervisor or Manager to review data that will be copied to the database.
- Manager to approve the data migration before it is copied to the database.
- Two different approvers for each step, where both approvers at a step must approve the request for it to advance to the next step.

### Example Approval Process Definition

This section provides an example of how to set up an approval process definition for a transaction that is specific to MigrateData.

To set up the approval process definition:

2. Select ProcessID \textit{MigrateData}.

\textbf{Image: Set Up Process Definition page}

This example illustrates the fields and controls on the Set Up Process Definition page. You can find definitions for the fields and controls later on this page.  

In the Definition Options section, the process definition needs to be set to Active.

In this example the approval process contains two stages – Supervisor and Copy Scheduler. Each stage has one path and one step. The first stage requires supervisor approval before the data migration project can be routed to the Copy Scheduler. When the copy scheduler approves the request (final approval), the data migration project will be scheduled for copy in the Process Scheduler.

You can define multiple stages, paths, and steps for an approval process definition. For example, perhaps you require administrator approval for the copy request. In this case, you would create an additional path within the existing stage that contains one step requiring administrator approval.
The Approval Framework processes multiple stages and steps sequentially. The engine cannot advance to the next step until you complete the preceding step in the given path. Likewise, the engine cannot advance to the next stage until you complete all paths within a given stage. For paths, however, you can define them as static (processed sequential) or dynamic (processed in parallel).

Criteria

By default, the criteria will be Always True, which means if the process definition for MigrateData is active, Approval Framework will always be invoked.

You can add logic that the Approval Framework evaluates at runtime for a Boolean result. You can define criteria at the definition, path, or step level. To set up criteria, click the Definition Criteria link at the top of the Setup Process Definitions page for the definition, for path and step criteria, click the associated criteria icon for that path or step.

Image: Criteria Definition page

This example illustrates the fields and controls on the Criteria Definition page.

Criteria Definition

Refer to the Approval Framework PeopleBook, Setting Up Approval Framework Process Definitions, Defining Criteria for Approval Framework Processes for details on how to define the criteria.

Scheduling and Approving Copy from File

This section discusses how to:

- Submit for Copy using Approval Framework.
- Approve the copy request.

Submitting for Copy using Approval Framework

When the MigrateData approval process is active, all approvals must be completed before the Copy from file will be scheduled in the Process Scheduler.

To request the copy from file:

1. In the Process Definition component (PeopleTools, Lifecycle Tools, Migrate Data, Data Migration Workbench) select the Submit for Copy button.
2. Select the languages to copy.
3. Click Run.

You will receive a message that the project has been submitted for approval and the status will be updated to Evaluating Approval.
4. Click OK to return to the Project Definition page.

5. To view the approvals required, click the Work Approvals link.

**Image: Example ADS Approval View**

This example illustrates the fields and controls on the ADS Approval View. You can find definitions for the fields and controls later on this page.

<table>
<thead>
<tr>
<th>ADS Approval View</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supervisor Approval</strong></td>
</tr>
<tr>
<td><img src="pending.png" alt="PROJECTNAME=MSG_257;Pending" /></td>
</tr>
<tr>
<td><img src="multiple_approvers.png" alt="Multiple Approvers" /></td>
</tr>
<tr>
<td><strong>Copy Scheduler</strong></td>
</tr>
<tr>
<td><img src="awaiting_future_approvals.png" alt="PROJECTNAME=MSG_257;Awaiting Further Approvals" /></td>
</tr>
</tbody>
</table>

This example shows the two paths. First the Supervisor must approve the project and then the copy scheduler. Note in this example that for Copy Scheduler there are multiple approvers. If you want to see who the approvers are, click on Multiple Approvers for a list of possible approvers. Only one approval is needed, so once one of the copy scheduler approvers approves the copy, the transaction will be deleted from the other copy schedulers worklist.

**Approving a Copy Request**

The approval request is added to the approvers worklist. To approve a request:

1. Sign on as the approver.
2. Select Worklist from the menu bar or select Worklist, Worklist.
3. In the Link column, click the link.
4. The Data Migration Approval page is displayed.

**Image: Data Migration Approval page**

This example illustrates the fields and controls on the Data Migration Approval page. You can find definitions for the fields and controls later on this page.

**Approve**
Click to approve the transaction.

**Deny**
Enter a comment in the Approval Comment edit box and click to deny the transaction.

**Pushback**
Click to push back the transaction.

Pushback is an optional feature that can be implemented in the Approval Monitor. If implemented, push back takes a currently pending step out of pending status and requeues the previous step to its approvers. The meaning of push back is that the approver is questioning the prior step’s approval and is requesting clarification. Push back is only possible within a path, therefore, the first step of a path cannot push back.

**Request Information**
Click this button to request additional information from the originator. The approval will be placed on hold.

**Save Comment**
Enter a comment in the Approval Comment edit box and select Save Comment.

Requesters can add comments to transactions, and approvers can associate their comments with the approval process rather than the request transaction directly. The Approval Framework Monitor provides a mechanism for associating comments with a particular approval process instance, which is tied to a particular application transaction. Approvers can view comments added by another approver, but they cannot change previous comments.
Expand the ADS Approval View to view the current progress of the request.

**Image: ADS Approval View**

This example illustrates the fields and controls on the ADS Approval View.

<table>
<thead>
<tr>
<th>ADS Approval View</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supervisor Approval</strong></td>
</tr>
<tr>
<td><strong>PROJECTNAME=DEM02::Approved</strong></td>
</tr>
<tr>
<td>Supervisor</td>
</tr>
<tr>
<td>Approved</td>
</tr>
<tr>
<td>Director 2</td>
</tr>
<tr>
<td>Supervised by User Id</td>
</tr>
<tr>
<td>10/02/12 - 11:42 AM</td>
</tr>
<tr>
<td><strong>Comment History</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Copy Scheduler</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PROJECTNAME=DEM02::Pending</strong></td>
</tr>
<tr>
<td>Copy Scheduler</td>
</tr>
<tr>
<td>Pending</td>
</tr>
<tr>
<td>Multiple Approver</td>
</tr>
<tr>
<td>Migrate Data Scheduler</td>
</tr>
<tr>
<td><strong>Comment History</strong></td>
</tr>
</tbody>
</table>