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PeopleSoft Student Administration Integration Pack PeopleBook

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PeopleSoft Student Administration Integration Pack PeopleBook
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PeopleSoft Student Administration Integration Pack Preface

This preface discusses:

- PeopleSoft products.
- PeopleSoft PeopleBooks.
- PeopleBook structure.

Note. This PeopleBook documents only page elements that require additional explanation. If a page element is not documented with the process or task in which it is used, then either it requires no additional explanation or it is documented with common elements for the section, chapter, PeopleBook, or application.

PeopleSoft Products

This PeopleBook refers to the following separately licensed PeopleSoft product: Student Administration Integration Pack (SAIP).

PeopleSoft PeopleBooks

Your PeopleSoft Campus Solutions system, including PeopleSoft Student Records, must be implemented before you implement SAIP. Essential information describing the setup and design of your Campus Solutions system appears in these three companion volumes of documentation:

- *PeopleSoft Campus Solutions 9.0 Application Fundamentals PeopleBook*
- *PeopleSoft Campus Community Fundamentals 9.0 PeopleBook*
- *PeopleSoft Campus Solutions 9.0 Student Records PeopleBook*

PeopleBook Structure

PeopleSoft PeopleBooks follow a common structure. By understanding this structure, you can use this PeopleBook more efficiently.

The PeopleBooks structure conveys a task-based hierarchy of information. Each chapter describes a process that is required to set up or use the application. Chapter sections describe each task in the process. Subsections within a section describe a single step in the process task.

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Some PeopleBooks may also be divided into parts. PeopleBook parts can group together similar implementation or business process chapters within an application or group together two or more applications that integrate into one overall business solution. When a book is divided into parts, each part is divided into chapters.

The following table provides the order and descriptions of chapters in a PeopleBook.

Chapters	***Description***
Preface	This is the chapter you're reading now. It explains: • How to use the Application Fundamentals book. • How PeopleBooks are structured. • Common elements used in the PeopleBook, if necessary.
Getting Started With…	This chapter discusses product implementation guidelines. It explains: • The business processes documented within the book. • Integrations between the product and other products. • At a high-level how our documentation maps to the overall implementation process; it doesn't offer step-by-step guidance on how to perform an actual implementation.
Navigation	(Optional) Some PeopleSoft applications provide custom navigation pages that contain groupings of folders that support a specific business process, task, or user role. When an application contains custom navigation pages, this chapter provides basic navigation information for these pages. **Note.** Not all applications have delivered custom navigation pages.
Understanding…	(Optional) This is an introductory chapter that broadly explains the product and the functionality within the product.

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Chapters	***Description***
Setup and Implementation	This can be one or more chapters. These chapters contain documentation to assist you in setting up and implementing the product. For example, if functionality X is part of a product, this chapter would be devoted to explaining how to set up functionality X, not necessarily how to use functionality X. You would look to the corresponding business process chapter to learn how to use the functionality. **Note.** Sometimes, a small amount of business process information is included in a setup chapter if the amount of business process documentation is insufficient to create a separate section in the book.
Business Process	This can be one or more chapters. These chapters contain documentation that addresses specific business processes with each chapter generally devoted to a specific functional area. For example, if functionality X is part of a product, this chapter would be devoted to explain how the functionality works, not necessarily how to set up functionality X. You would look to the corresponding setup and implementation chapter to learn how to set up the functionality. **Note.** Sometimes a small amount of setup and implementation information is included in a business process chapter if the amount of setup and implementation documentation is insufficient to create a separate chapter in the book.
Appendixes	(Optional) If required, one or more appendixes might be included in the book. Appendixes contain information that is considered supplemental to the primary documentation.
Delivered Workflow Appendix	(Optional) The delivered workflow appendix describes all of the workflows that are delivered for the application. **Note.** Not all applications have delivered workflows.
Reports Appendix	(Optional) This appendix contains an abbreviated list of all of the product's reports. The detailed documentation on the use of these reports is usually included in the related business process chapter.

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PeopleBooks and the PeopleSoft Online Library

A companion PeopleBook called *PeopleBooks and the PeopleSoft Online Library* contains general information, including:

- Understanding the PeopleSoft online library and related documentation.
- How to send PeopleSoft documentation comments and suggestions to Oracle.
- How to access hosted PeopleBooks, downloadable HTML PeopleBooks, and downloadable PDF PeopleBooks as well as documentation updates.
- Understanding PeopleBook structure.
- Typographical conventions and visual cues used in PeopleBooks.
- ISO country codes and currency codes.
- PeopleBooks that are common across multiple applications.
- Common elements used in PeopleBooks.
- Navigating the PeopleBooks interface and searching the PeopleSoft online library.
- Displaying and printing screen shots and graphics in PeopleBooks.
- How to manage the locally installed PeopleSoft online library, including web site folders.
- Understanding documentation integration and how to integrate customized documentation into the library.
- Application abbreviations found in application fields.

You can find *PeopleBooks and the PeopleSoft Online Library* in the online PeopleBooks Library for your PeopleTools release.

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Chapter 1

Getting Started with SAIP

This chapter provides an overview of PeopleSoft Student Administration Integration Pack (SAIP) and discusses:

- SAIP integrations.
- SAIP implementation.

SAIP Overview

Student Administration Integration Pack (SAIP) is a web-service based interface for passing person, course, and enrollment data from your PeopleSoft Campus Solutions system to external systems such as your learning management system (LMS). The process captures corresponding data and structures from the PeopleSoft Campus Solutions system and uses PeopleSoft Integration Broker to transfer them to the target external system.

SAIP also provides an interface for importing final grades from the external system to your PeopleSoft Student Records grade roster.

SAIP is the first product in Oracle's Academic Enterprise Solutions (AES) line of products. The first version of SAIP is aligned with PeopleSoft Student Administration Release 9.0, specifically with PeopleSoft Student Records Release 9.0.

SAIP also engages PeopleSoft Integration Broker in PeopleTools Release 8.49 and above.

SAIP Integrations

SAIP integrates with these PeopleSoft applications:

- Campus Solutions Student Administration, specifically Student Records.
- Campus Solutions Campus Community.
- PeopleTools Integration Broker.
- (Optional) Campus Self Service.

Consult the documentation for the external system for installation and implementation information about the external system. Supplemental information and technical white papers may also be available on the My Oracle Support web site.

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Important! If you are installing SAIP, be sure to review the *SAIP Installation Guide* on My Oracle Support.

See http://www.oracle.com/us/support/index.htm.

SAIP Implementation

By implementing SAIP, you set options to enable you to move and update large amounts of academic data from PeopleSoft Campus Solutions to an external system with minimal manual intervention.

SAIP does not use Setup Manager.

SAIP supports the following business processes, which are discussed in this PeopleBook:

- Using Event-Driven Integration.
- Setting Up SAIP.
- Mapping Courses.
- Importing Grades.

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Chapter 2

Understanding PeopleSoft SAIP

This chapter discusses:

- The Integration Pack.
- Snapshot integration.
- Event-based trigger integration.
- Courses and event-based operations.
- Common terms.

The Integration Pack

PeopleSoft Student Administration Integration Pack (SAIP) is a separately licensed product that provides a web-service based interface for passing academic data (person, course, and enrollment) from PeopleSoft Campus Solutions to consuming applications such as your learning management system (LMS). The web services process creates and maintains corresponding data and structures in the target external system. For example, as a course is created in PeopleSoft Campus Solutions, the web service passes the data to an LMS, which creates a corresponding course site or virtual learning space. Then, as students successfully enroll in the course in the PeopleSoft Campus Solutions system, their enrollment information is passed to the LMS so that they are listed as valid members of that course site with all appropriate privileges.

SAIP provides two types of integration: snapshot and event-driven.

The snapshot model enables you to move volumes of data between systems, for example, when initializing an integration between Campus Solutions and a learning management application, or creating course sites at the beginning of a term.

The event-driven model permits near real-time updates, for example, adding enrolled students immediately to course sites as they enroll in courses, or the creation of course sites as the courses are created. The event-driven model is supplemented by snapshots in cases in which an institution or term is pivotal and large quantities of data must be moved between PeopleSoft Campus Solutions and the external system.

SAIP also provides Grade Import. When enabled, Grade Import allows your faculty members to import final grades on a per-course basis from your LMS into the PeopleSoft Student Records online grade roster.

The SAIP interface is based on the IMS Learning Information Services standard specification. This specification provides standard information models and protocols representing person, courses, enrollments, and outcomes. Specifically, IMS Learning Information Services provides the following services:

- IMS Person service for person information.

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- IMS Group service for non-course hierarchical or relational entities.
- IMS Course Management service for information pertaining to course definitions (including related course hierarchies and combined or associated sections).
- IMS Membership service for enrollment information.
- IMS Outcome service for communicating grades from the external system back to the Campus Solutions system.

The IMS Learning Information Services specification includes a data model for entities relevant to each of the services it provides. SAIP maps to PeopleSoft Student Administration data and transforms it into the schema defined by IMS.

The PeopleSoft to IMS data transformation includes:

- For the IMS person service and data model, SAIP transforms data (defined on the SAIP Installation page) from the PeopleSoft Student Administration biographical and demographic tables.

  Note. SAIP only integrates person data for persons in the context of membership in a course, either as a student or instructor.

- For the IMS group service and data model, SAIP transforms data from PeopleSoft Student Administration institution, academic organization, and term session tables.
- For the IMS course service and data model, SAIP maps to the PeopleSoft Student Administration Student Records course structure and transforms data for the IMS course hierarchy, including:
  - For the IMS course template, SAIP transforms PeopleSoft Student Administration course and course offering data.
  - For the IMS course offering, SAIP transforms PeopleSoft Student Administration class section data.
  - For the IMS course section, SAIP transforms PeopleSoft Student Administration class section data.
- Also, for the IMS course service, SAIP provides operations and a data model for the combining of multiple class sections into single course sections by transforming data from PeopleSoft Student Administration combined sections data and SAIP-defined class association tables and ad hoc section associations.
- For the IMS membership service and data model map, SAIP transforms data from PeopleSoft Student Administration enrollment and class instructor tables.
- For the IMS outcome service, SAIP maps inbound final grade and outcome information to the PeopleSoft Student Administration grade roster tables.

Snapshot Integration

A snapshot enables you to move the full set of relevant academic data from your PeopleSoft Campus Solutions system to the target external system when needed. Snapshots are tolerant of lost messages or missed data objects. Any subsequent snapshot transmittal sets the target system back in synchronization with the source system.

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Snapshots can be generated by the SAIP or requested by external systems according to the IMS Learner Information Services (LIS) specification. For consumer-requested snapshots, SAIP returns a response defined in the same specification.

With the snapshot method you decide when you want a group of data to be transmitted to the external system.

A full synchronization snapshot captures and transfers all of the data in your system that is defined as in scope for SAIP.

An incremental snapshot captures and transfers only data that has been newly created or changed since the time that you define, such as since the last snapshot was run. Consider setting incremental snapshot integration to run frequently, perhaps nightly, to keep your external system updated.

An incremental snapshot:

1. Captures any changes to groups (representing institutions, organizations, terms), persons, courses, and enrollment information that are in scope for SAIP.
2. Captures any future effective-dated changes as they become current.
3. Confirms and rectifies results of event-based triggers.

A full synchronization snapshot is one that overwrites all previous data.

Warning! When a full synchronization snapshot runs, all existing data is overwritten. Run a full synchronization snapshot integration infrequently and only to initialize or reinitialize the systems.

A full synchronization snapshot uses processes to move data in a specific order to maintain data integrity. While the LIS specification and the SAIP do not require a run order for snapshots, due to data relationships and hierarchies, a best practice order is:

1. Groups: institutions, organizations, terms (ReadGroups service operation).
2. Persons (ReadPersons service operation).
3. Course templates (ReadCourseTemplates service operation).
4. Course offerings (ReadCourseOfferings service operation).
5. Course sections (ReadCourseSections service operation).
6. Section association (ReadSectionAssociations service operation).
7. Memberships (ReadMemberships service operation).

When you include or exclude items in scope, you set them to be included or ignored in snapshot data transfers. You can override the inclusion or exclusion at cascading levels down from the highest level of institution to the most granular element of class section.

When an incremental snapshot is generated, SAIP creates an XML document using the naming convention that concatenates the service operation name with the date (YYYY-MM-DD) and time (HH.MM.SS.mmmmmm, where m is milliseconds) of the snapshot creation, for example READCOURSEOFFERINGS2011-06-22T15.45.43.000000Z.xml

The IMS Learning Information Services service operation model allows automatic transfer of XML incremental snapshot documents between systems. You must point each system to the desired destination directory or server. For SAIP, you specify the destination on the SAIP Installation page.

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See Chapter 3, "Setting Up SAIP," Setting Default SAIP Scoping and Association Values, page 13.

SAIP posts the XML snapshot documents to the specified destination, making it available for the external system to retrieve, and provides the URL for that location in the response that it returns to the consuming system. SAIP requires no user intervention to transfer the XML snapshot documents after they are posted, however you can manually access and edit the files if necessary.

Event-Based Trigger Integration

Event-driven integration enables near real-time synchronization between your PeopleSoft Campus Solutions systems and the external system. For example, if a student successfully enrolls in a course in PeopleSoft Student Administration, and a corresponding course site exists in your external system, that student is added in near real time as a valid participant in the course site.

Event-based triggers are embedded within PeopleSoft Campus Solutions where key enterprise data (groups, persons, courses, and enrollments) can be created, updated, or deleted. The PeopleSoft Campus Solutions system publishes data object messages as events occur that change the relevant data. A subscription handler invokes the appropriate external system web service. The target system receives the messages and processes the event transactions.

The existence of an event-driven interface does not eliminate the usefulness of the snapshot interface. Because an event-driven interface is not tolerant of missed transactions, you may want to use the snapshot interface at regular intervals to resynchronize the data in the target system with that of your PeopleSoft Campus Solutions system. You can use the SAIP Event Message Monitor to track and monitor errors that might occur as part of the SAIP event-based integration. The "Monitoring Event Messages" chapter contains more information.

Note. Running the event-driven model is not required. If you choose not to engage event-driven integration, you can use full and incremental snapshots to keep data synchronized. However, changes to data in the PeopleSoft Campus Solutions system will not be reflected in the external system until the next time the incremental snapshot is requested or run.

Embedded event-based triggers include, but may not be limited to, the following processes:

- Foundational:

  When an institution, term, or academic organization is removed from scope or details of those entities are modified.

- Courses:
  - When a class section is scheduled or canceled.
  - When a class rollover process automatically schedules new term-based instances of course offerings.
  - When a meeting pattern for a class is changed.

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- Enrollments:
  - When a student adds, drops, or swaps a class.
  - When a student enrolls in a class, is withdrawn from a class, of removed from a waitlist.
  - When a student drops a class due to class cancellation.
  - When a student withdraws from all classes.
  - When an instructor is assigned to a class section.
- Grades:

  When an instructor imports final grades from an LMS or external source.
- Persons:

  When biographical or demographic data is updated for enrolled students and assigned instructors.

Warning! Changing the embedded triggers or creating new ones requires coding and may have significant negative administrative impact.

See Also

Chapter 8, "Monitoring Event Messages," page 81

Courses and Event-Based Operations

The mapping of PeopleSoft Student Administration course structures to IMS course structures (CreateCourseTemplate service operation) is complex. This section describes SAIP's creation or modification of the necessary course items.

IMS course structure items are:

- Course template.
- Course offering.
- Course section.

SAIP creates a course template when a new course is created in the PeopleSoft Student Administration course catalog, provided that the course is associated with an academic institution and academic organization that are set as in scope for the integration process and that the course's status is *Approved.* A PeopleSoft Student Administration course always requires at least one course offering.

SAIP updates a course template when any data in the course catalog component is modified and the component is saved. In addition, if a course's status is *Inactive,* SAIP updates the course template with a status of *Inactive.*

A PeopleSoft Student Administration course cannot be deleted. However, SAIP will send a delete action to the external system for a course template if any of the following occur:

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- The current effective-dated row is deleted and the previous row does not have an effective status of *Active.*
- A course offering is deleted from the course catalog component.

SAIP creates a course offering when a new class section is created in either PeopleSoft Student Administration's Schedule New Course or Maintain Schedule of Classes components if the class section is associated with an institution, term and academic organization that are in scope. The IMS course offering item includes an academic session attribute that maps to the PeopleSoft Student Administration term. Terms are associated with the PeopleSoft Student Administration course hierarchy only at the class section level. Therefore, course offering is a blending of PeopleSoft Student Administration's course offering and class section.

SAIP updates a course offering when information in either the PeopleSoft Student Administration's Course Catalog component or Maintain Schedule of Classes components is updated and the component is saved.

SAIP deletes a course offering when a class section is deleted in the PeopleSoft Student Administration Maintain Schedule of Classes component.

Using the same in-scope criteria as course offering, SAIP creates a course section when a new class section is created in the either PeopleSoft Student Administration's Schedule New Course or Maintain Schedule of Classes components.

SAIP updates a course section if information in the PeopleSoft Student Administration Maintain Schedule of Classes component is modified and the component saved.

SAIP deletes a course section when a class section is deleted in the Student Administration Maintain Schedule of Classes or Schedule Class Meetings component.

Understanding Versioning

Web services as an integration architecture allow for the coexistence of multiple "versions" of each service; these versions are not cumulative or additive, but rather are variants. As such, they might reflect changing capability or data model differences, but each version can continue to operate independently and subsequent versions of a service do not supersede previous versions.

SAIP delivers several versions of its web services, labeled 1.0, 1.5, and 2.0. These versions reflect modified capability both on the SAIP (provider) side as well as on the consumer side; some partner solutions originally built to interoperate with an SAIP 1.0 service, for example, may not have made (nor may ever make) modifications to interoperate with SAIP 1.5 or 2.0 services. This distinction is important in that it allows for a looser coupling, removing the need for providers and consumers to uptake and coordinate the release of changes. For example, one side of the integration can make changes as needed, and release those changes as a new service version; the other side can continue to interoperate using the previous service version, and if or when they decide to uptake corresponding capability, they can release their new service version, and the two sides simply flip to the use of the new service version.

SAIP provides several functional areas where a basic understanding of versioning is important, specifically in defining and setting up targets. The "Managing Multitarget Integration" chapter contains more information about versions and targets.

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See Also

Chapter 4, "Managing Multitarget Integration," page 31

Common Terms Used in This PeopleBook

In Scope

Refers to the items included in the data transfer. To include an item in scope is to mark it for inclusion in the next snapshot data transfer (by either full or incremental snapshot integration) and in event-based updates. When an item is included in scope, SAIP continues to capture the data from the PeopleSoft Campus Solutions system and use it to update the same data in the target external system until the item is cleared from scope.

For an item to be included in scope, all elements in the item's hierarchy must be in scope. For example, for an academic organization to be in scope, its parent institution must be in scope; for a class section to be in scope, its parent institution, academic organization, and the term for that class section must be in scope.

Element

The more granular levels of items eligible for inclusion in scope. The highest levels are institution, academic organization, and term. The lower levels, or elements, are course offerings, class sections, and persons.

All three high levels must be in scope for the more granular elements to be available for inclusion or exclusion.

External System or **Target System**

The external third-party system or target system is the system intended to request data and receive the data captured and transferred from your PeopleSoft Campus Solutions system, or in the case of grade import, it is the external third-party system from which grades are received by your PeopleSoft Campus Solutions system.

In many cases, the external system is your institution's learning management system (LMS).

Snapshot

A snapshot is a capture of data as it exists in the PeopleSoft Campus Solutions system at the moment of the capture.

An incremental snapshot captures only data that was newly created or changed or newly placed in scope in the PeopleSoft Campus Solutions system as of the date and time defined in the request. SAIP makes the captured data available to the external system. When the external system requests the data, the snapshot is applied, updating the existing data and adding the newly created data in the external system.

A full synchronization snapshot captures all in-scope data from the PeopleSoft Campus Solutions system no matter when it was created or changed. SAIP makes the captured data available to the external system. When the external system requests the data, the snapshot is applied, overwriting all of the data in the target system.

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Offset

Offset is used in the context of Integration Dating. At the term and session levels, default Offset values are set to configure the number of days plus or minus a start or end date that integration should be active. A typical use case would be that an institution would like course shells in their learning management system to be created 10 days prior to the actual start of a new term. By setting an offset of -10 for the integration start date, all class sections that are in scope will become active integrations 10 days prior to the actual start date for classes.

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Chapter 3

Setting Up SAIP

This chapter provides an overview of SAIP setup and discusses how to:

- Set default installation settings.
- Set default SAIP scoping and association values.
- Set the integration offsets.
- Set up Integration Broker for SAIP.
- Set up enrollment batch processing.

Understanding SAIP Setup

Before you install SAIP, you must consider and determine the default settings for your institution to use. These decisions include how to map name and contact information, whether to implement event-based triggers, whether to enable grade import, and whether to point the external system to information in a file path or on a file server.

You must also determine which academic organizations whose academic elements (courses, sections, combined sections, and so on) your institution wants to include within the scope of the initial transfer and subsequent snapshot updates. For course elements, you can override scoping decisions at the element levels, but the institutions, academic organizations, and terms to which they belong must be in scope for the element to be available. For example, if the Biology organization is not included in scope, then none of the Biology courses, sections, or persons data are available for transfer. If, however, the Biology organization is included in scope, and the Spring 2008 term is in scope, then all of the Biology courses, sections, and persons data for the Spring 2008 term are available for inclusion in scope, and can be set as in scope at the organization level. You can override scope inclusion or exclusion at the element level on the pages where you create or view the specific element.

Warning! Changes to the installation settings after initialization affect only data from the date of the change forward. This may introduce different data and formatting, causing the systems to become out of synchronization. You can change the settings and initialize the system at any time to resynchronize the systems, but doing so will overwrite all manual changes including the changes made to include or exclude elements at the specific course, section, and person level. Unless otherwise noted, Oracle recommends that you do not change the default settings after initialization.

You must set service operations, routings, and routing URLs in your PeopleTools Integration Broker specifically for SAIP.

You must also set Integration Broker and PeopleSoft Process Scheduler to use COBOL-based processes for SAIP.

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See Also

PeopleSoft Campus Solutions 9.0 Application Fundamentals PeopleBook, "Designing Your Academic Structure," Defining Academic Organizations

PeopleSoft Campus Community 9.0 Fundamentals PeopleBook, "Designing Campus Community," Establishing Name Usages

PeopleTools: PeopleSoft Integration Broker

PeopleTools: PeopleSoft Process Scheduler

Setting Default Installation Values

To define default installation settings, use the SAIP Installation component (SAE_SETUP).

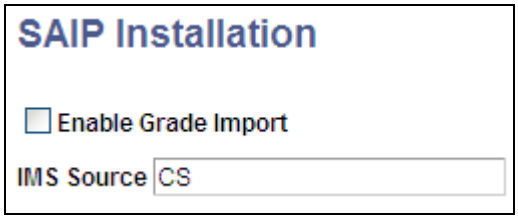
This section discusses how to set default installation settings.

Page Used to Set Default Installation Values

Page Name	Definition Name	Navigation	Usage
SAIP Installation	SAE_SETUP	Set Up SACR, Install, SAIP Installation	Enable or disable event triggers and grade import, and identify the default usages file to use for integration initialization, and updates.

Setting Default Installation Values

Access the SAIP Installation page (Set Up SACR, Install, SAIP Installation).



SAIP Installation page

Enter or select the items to use as default settings for your institution's initial and subsequent transfers of data to the external system.

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Enable Grade Import

Select to provide the ability to import final grades from the external system into Campus Solutions Student Records grade roster.

When this check box is selected, the Grade Import group box and the Import Grades button appear on the Grade Roster page (GRADE_ROSTER_TYPE) in the Student Records Grade Roster component (GRADE_ROSTER) and on the grade roster page in faculty self-service (SS_GRADE_ROSTER).

You must click the Import Grades button on the Grade Roster page to run the import.

You can select or clear this check box at any time after initialization without consequence.

IMS Source

Specify the source of the IMS attributes to use. The integration process uses this value as the high-level key to identify the source that is sending data to the external system, and to identify which source the external system must query for updates.

The default value is *CS* (Campus Solutions). This value can be changed to any value meaningful to your institution, but should not be changed once integration with the external systems is initialized.

Setting Default SAIP Scoping and Association Values

To set default SAIP scoping and association values, use the SAIP Scoping and Association component (SAE_SCOPE_SETUP).

This section discusses how to:

- Set default SAIP scoping and association settings.
- View section association errors.

Pages Used to Set Default SAIP Scoping and Association Values

Page Name	*Definition Name*	*Navigation*	*Usage*
SAIP Scoping and Association	SAE_SCOPE_SETUP	Set Up SACR, Product Related, SA Integration Pack, Scoping/Association Defaults	Identify default settings for including academic organizations and their elements during system initialization and for all subsequent snapshot and event-based data transfers.

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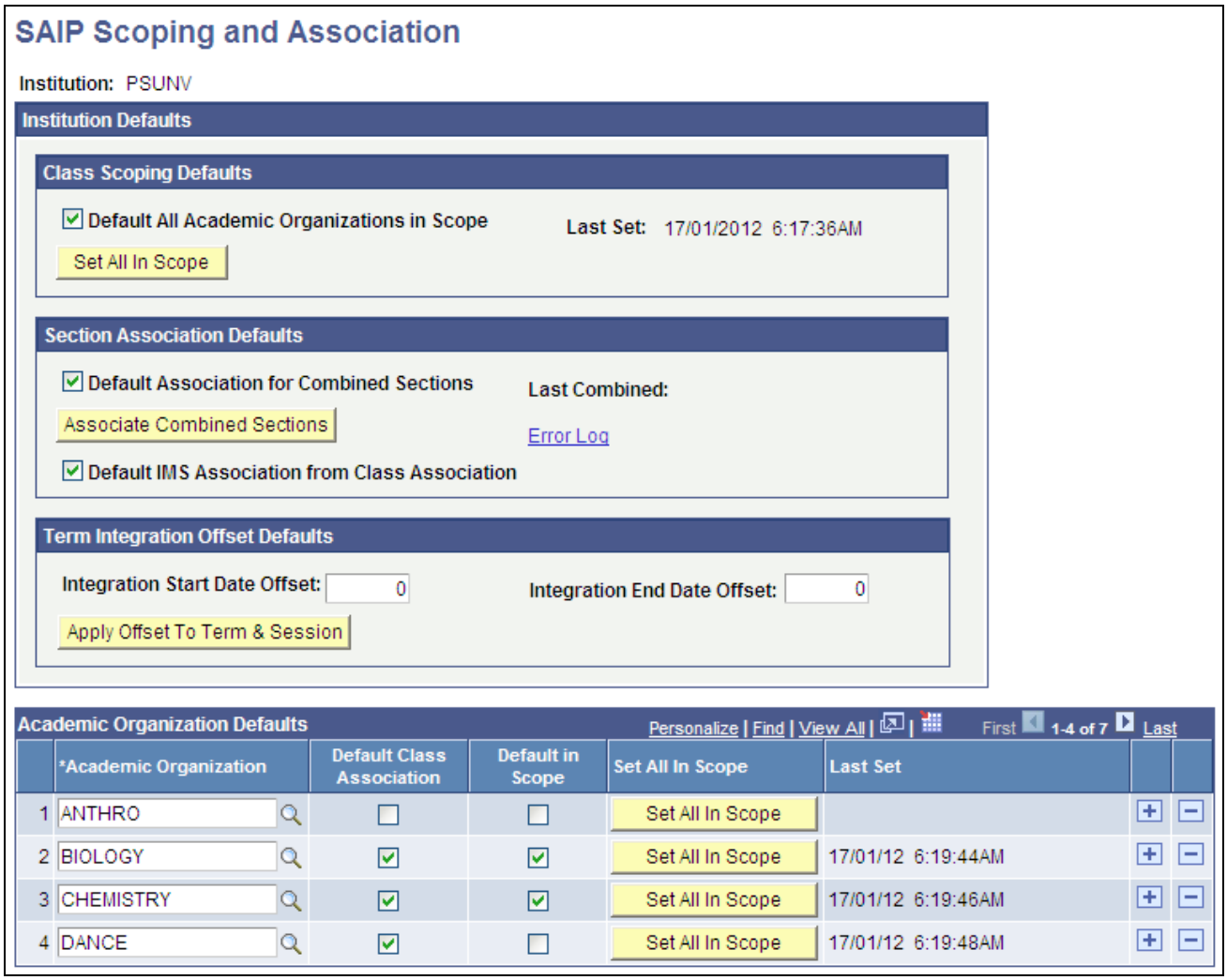
Page Name	Definition Name	Navigation	Usage
Section Association Error Log	SAE_ERR_LOG	Set Up SACR, Product Related, SA Integration Pack, Scoping/Association Defaults, Section Association Error Log	View association conflict errors.

Setting Default SAIP Scoping and Association Values

Access the SAIP Scoping and Association page (Set Up SACR, Product Related, SA Integration Pack, Scoping/Association Defaults).



SAIP Scoping and Association page

Use this page to identify items that you want to automatically include within the scope of your institution's initial and subsequent integration processes.

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Note. SAIP does not allow sections to participate in more than one association simultaneously. If a section being added to an associated group of class sections or combined sections already participates in an Ad Hoc association, then an error message will be displayed and the component will not save.

The action of associating combined sections at the Academic Institution level generates an error log and a time stamp.

Institution Defaults

Default All Academic Organizations in Scope

Select to include all newly created academic organizations and all newly created elements (courses and sections) of previously existing academic organizations.

If this check box is not selected, then by default, no newly created entities (academic organizations or elements) will be included unless you specifically and manually set them to be included. To include a specific organization when the check box is not selected, you must manually add it to the Academic Organization Defaults group box. To include a specific element when the check box is not selected, the organization must be in scope and then you must manually set element in scope where you define the specific element.

For example, assume that the Biology department, an existing academic organization, is within scope. Because it is within scope, its elements are also available for scope. Perhaps your institution creates several new Biology courses or sections since the last snapshot transfer.

When the check box is selected, all of the newly created Biology courses and sections are set to transfer automatically in the next and all subsequent snapshot transfers and if you have enabled event-based integration, set to participate in future event-based integrations. You can, however, manually exclude any of the elements from scope at any time at the element level. The element will continue to be excluded until manually set back into scope.

If the check box is not selected, then none of the newly created Biology courses or sections will transfer in the integration processes. To include the newly created elements, you must manually set each of them in scope at the element level. The element will continue to be included until manually removed from scope.

Warning! If you reinitialize the system at any time, all manual settings are lost including all scoping settings made at the element level.

Set All in Scope

Click to include all of the academic organizations and their elements that are in the system for the institution as of the date you click the button.

When you click the button, the system displays values for the institution in the Academic Organization Defaults group box.

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Default Association for Combined Sections

Select to automatically include all new associations for combined class sections.

Note. An association is the name of a set of combined sections that you want SAIP to present as the same section in the external system. All sections in the combination must be in scope for the association to be included.

If this check box is selected, you can, from the element level, manually exclude an association from scope at any time.

If this check box is not selected, then section associations are ignored and their combined sections are presented as separate sections in the external system. To include an association when the check box is not selected, you must manually include it in scope where you defined the combined section.

See *PeopleSoft Student Records 9.0 PeopleBook*, "Managing the Schedule of Classes," Defining Class Associations.

See *PeopleSoft Student Records 9.0 PeopleBook*, "Managing the Schedule of Classes," Creating Combined Sections.

Last Combined

Date and time that combined sections were associated.

Error Log

Click this link to access the Section Association Error Log page and review association conflict errors.

Default IMS Association from Class Association

Click to use the associations for newly created class sections on the Class Association page in PeopleSoft Student Records to create the course sites in the external system.

You can override class association at the course level on the Class Scoping and Association page (SAE_CLASS_CONFIG) within SAIP.

Integration Start Date Offset

Enter the default value for the number of days, either before or after the start date of a term, that integration should start for associated elements. Valid values are numbers with a minus symbol (-) representing a value prior to the term start date or numbers with a plus (+) symbol or no symbol representing a value after the start of the term. This default value applies to the terms associated with the institution, cascades to the sessions associated with each term and, unless it is changed at the session level, the value cascades down to class sections. Ultimately at the class section level, a calculation is done based on the term start date plus or minus the offset to give an actual integration start date. The calculated integration start date at the class section level can be overridden at the element level.

For example: A term with a start date of September 10 and an institution set integration offset of -10 will have an integration start date of September 1.

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Integration End Date Offset	Enter the default value for the number of days, either before or after the end date of a term, that integration should end for associated elements. Valid values are numbers with a minus symbol (-) representing a value prior to the term end date, numbers with a plus (+) symbol or no symbol representing a value after the end date of the term. This default value applies to the terms associated with the institution, cascades to the sessions associated with each term and, unless it is changed at the session level, the value cascades down to class sections. Ultimately at the class section level, a calculation is done based on the term end date plus or minus the offset to give an actual integration end date. The calculated integration end date at the class section level can be overridden at the element level. For example: A term with an end date of May 20 and an integration offset of 5 would have an integration end date of May 25.
Apply Offset to Term & Session	The values that you enter in the Integration Start and End Date fields represent the default to be applied to any new terms going forward. Click this button to apply a change in default offset values to all current terms and associated sessions.

See Chapter 3, "Setting Up SAIP," Setting the Integration Offsets, page 19.

See Chapter 5, "Mapping Course Elements for Course Sites," Mapping and Associating Class Sections, page 49.

Academic Organization Defaults

Use this group box to add or remove academic organizations to or from scope.

When the integration process runs, only the academic organizations listed in this group box will be included within the integration.

Warning! For the integration process to include an academic organization's associated elements, that academic organization must be listed in this group box. If the element is marked as in scope at the element level, but the academic organization is not listed in scope here, the associated element will not be included.

If you clicked the Set All In Scope button, the system displays all of the academic organizations in the system for the institution on the date that you clicked the button and selects the check boxes in the Default In Scope and Default Class Association. columns.

To add an academic organization to scope, add a row for that organization.

To remove an academic organization from scope, delete the row for that academic organization.

You can add and remove as many academic organizations from scope as you want. However, deleting an organization from scope after initialization causes the data transfer related to that organization to stop as of the next snapshot transfer and going forward. Carefully consider the impact of deleting an organization from scope.

Academic Organization	Enter the name of an academic organization that you want to include in scope.

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Default Class Association

Select to use the associations for newly created class sections on the Class Association page in PeopleSoft Student Records to create course sites in the external system.

If the Default IMS Association from Class Association check box is selected at the Institution Defaults level, that value appears here.

You can override the default value at the academic organization level by clearing this check box You can also override the default value the element level. When the check box is cleared, newly created class sections for this academic organization will not derive the IMS association from the class association.

Default in Scope

Select to include all new elements related to this academic organization.

When this check box is selected, all related elements created since the last snapshot transfer are included and updated in snapshot transfers, and if event-based integration is enabled, in event-based transfers, until manually excluded.

Clear this check box to exclude from scope all new elements related to this academic organization.

You can override this setting at any time either here or at the element level. You can clear the check box here to exclude all new elements, or you can exclude specific elements at the element level.

Set All in Scope

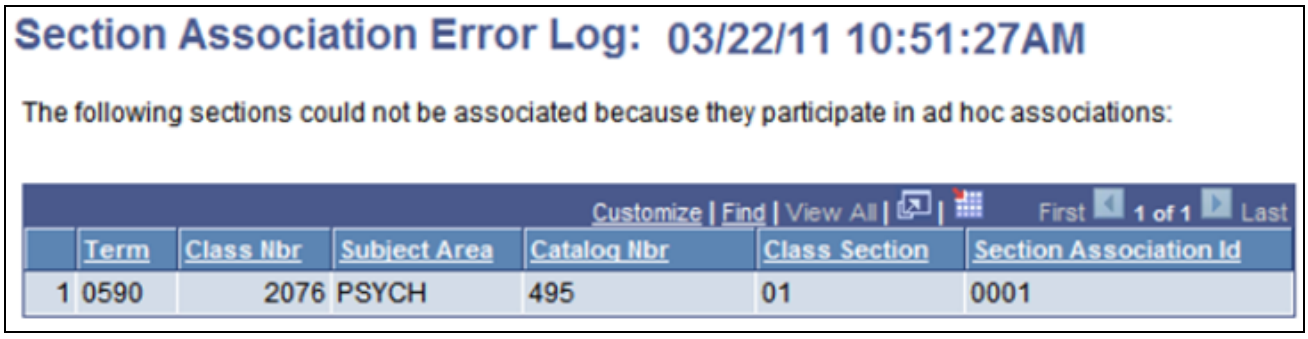
Click to include in the integration processes all existing elements related to this organization.

Last Set

Displays the date and time when items were last set for inclusion by clicking the Set All in Scope button in this row.

Viewing Section Association Errors

Access the Section Association Error Log page (Set Up SACR, Product Related, SA Integration Pack, Scoping/Association Defaults, Section Association Error Log).



Section Association Error Log page

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Setting the Integration Offsets

To set the integration offsets, use the Term/Session Table component (TERM_TABLE).

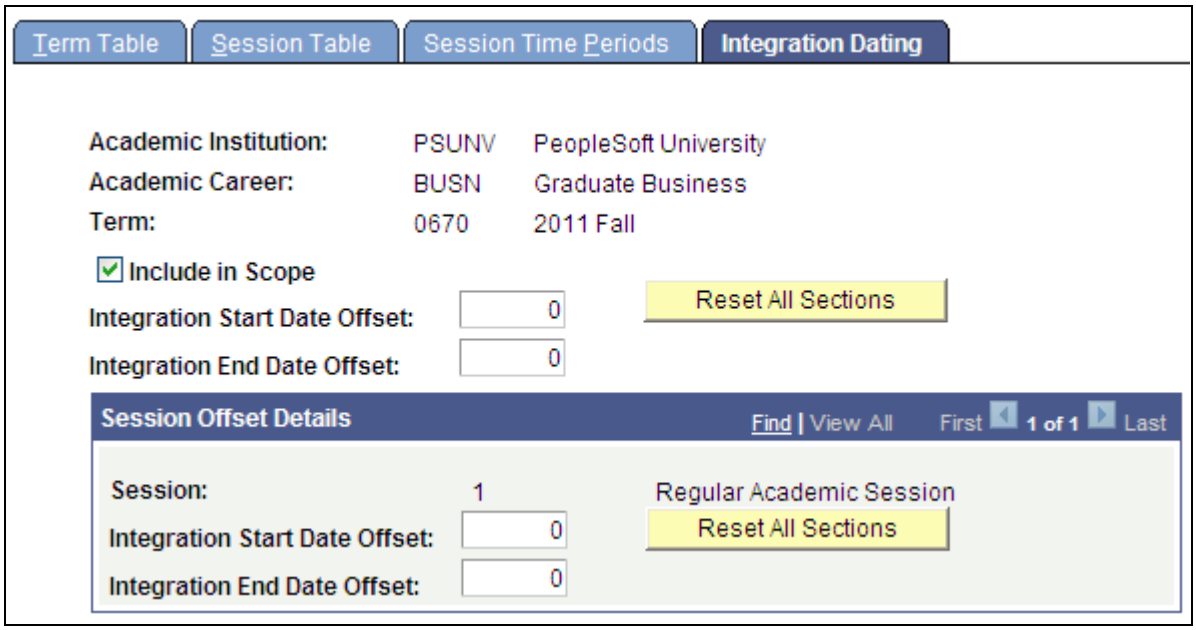
This section discuss how to set the Integration Dating and Offset values.

Page Used to Set Integration Offsets

Page Name	*Definition Name*	*Navigation*	*Usage*
Integration Dating	SAE_TERM_SETUP	Set Up SACR, Foundation Tables, Term Setup, Term/Session Table, Integration Dating	Set integration dating and offset values.

Setting the Integration Dating and Offset Values

Access the Integration Dating page (Set Up SACR, Foundation Tables, Term Setup, Term/Session Table, Integration Dating).



Integration Dating page

Integration Dating

To determine if a specific term is in scope, SAIP evaluates several variables:

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- The first variable is the In Scope check box here on the Integration Dating page.

  This check box is selected by default when a Term is created.

- The second variable is the date range (start date to end date) of a term.

  The date range for a term is defined in the Term Table and evaluated by SAIP to determine whether a term falls into scope with its date range.

- The third variable is the offset value.

  The offset value provides flexibility for when integration begins to flow between SAIP and the target system.

  Offset is defined as a number of days plus/minus the start or end of a term. Here on the Integration Dating page, you can set a default number of offset days that will cascade to all sessions within a term.

Integration Start and End Date Offset

The Integration Start and End Date Offset values allow flexibility when an institution begins to transmit data from SAIP to the target system. For example, to facilitate faculty staff to log into a course in an LMS to prepare for a new term, an administrator can turn on the integration of term class sections to the campus learning management system 10 days (as an example) before a term begins.

By default, the offset values for integration start and end dates are zero which indicates that integration will begin on the date set as the start of the term and end on the date set as the end of the term.

These Integration Start and End Date Offset values cascade from a parent Term into the child Sessions to facilitate setting default values that cascade into all sessions and then subsequent class sections. However, the offset values can be overridden at the Session Level.

At the most granular level of the class section, the Integration Start and End Date are calculated based on the class section dates plus/minus the offsets. As seen in the Class Section Scoping and Association page, you can override the actual integration start and end date that has been populated based on defaults.

See Chapter 3, "Setting Up SAIP," Setting Default SAIP Scoping and Association Values, page 13.

See Chapter 5, "Mapping Course Elements for Course Sites," Mapping and Associating Class Sections, page 49.

Setting Up Integration Broker for SAIP

To set up Integration Broker for SAIP, you must activate each SAIP service operation. You must also activate each SAIP service operation routing and specify the destination URL for routing each service operation.

Set up the broker in PeopleTools as you would for any third-party system. Then use the PeopleTools Service Operations component (IB_SERVICE) to set up SAIP service operations and the PeopleTools Routings component (IB_ROUTINGDEFN) to set up the SAIP routings.

This section discusses how to:

- Activate an SAIP service operation.
- Activate an SAIP routing.

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- Specify an SAIP routing URL.

See Also

PeopleTools: Integration Broker

Pages Used to Set Up Integration Broker for SAIP

Page Name	*Definition Name*	*Navigation*	*Usage*
General	IB_SERVICE	PeopleTools, Integration Broker, Integration Setup, Service Operations, General	Activate an SAIP service operation.
Handlers	IB_SERVICEHDLR	PeopleTools, Integration Broker, Integration Setup, Service Operations, Handler Definitions	Activate an SAIP service operation handler.
Routing Definitions Page	IB_ROUTINGDEFN	PeopleTools, Integration Broker, Integration Setup, Routings, Routing Definitions	Activate an SAIP service operation routing.

Activating an SAIP Service Operation

Access the General page (PeopleTools, Integration Broker, Integration Setup, Service Operations, General).

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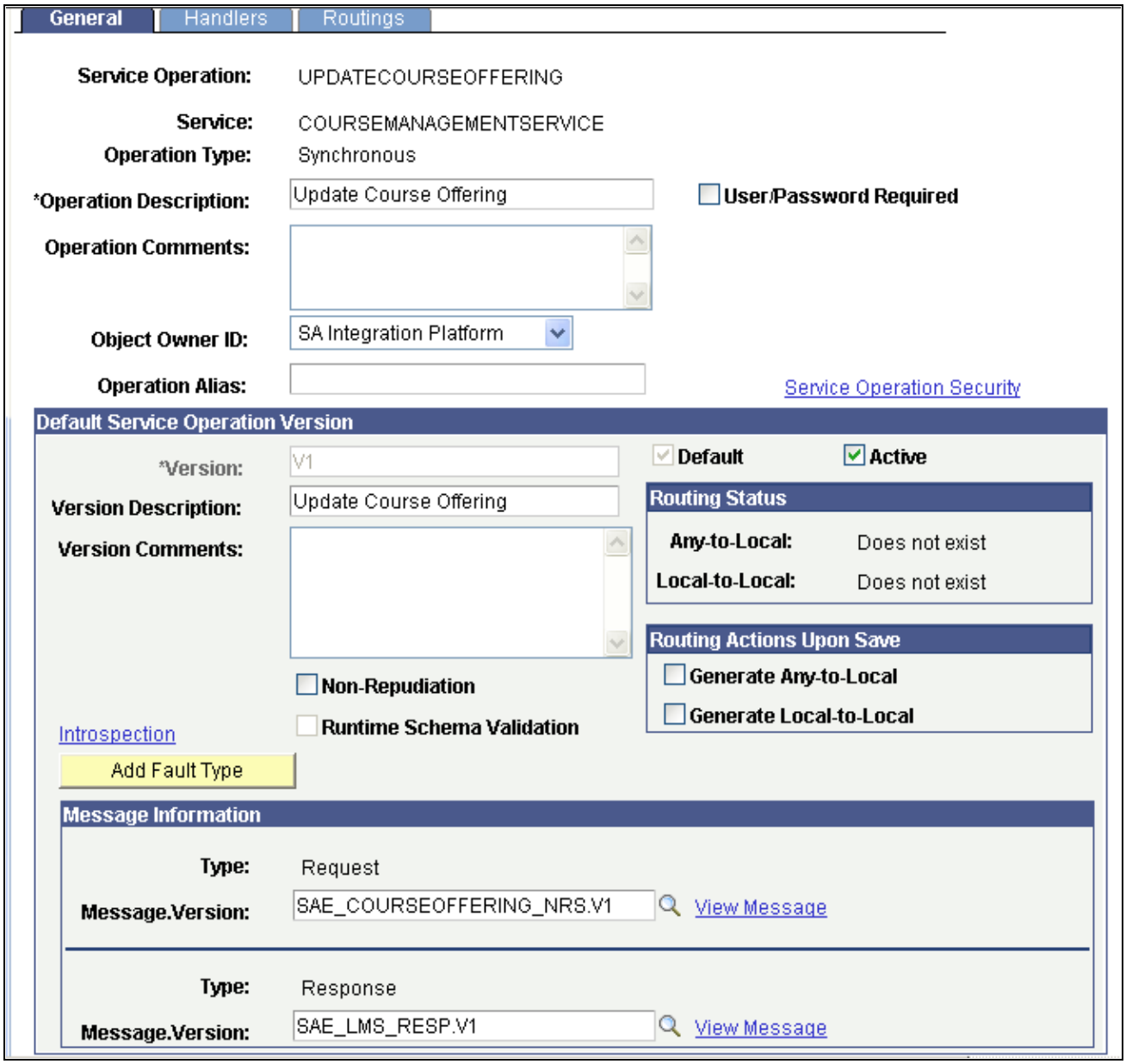

General page

Default Service Operation Version

Active Select to activate the service operation for the SAIP service.

Note. SAIP service operations are delivered inactive. You must activate each service operation that your institution wants to use. Consult the installation documentation for a list of service operations to consider.

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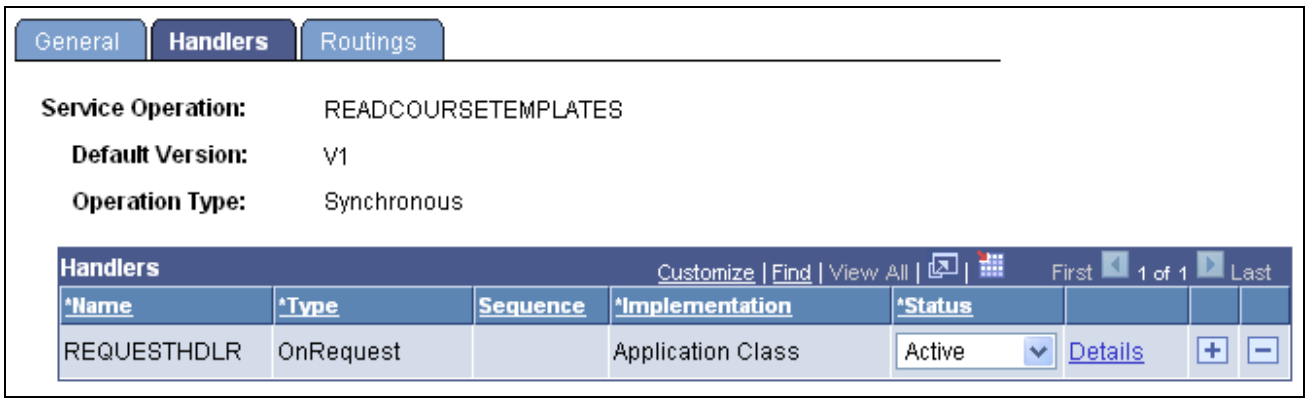
Note. In addition to activating SAIP service operations, ensure that the PERSON_BASIC_SYNC message service operation is set to *Active* and that the PERSON_DATA queue is running. SAIP person-based services depend on the PERSON_BASIC_SYNC message service operation for transforming and routing the SAIP payload.

See *PeopleTools: Integration Broker*, "Managing Service Operation Queues"

Activating an SAIP Handler

Access the Handlers definitions page for the web service handler (PeopleTools, Integration Broker, Integration Setup, Service Operations, Handler Definitions).



Handlers page

Status Select *Active* to activate the handler for the SAIP service operation.

Note. SAIP service operation handlers are delivered inactive. You must activate each service operation handler that your institution wants to use.

Activating an SAIP Routing

Access the Routing Definitions page for the web service routing (PeopleTools, Integration Broker, Integration Setup, Routings, Routing Definitions).

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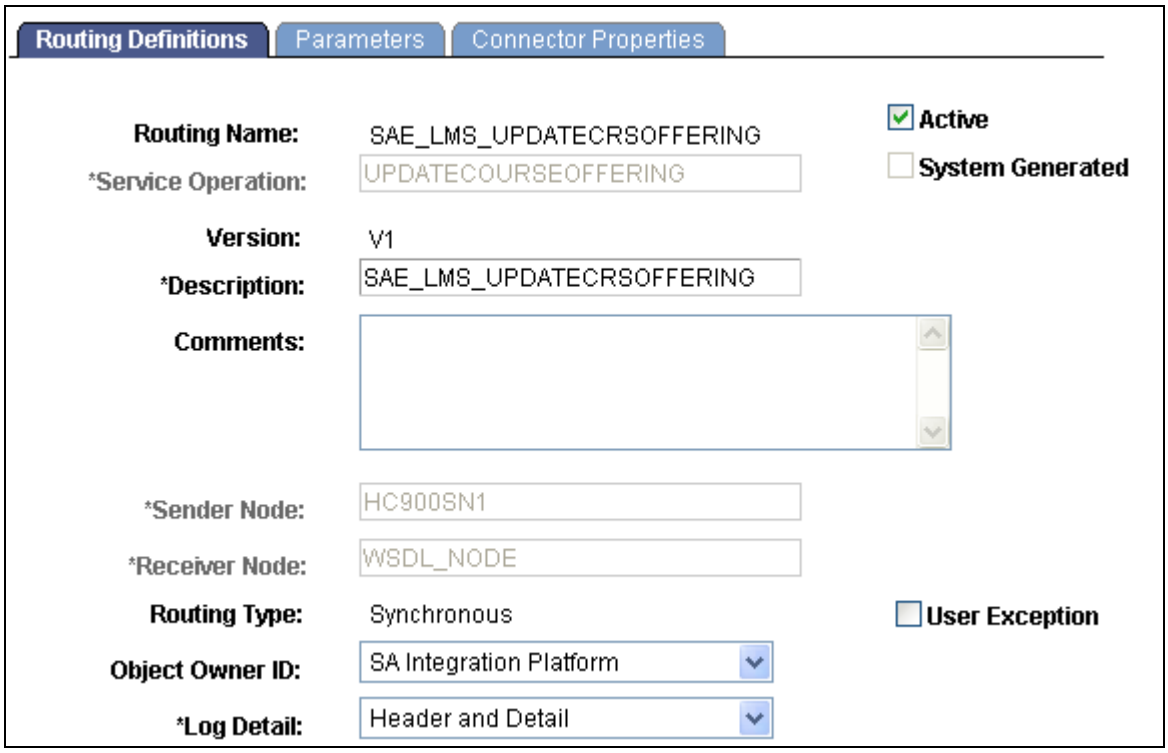

Routing Definitions page

Active Select to activate the routing for the SAIP service operation.

Note. SAIP service operation routings are delivered inactive. You must activate each service operation routing that your institution wants to use.

Setting Up Enrollment and Course Batch Processing

COBOL-based enrollment processes must be set to operate with SAIP.

When the Enrollment Cobol program adds and processes enrollment data, the data is captured by a batch event table. The data in the table is then processed by a daemon that invokes the same logic that the online enrollment components use.

Similarly, the Copy Prior Term's Schedule process, which creates classes automatically for a new term based on previously defined classes, also uses a Cobol program that must be processed by a daemon.

You must set the frequency with which you want the daemon process to run. Prior to setting the frequency, carefully consider the amount of time between updates and your hardware and processing capacity.

These business processes use the batch event table:

- Quick Enroll.
- Repeat Checking.

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- Grade Posting.
- Copy Prior Term's Schedule.

Use the PeopleTools Recurrences (PRCSRECURDEFN) and Schedule JobSet Definition (SCHDLDEFN) components, and the Event Register (SCC_INTEG_EVT_PUB) component to set up Cobol-based enrollment processing for SAIP.

This section discusses how to:

- Set the recurrence frequency.
- Set the event register.
- Set the jobset definition.

Pages Used to Set Up Enrollment and Course Batch Processing

Page Name	*Definition Name*	*Navigation*	*Usage*
Recurrence Definition	PRCSRECURDEFN	PeopleTools, Process Scheduler, Recurrences, Recurrence Definition	Define the SAIP enrollment batch process start date and recurrence frequency.
Event Register	SCC_INT_EVT_PUB	Set Up SACR, System Administration, Integrations, Event Register	Identify the process recurrence frequency for the service operation.
Schedule JobSet Definition	SCHDLDEFN	PeopleTools, Process Scheduler, Schedule Jobset Definitions, Schedule Jobset Definition	Run the Event Replay Schedule load job to set the process recurrence.

Setting the Recurrence Frequency

Access the Recurrence Definition page (PeopleTools, Process Scheduler, Recurrences, Recurrence Definition).

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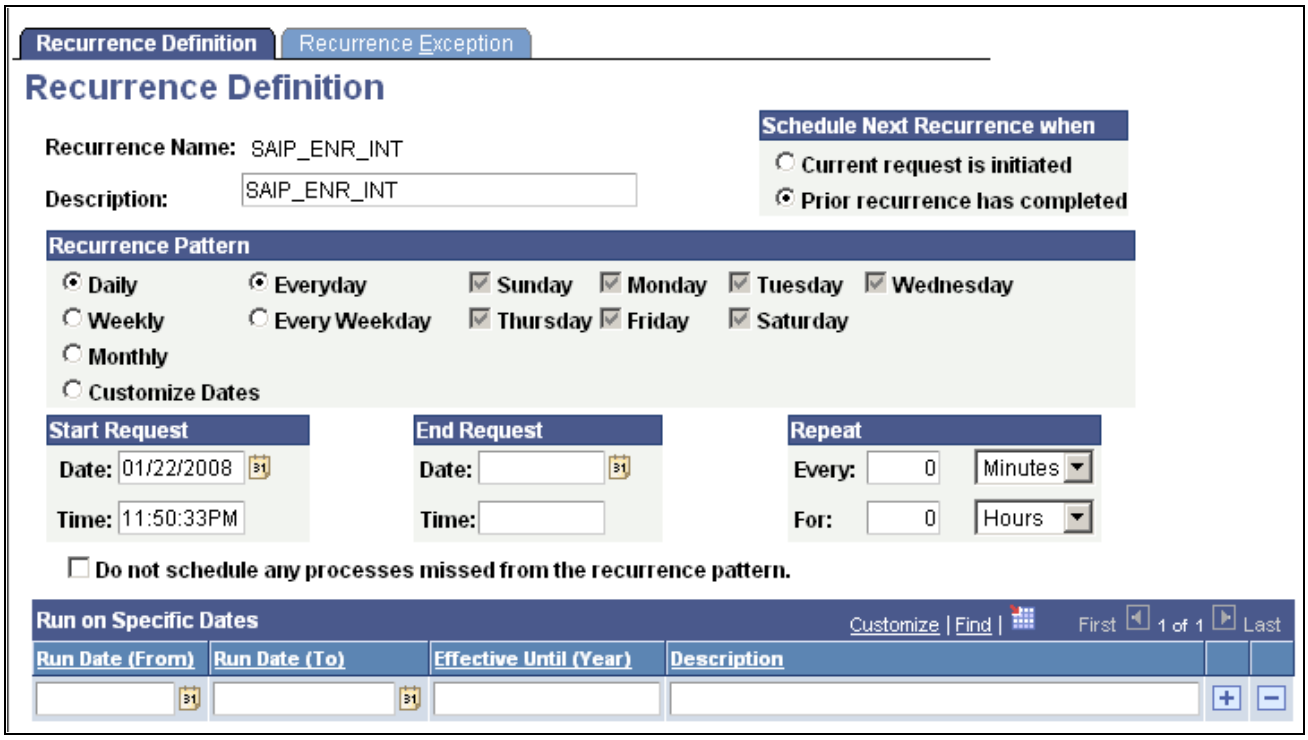

Recurrence Definition page

Use the Recurrence Definition page to set the time and frequency for running the SAIP process. For example, if you want the process to run every night at 11:00 PM beginning today and repeating indefinitely or until you intervene, select the following:

- Daily.
- Everyday.
- Start Request: Date = *Today's date;*Time = *Current time.*
- End Request: (leave blank).
- Repeat:Every = *24hours;*For (leave blank).

If you want to run the process four times a day for the next three months, perhaps to process enrollment data more often, select:

- Daily.
- Everyday.
- Start Request: Date = *Today's date;*Time = *Current time.*
- End Request: (leave blank).
- Repeat:Every = *6hours;*For: = *3months.*

Schedule Next Recurrence when

Select the Prior occurrence has completed option.

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Recurrence Pattern

Select the recurrence frequency that is appropriate for your business needs. Different days of the week are available based on the interval option (daily, weekly, monthly, and so on) that you select.

Start Request

Enter the date and time for the enrollment batch processing to begin.

Repeat

Specify the repetition frequency that is appropriate for your business needs and your hardware and processing capacity.

See Also

PeopleTools: PeopleSoft Process Scheduler, "Defining PeopleSoft Process Scheduler Support Information," Setting Up Recurrence Definitions

Setting the Event Register

Access the Event Registry page (Set Up SACR, System Administration, Integrations, Event Register).

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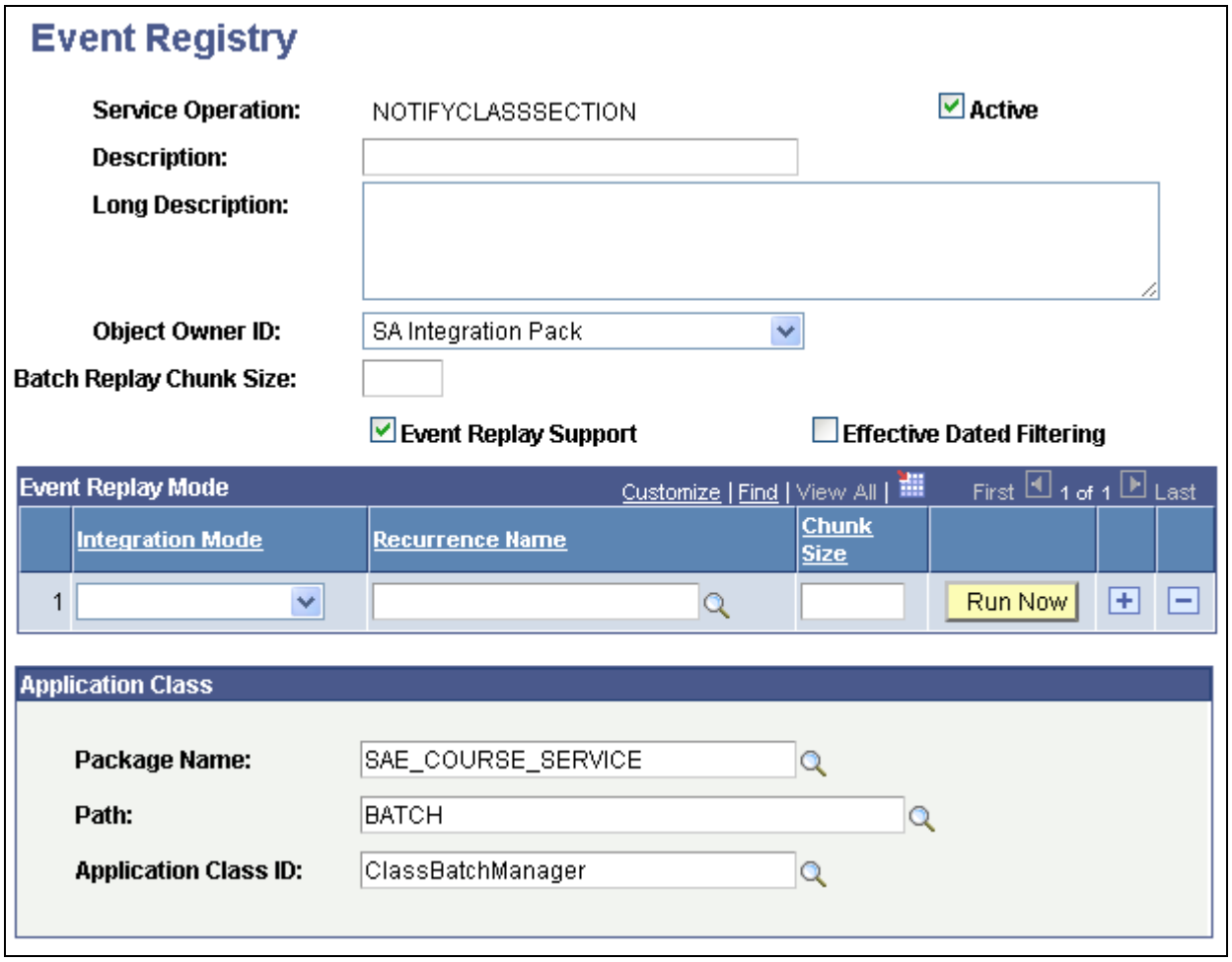

Event Registry page

Service Operation Enter the service operation that you want to register.

For SAIP, you must register these service operations:

- NotifyMembership.
- NotifyClassSection.

Description and **Long Description** Enter descriptions of the service operation. Consider describing its purpose and intended usage.

Object Owner ID Displays the PeopleTools object owner ID that was set when the service operation was defined.

Batch Replay Chunk Size (Not used by SAIP integrations.) Enter the maximum number of rows to send when performing real-time replay of batch updates.

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Event Replay Support Select only if the service operation stores event details in a database table for later replay according to a replay schedule.

When selected, the Event Replay Mode group box appears.

Note. You must select the Event Replay Support check box for each SAIP service operation that you register. Clear the check box if the service operation sends event information immediately.

Clear the check box if the service operation sends event information immediately.

Event Replay Mode

This group box appears only when the Event Replay Support check box is selected.

Integration Mode Enter the mode in which the events should be replayed.

For SAIP event replay, select only the *Incremental* integration mode.

Recurrence Name Enter the Process Scheduler recurrence definition that defines the frequency with which you want the events to replay.

Chunk Size Enter the maximum number of rows of outgoing event message data to send at a time.

Run Now Click to schedule and run a real-time event replay.

Application Class

Package Name, Path, and **Class ID** Enter the name of the application class root package that contains the PeopleCode class for this service operation.

Page Enter the path to specified application class root package.

Class ID Enter the ID for the application class PeopleCode that provides the service operation implementation.

Setting the Jobset Definition

Access the Schedule JobSet Definition page (PeopleTools, Process Scheduler, Schedule Jobset Definitions, Schedule Jobset Definition).

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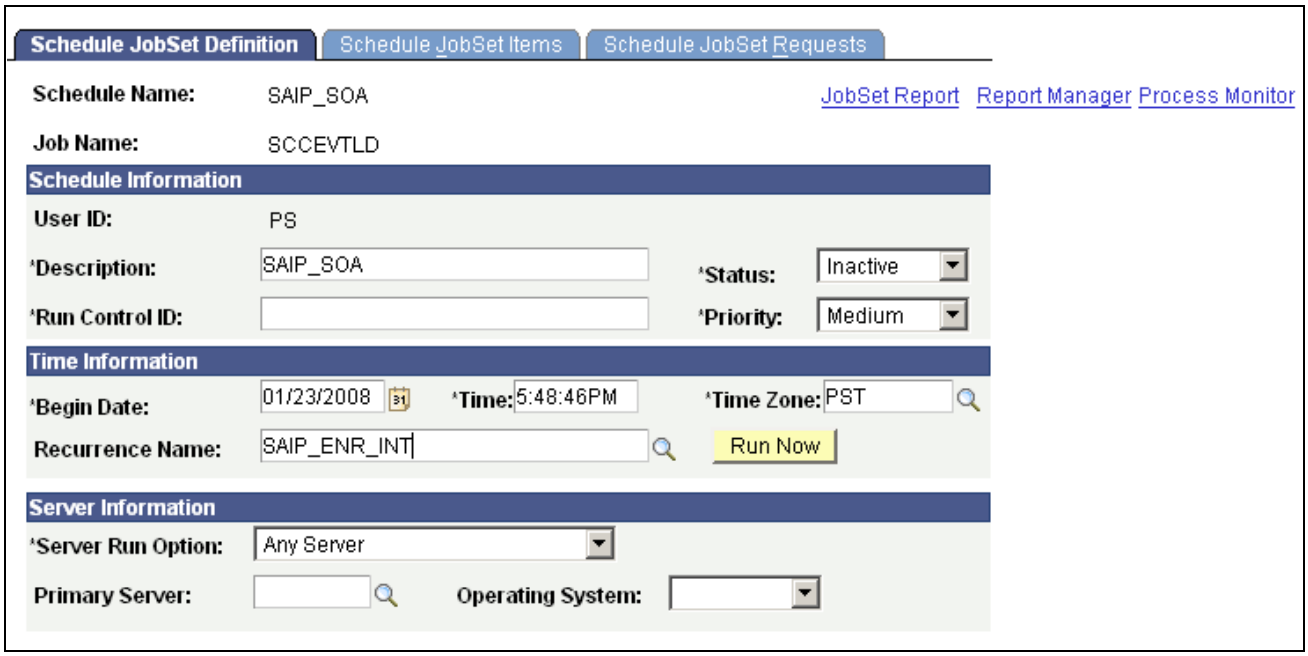

Schedule JobSet Definition page

If the Event Replay Support check box is selected on the Event Registry page, then the Campus Integration framework Event Replay Schedule Load job (SCCEVTLD) with the desired recurrence name is required.

Note. This job must run at installation and at any time that the recurrence name on the Event Registry page changes.

SCCEVTLD evaluates the event registry for integration points that support event replay. For each potential event replay integration point, SCCEVTLD loads a new Process Scheduler recurring job with the recurrence schedule that is specified on the corresponding service operation's Event Registry page. At the specified time, the loaded job runs and subsequently replays event data stored for that integration point.

Create a schedule name, and schedule the Event Replay Schedule Load job, SCCEVTLD. Enter the recurrence name for the frequency at which the events should replay.

See *PeopleTools: PeopleSoft Process Scheduler*, "Defining Jobs and JobSets," Creating Scheduled JobSet Definitions

Time Information

Recurrence Name Enter the name of the recurrence pattern that is set on the Recurrences Definition page for this service operation.

Run the process as you would any Process Scheduler job.

See *PeopleTools: PeopleSoft Process Scheduler*, "Defining Jobs and JobSets," Monitoring Jobs and JobSets

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Chapter 4

Managing Multitarget Integration

This chapter provides an overview of multitarget integration and discusses how to:

- Add a target.
- Set up person mapping.
- Set default targets at the academic institution level.
- Set default targets at the academic organization level.
- Set targets at the section level.
- Synchronize SAIP extension tables.

Understanding Multitarget Integration

Multitarget integration functionality is intended to support campuses that need to provision course roster information into more than one system. For example, they may have a secondary LMS that is used by one or more departments, or an individual faculty member may wish to provision her class into a Web 2.0 tool in addition to the LMS. While previous versions of the SAIP allowed more than one target to receive data, all targets would receive the same data on the same schedule. It was designed to support only one target. Multitarget integration provides a number of enhancements over the previous design:

- It is now possible to use both the web service and LDAP bindings simultaneously.
- Different course sections may be assigned to different targets.
- Each target can have its own settings, for example, frequency and method of update (batch or event-driven), defined end points, etc.
- Cascading preferences for targets may be set at the academic institution and academic organization levels.
- Sections can be published to more than one target.
- Grade return and event-driven updates are now supported on a per-target basis for the web service binding.
- If a section is published to more than one target that supports grade return, then a preferred grade return target can be chosen.

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Note. While SAIP does support publishing the same section to more than one target, it is advisable for performance reasons to limit the number of targets per section to two or three as a general rule. If sections are going to be provisioned to 4 or more targets on a routine basis, it may be advisable to consider using SAIP to provision into an Identity Management System.

Targeting

In earlier versions of SAIP, the process of selecting course sections for inclusion in the integration is called "scoping." Scoping is still present in SAIP, but there is also a second process called "targeting". Targeting is when one or more external systems (for example, an LMS, Facebook, a portal) are designated as the integration end points. The process within SAIP works as follows:

1. First sections are "set in scope," meaning that they are designated as ready to be sent to some external systems via SAIP.
2. Once they are set in scope, sections are then "targeted," meaning that they are assigned to specific external systems for integration.

Note. Course section records will not be sent until a course section has *both* been set in scope *and* targeted.

Targets may optionally support grade return. If a section has more than one target that supports grade return, then SAIP provides a functional interface to choose the preferred source of grade import data.

Target Versioning and Legacy Targets

The earliest version of SAIP web services only supported integration with a single target. The introduction of support for multiple targets necessitated some architectural changes and the way in which the SAIP interacted with targets; similarly, the introduction of new capabilities such as producer initiated snapshots and grade push integration also change the way in which you might need to think about the SAIP.

In defining targets, you will now see three versions of the web services: 1.0, 1.5, and 2.0. In targets designed to work with the 1.0 service versions, no target identifier is included as part of the request/response interchange. If the target does not provide this request parameter, and if SAIP has a web service target set up to use the 1.0 version of the binding, then the system will assume that the requesting target is the one that has been identified as using the 1.0 binding. This is why SAIP can only support one target using the 1.0 web service binding. SAIP web services version 1.5 was modified to support multitarget integration, though it only supported a consumer-requested snapshot model. Because of this, target systems must provide target ID as a request parameter, to provide SAIP with a way to know which data set to prepare for the target.

SAIP services version 2.0 support a producer-initiated snapshot model, which obviates the need for the target system to define and send a target ID as a request parameter. Instead, the targeting is specified using a set of IMS LIS attributes modeled after the WS-Addressing elements.

To assist you in properly integrating with targets supporting different levels of capability, SAIP includes a per-target binding version.

Note. In version 1.5 and 2.0, SAIP does not distinguish between Create or Update messages. In version 1.5, any message other than a Delete is sent as a Create; in version 2.0 any message other than a Delete is sent as a Replace, in compliance with the final IMS LIS specification.

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Cascading Defaults

As with scoping, the targeting mechanism in SAIP has cascading defaults. For example, LMS A can be added as a default target to the PeopleSoft University academic institution and have it cascade down to the biology academic organization and the Biology 101 Fall 2010 class section. However, there are some important differences in the details of how the cascading defaults work:

- Because multitarget allows one section (or academic organization) to have more than one target, it is possible to add targets at the academic organization or class section level in addition to the defaults provided at the academic institution level.
- Combined sections inherit targets from all of their constituent sections.

  If a target has been set for one of the combined sections, then it will apply to all of them.
- For performance reasons, defaults set at the academic institution or academic organization level cannot be deleted at the section level.

  Instead, they are inactivated.

Adding a Target

This section discusses how to add SAIP targets.

Page Used to Add Targets

Page Name	*Definition Name*	*Navigation*	*Usage*
SAIP Target Setup	SAE_TARGET_GENERAL	Set Up SACR, Product Related, SA Integration Pack, Set Up Targets, Web Service Targets	Set up web service targets.

Adding a Target

Access the SAIP Target Setup page (Set Up SACR, Product Related, SA Integration Pack, Set Up Targets, Web Service Targets).

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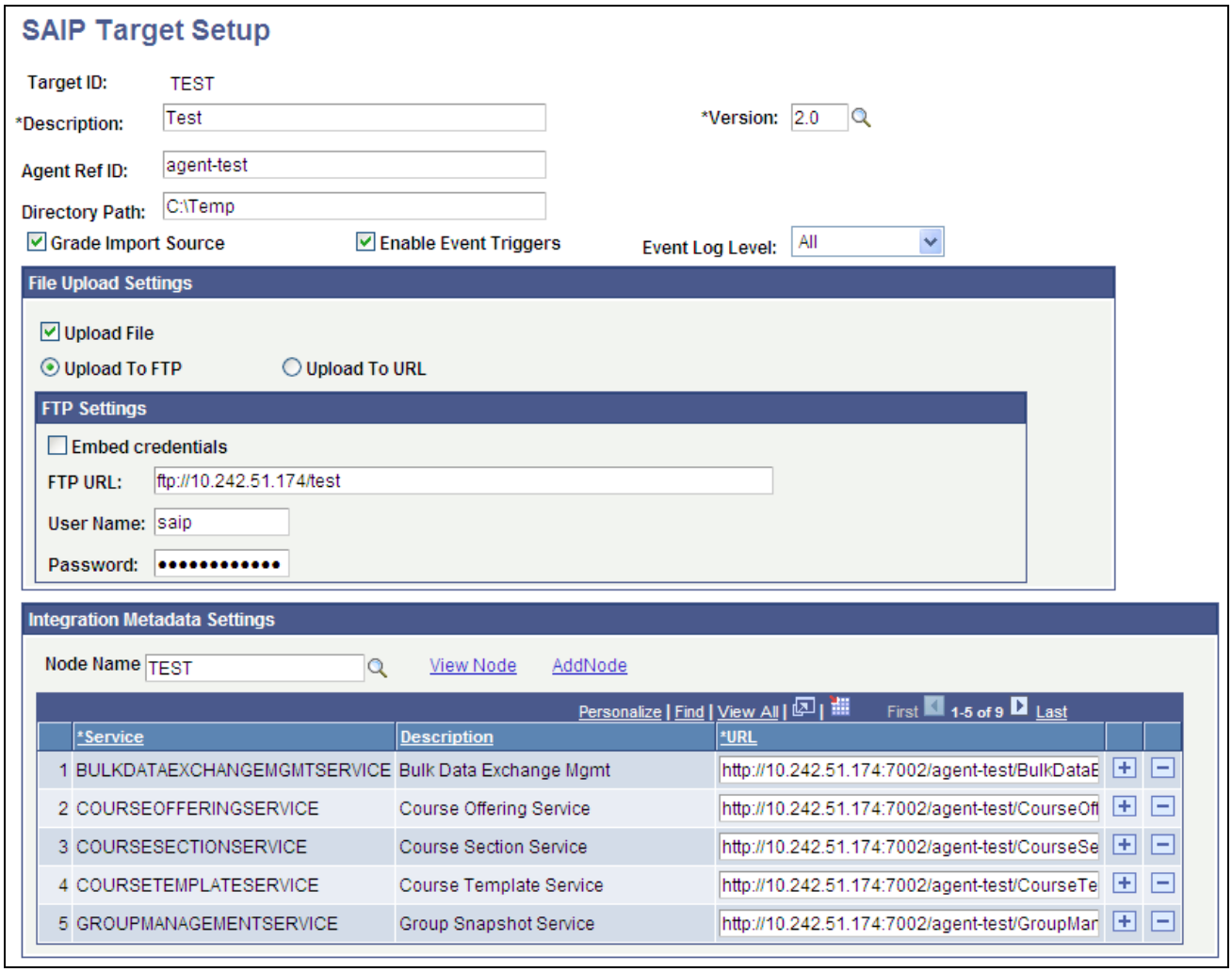

SAIP Target Setup page

SAIP will autogenerate the routings in Integration Broker for each target.

Target ID Set the target ID.

Description Set the target description.

Directory Path If you want SAIP to place the snapshot XML file in file, you must specify that path here. If no directory path is specified, the XML file is placed in the application server's TEMP folder.

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Grade Import Source Select to define the target as the source for the import of final grades into the grade roster.

When this check box is selected, the Grade Import group box and the Import Grades button appear on the Grade Roster page (GRADE_ROSTER_TYPE) in the Student Records Grade Roster component (GRADE_ROSTER) and on the grade roster page in faculty self-service (SS_GRADE_ROSTER), *provided that grade import has also been enabled on the SAIP Installation page (SAE_SETUP).*

You must click the Import Grades button on the Grade Roster page to run the import.

When the check box is not selected, grade import is not available.

You can select or clear this check box at any time after initialization without consequence.

Enable Event Triggers Select to enable all of the event-based triggers that are delivered preset within the SAIP system.

Note. The Target ID must be globally unique across both LDAP and web service bindings.

File Upload Settings: Upload to FTP

When you select the Upload to FTP option, the FTP Settings group box becomes available:

Embed Credentials Select to embed FTP credentials in the response URL.

When an external system requests either a full or incremental snapshot, the SAIP generates the snapshot, places the snapshot in the specified destination, and returns a response to the requesting system that includes a URL to the snapshot's location. If that location is an FTP server, you may determine the authorization mechanism for access to the snapshot.

When selected, the user name and password defined for the FTP URL are included in the response URL, enabling the requesting system to directly access the snapshot using just the URL.

If not selected, you must configure your environment to otherwise allow the requesting system to log in to the FTP server to access the snapshot.

FTP URL, User Name, and **Password** If you want SAIP to place the snapshot on an FTP server, you must identify the server and settings here.

If you select Upload to FTP, and a directory path is provided, the process looks for the XML file in the specified directory path, and uploads it from there.

If you select Upload to FTP, but do not provide the directory path, the process looks for the XML file in the application server's TEMP folder, and uploads it from there.

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File Upload Settings: Upload to URL

With PeopleTools 8.51.07 and later, SAIP can use protocols such as FTPS, SFTP, HTTP and HTTPS to upload snapshot files.

The HTTP and HTTPS protocols allow you to use a web server for file transfer (for example, using a Java file upload servlet). The secure protocols such as FTPS provide a method for file transfer that is compliant with many university security policies. In the case where the target system is hosted by a third party, these secure file transfer protocols are typically required.

When you select the Upload to URL option, the URL Settings group box becomes available:

URL Identifier	Enter or search for the URL Identifier for your SAIP file uploads. This URL is configured through PeopleTools URL Administration. (See PeopleTools documentation for adding a new URL.) If you are using a secure protocol such as HTTPS or SFTP, ensure the appropriate digital certificates have been imported (See PeopleTools documentation for Digital Certificates).
View URLID and **Add URLID**	After you enter your URL identifier, you can click the View URLID link to see the properties and make modifications. You can also click the Add URLID link which takes you directly to URL Maintenance where you can add a new URL Identifier.

For further information about configuring URLs and secure URLs:

See *PeopleTools: System and Server Administration*, Using PeopleTools Utilities, Using Administration Utilities, URL Maintenance

Integration Metadata Settings

These settings provide information for the Integration Broker routings.

Node Name	Select the Integration Broker node to be used for this target. Because each node represents an end point, you will need one node per target. SAIP can share a node with other integration processes for the same target, however. At a minimum, SAIP needs to have the Description and Valid Default User ID fields populated, and the Node Type set to PIA.

Enter the target's endpoint URL for each of the services required by SAIP.

The required services differ between Version 1.5 and Version 2.0.

Version 1.5 target setup required services are:

- BULKDATAEXCHANGEMGMTSERVICE
- COURSEMGMTSERVICE
- GROUPMANAGEMENTSERVICE
- MEMBERSHIPMANAGEMENTSERVICE

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- PERSONMANAGEMENTSERVCE
- OUTCOMESERVICE

Version 2.0 target setup required services are:

- BULKDATAEXCHANGEMGMTSERVICE
- GROUPMANAGEMENTSERVICE
- MEMBERSHIPMANAGEMENTSERVICE
- PERSONMANAGEMENTSERVCE
- OUTCOMESERVICE
- COURSETEMPLATESERVICE
- COURSEOFFERINGSERVICE
- COURSESECTIONSERVICE
- SECTIONASSOCIATIONSERVICE

Once the URLs have been entered, press Generate Routings to finish the target setup.

See Also

Chapter 9, "Setting Up and Using LDAP Integration," page 87

Setting Up Person Mapping

This section provides an overview of person mapping and discusses how to:

- Define pre-version 2 mapping.
- Define version 2 mapping.

Understanding Person Mapping

Person Mapping allows you to define how core Person names and contact information in Campus Solutions is mapped to the outgoing Person payload data model and thus how that information is provided to the external system. Two distinct Person Mappings exist, depending on the services version of the target that has been chosen. These are designated as the pre-v2 Person Mapping and v2 Person Mappings.

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Pre-v2 Person Mapping provides for a single value to be mapped and passed for each Person information element. For example, to map a value to the IMS Address element, one Campus Solutions address can be selected to be sent to the target system. In order to provide the greatest flexibility and to account for variability of available data based on data types in Campus Solutions, pre-v2 Person Mapping makes use of delivered Campus Solutions Usages functionality, which allows you to define a hierarchical set of types which the system will loop through until it finds a value. All targets that are defined as version 1.0 or version 1.5 will make use of the mappings provided under pre-v2 Person Mapping, there is no distinction by target.

V2 Person Mapping allows for an increased flexibility both around attribute level mapping as well as mapping by target. Rather than defining a single value to be mapped, institutions can create a correspondence between defined IMS LIS specification types and data types within their Campus Solutions implementation. This means that more than one value for each attribute can be sent to the target system, such as multiple addresses, emails, etc. It also means that the mapping for one target can be different than the mapping for another target, if you have multiple targets in your ecosystem. Only targets defined as 2.0 will be available in the v2 Person Mapping component.

Pages Used to Set Up Person Mapping

Page Name	*Definition Name*	*Navigation*	*Usage*
Pre-v2 Person Mapping	SAE_V1_PRSN_MAP	Set Up SACR, Product Related, SA Integration Pack, Set Up Targets, Pre-v2 Person Mapping	Define person mapping for pre-version 2 targets.
Person Mapping	SAE_PERSON_MAPPING	Set Up SACR, Product Related, SA Integration Pack, Set Up Targets, v2 Person Mapping	Define person mapping for version 2 targets.

Defining Pre-Version 2 Mapping

Access the Pre-v2 Person Mapping page (Set Up SACR, Product Related, SA Integration Pack, Set Up Targets, Pre-v2 Person Mapping).

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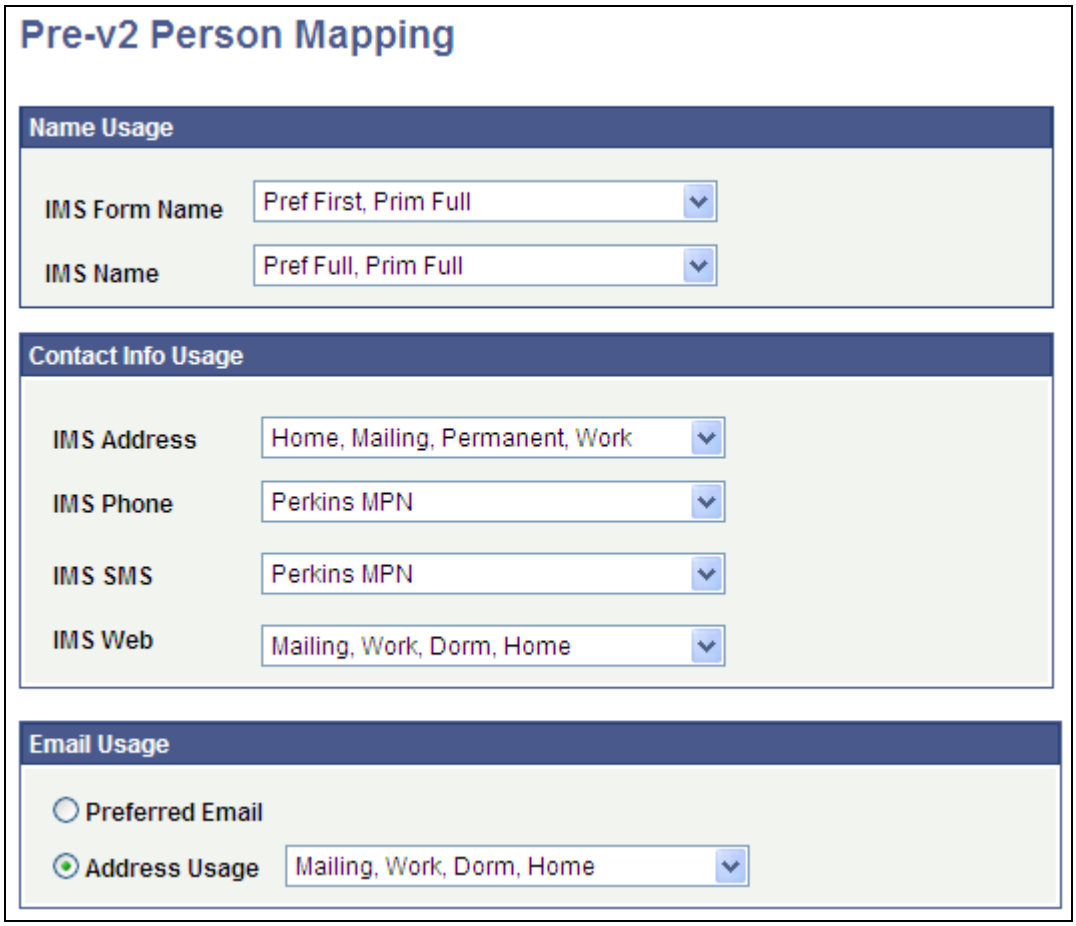

Pre-v2 Person Mapping page

Enter the name, contact, and email usages to use. The name, phone, email and address usages available for selection are the usages defined in your PeopleSoft Campus Solutions system.

See *PeopleSoft Campus Community 9.0 Fundamentals PeopleBook*, "Designing Campus Community."

Note. All targets not defined as v2 targets during the SAIP Target Setup process will use the mapping defined here.

Name Usage

IMS Form Name Enter the usage to use to identify an individual's formatted name at the top of the IMS form

IMS Name Enter the usage to use for an individual's name as it should appear elsewhere on the IMS form.

Contact Info Usage

IMS Address Enter the usage to use for an individual's address information.

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IMS Phone	Enter the usage to use for an individual's telephone information.
IMS SMS	Enter the usage to use for an individual's text messaging address.
IMS Web	Enter the usage to use for an individual's URL address.

Email Usage

Preferred Email or **Address Usage**	Select either the *Preferred Email* option for SAIP to always use the preferred email address for individuals, or select the *Address Usage* option and specify the email type to use.

Defining Version 2 Mapping

Access the Person Mapping page (Set Up SACR, Product Related, SA Integration Pack, Set Up Targets, v2 Person Mapping).

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Person Mapping page

Note. Only targets defined as v2 during the SAIP Target Setup process will be available in the search results for the component search page.

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Name Type Mapping

LIS Name Type Enter the IMS LIS Name Type that you want to populate with a corresponding Campus Solutions name value.

Name Type Enter the Campus Solutions name type value that you would like to map to the corresponding LIS Name Type's attribute value.

Note. The LIS Name Type *Full* is delivered as mapped to the Campus Solutions Primary type and is not available for editing. Changing this delivered mapping could create unexpected errors in your SAIP integration.

Formatted Name Type Mapping

LIS Name Type Enter the IMS LIS Name Type that you want to populate with a corresponding Campus Solutions name value.

Name Type Enter the Campus Solutions name type value that you want to map to the corresponding LIS Name Type's attribute value.

Note. The LIS Name Type *Full* is delivered as mapped to the Campus Solutions Full type and is not available for editing. Changing this delivered mapping could create unexpected errors in your SAIP integration.

Address Type Mapping

LIS Address Type Enter the IMS LIS Address Type that you would like to populate with a corresponding Campus Solutions address value.

Address Type Enter the Campus Solutions address type value that you want to map to the corresponding LIS Address Type's attribute value.

Contact Info Type Mapping

Phone

LIS Contact Info Type Enter the IMS LIS Contact Info Type that you want to populate with a corresponding Campus Solutions Phone value.

Phone Type Enter the Campus Solutions Phone type value that you want to map to the corresponding Phone LIS Contact Info Type's attribute value.

Note. The Phone LIS Contact Info Type "Telephone" is delivered as mapped to the Campus Solutions Preferred Phone type and is not available for editing. Changing this delivered mapping could create unexpected errors in your SAIP integration.

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Email

LIS Contact Info Type Enter the IMS LIS Contact Info Type that you want to populate with a corresponding Campus Solutions Email value.

Email Type Enter the Campus Solutions Email type value that you want to map to the corresponding Email LIS Contact Info Type's attribute value.

Note. The Email LIS Telephone Type "EmailPrimary" is delivered as mapped to the Campus Solutions Preferred Email type and is not available for editing. Changing this delivered mapping could create unexpected errors in your SAIP integration.

Web Address

LIS Contact Info Type Enter the IMS LIS Contact Info Type that you want to populate with a corresponding Campus Solutions Email value that your implementation is using to designate a Web address.

Email Type Enter the Campus Solutions Email type that your implementation is using to designate a Web address, and the value that you want to map to the corresponding WebAddress LIS Contact Info Type's attribute value.

Setting Default Targets at the Academic Institution Level

This section discusses how to define targets at the academic institution level.

Pages Used to Set Default Targets at the Academic Institution Level

Page Name	*Definition Name*	*Navigation*	*Usage*
SAIP Targeting - Academic Institution Level	SAE_INST_TARGET	Set Up SACR, Product Related, SA Integration Pack, Default Targets, Academic Institutions	Set default targets at the academic institution level. These targets may be effective dated.
Institution SAIP Target - History	SAE_INST_TRGT_HIST	Click the Edit/View SAIP Target Details link on the SAIP Targeting – Academic Institution Level page.	View institution target history.

Setting Default Targets at the Academic Institution Level

Access the SAIP Targeting – Academic Institution Level page (Set Up SACR, Product Related, SA Integration Pack, Default Targets, Academic Institutions).

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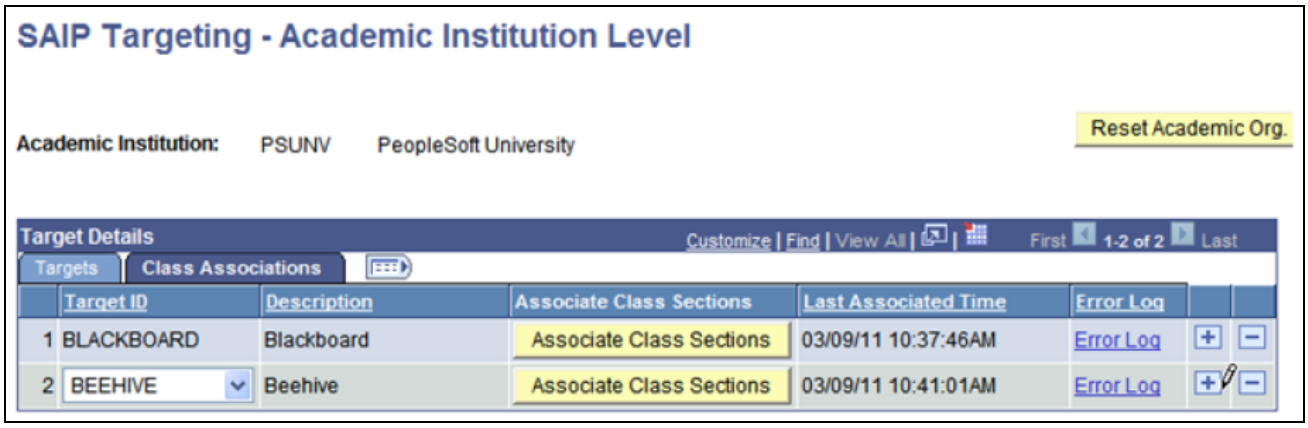

SAIP Targeting – Academic Institution Level page

Note. SAIP does not allow sections to participate in more than one association simultaneously. If a section being added to an associated group of class sections or combined sections already participates in an Ad Hoc association, then an error message will be displayed and the component will not save.

The action of associating combined sections at the Academic Institution target level generates an error log and a time stamp on the Class Associations tab.

Targets may be added from the list of targets that have been enabled on the SAIP Target Setup Page (SAE_TARGET_GENERAL) and the LDAP Targets page (SAE_LDAP_TARGETS).

Reset Academic Org. Setup Remove any targets at the Academic Organization level that have not cascaded down from the Academic Institution level.

Edit/View SAIP Target Details Add an effective date for activating or deactivating a target default. While a target is inactivated, integration information will no longer be sent to the target.

Associate Class Sections Individual targets will only pick up section associations that are created after the target has been set. Click this button to ensure that preexisting IMS Associations are sent to the target. (In large databases, this process can take some time.)

Last Associated Time Displays the date and time that combined sections were associated.

Error Log Click this link to access the Section Association Error Log page showing association conflict errors.

See Also

Chapter 3, "Setting Up SAIP," Viewing Section Association Errors, page 18

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Setting Default Targets at the Academic Organization Level

This section discusses how to define targets at the academic organization level.

Pages Used to Set Default Targets at the Academic Organization Level

Page Name	*Definition Name*	*Navigation*	*Usage*
SAIP Targeting - Academic Organization Level	SAE_ACAD_TARGET	Set Up SACR, Product Related, SA Integration Pack, Default Targets, SAIP Targeting – Academic Organizations	Set default targets at the academic institution level. These targets may be effective dated.
Acad Org SAIP Target - History	SAE_ACAD_TRGT_HIST	Click the Edit/View SAIP Target Details link on the SAIP Targeting – Academic Organization Level page.	View academic organization target history.

Setting Default Targets at the Academic Organization Level

Access the SAIP Targeting – Academic Organization Level page (Set Up SACR, Product Related, SA Integration Pack, Default Targets, Academic Organizations).

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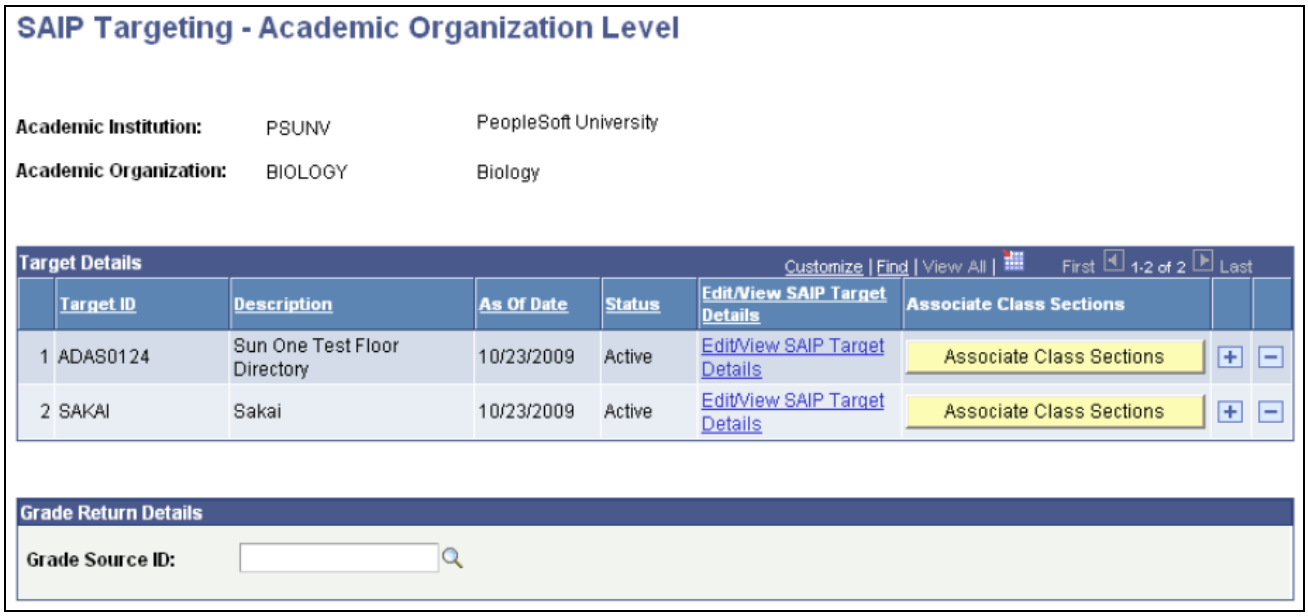

SAIP Targeting - Academic Organization Level page

Targets may be added from the list of targets that have been enabled on the SAIP Target Setup Page (SAE_TARGET_GENERAL) and the LDAP Targets page (SAE_LDAP_TARGETS). Targets that have already been added to the parent Academic Institution will appear automatically. They may be removed at the Academic Organization level.

Edit/View SAIP Target Details Add an effective date for activating or deactivating a target default. While a target is inactivated, integration information will no longer be sent to the target.

Associate Class Sections Individual targets will only pick up section associations that are created after the target has been set. Click this button to ensure that preexisting IMS Associations are sent to the target. (In large databases, this process can take some time.)

Grade Source ID Add a source for final grade imports from the list of default and additional targets for the section that been enabled for grade import on the SAIP Target Setup Page (SAE_TARGET_GENERAL).

Setting Targets at the Section Level

This section discusses how to set class targets.

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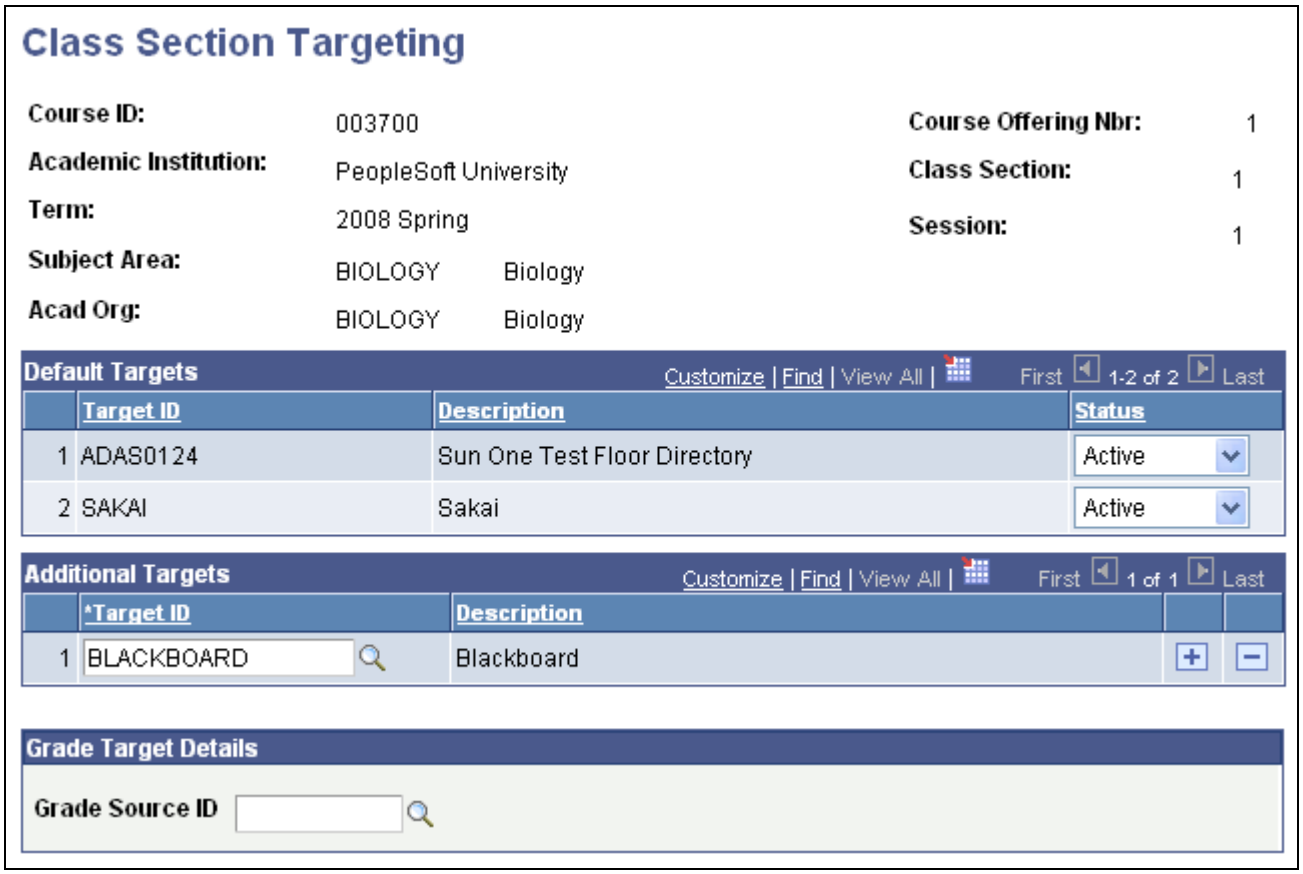
Page Used to Set Targets at the Section Level

Page Name	*Definition Name*	*Navigation*	*Usage*
Class Section Targeting	SAE_CLS_TARGET	Curriculum Management, Schedule of Classes, SA Integration Pack, Class Targets	Add or edit targets for a class.

Setting Targets at the Section Level

Access the Class Section Targeting page (Curriculum Management, Schedule of Classes, SA Integration Pack, Class Targets).



Class Section Targeting page

Default Targets

Set targets defaulted from the academic institution or academic organization level to active or inactive. For performance reasons, targets set at the Academic Institution or Academic Organization level may not be deleted at the Class Section level. However, setting those targets to *Inactive* will prevent data from being sent to them.

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Additional Targets	Add section-specific targets from a list of available targets.
Grade Source ID	Add a source for final grade imports from the list of default and additional targets for the section that been enabled for grade import on the SAIP Target Setup Page (SAE_TARGET_GENERAL).

Synchronizing SAIP Extension Tables

SAIP maintains extension tables to keep track of events that must be shared with one or more targets. However, these extension tables can occasionally lose synchronization with the parent tables. The most common cause is customizations to Student Administration that creates events that are not trapped by SAIP. For this reason, SAIP now includes a utility for re-synchronizing the extension tables.

To use this utility, go to the System Process Requests component (PeopleTools, System Schedule, System Process Requests) and run the SAE_EXT_SYNC Application Engine process.

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Chapter 5

Mapping Course Elements for Course Sites

If the institution, organization, and term are in scope, then you can include or exclude class sections, and combined sections to create a course site for each class section or create a single course site for associated sections.

This chapter discusses how to:

- Map and associate class sections.
- Map combined sections.
- Associate ad hoc sections.
- Generate the SAIP Class Integration report.

Mapping and Associating Class Sections

This section discusses how to map and associate class sections.

Page Used to Map and Associate Class Sections

Page Name	*Definition Name*	*Navigation*	*Usage*
Class Scoping and Association	SAE_CLASS_CONFIG	Curriculum Management, Schedule of Classes, SA Integration Pack, Scoping and Association	Identify and associate class sections to create course sites for a course.
Class Scoping and Association - Integration Status	SAE_CLS_SCOPE_STAT	Click the link in the Integration Status column on the Class Scoping and Association page.	Display the scope status of the criteria that determine overall integration status.

Mapping and Associating Class Sections

Access the Class Scoping and Association page (Curriculum Management, Schedule of Classes, SA Integration Pack, Scoping and Association).

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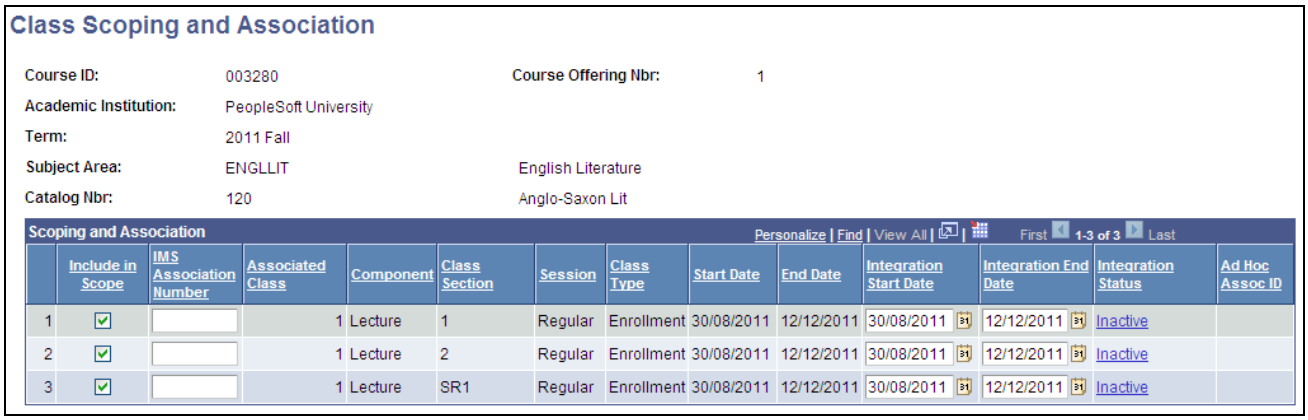

Class Scoping and Association

Course ID: 003280 Course Offering Nbr: 1
Academic Institution: PeopleSoft University
Term: 2011 Fall
Subject Area: ENGLLIT English Literature
Catalog Nbr: 120 Anglo-Saxon Lit

Scoping and Association — Personalize | Find | View All | First 1-3 of 3 Last

	Include in Scope	IMS Association Number	Associated Class	Component	Class Section	Session	Class Type	Start Date	End Date	Integration Start Date	Integration End Date	Integration Status	Ad Hoc Assoc ID
1	☑		1	Lecture	1	Regular	Enrollment	30/08/2011	12/12/2011	30/08/2011	12/12/2011	Inactive	
2	☑		1	Lecture	2	Regular	Enrollment	30/08/2011	12/12/2011	30/08/2011	12/12/2011	Inactive	
3	☑		1	Lecture	SR1	Regular	Enrollment	30/08/2011	12/12/2011	30/08/2011	12/12/2011	Inactive	

Class Scoping and Association page

Include in Scope

Select to include the class section in the next snapshot or next event-based transfer. When this check box is selected, SAIP continues to transfer and update the class section until it is manually excluded from scope.

The system automatically selects this check box if the class section is currently included in scope whether it was set automatically as the result of a default installation setting, or set manually at the element level.

Clear to exclude the class section in the snapshot transfer and event-based transfers. When this check box is cleared, SAIP ignores the class section and any changes to it.

If the class section was previously transferred and you clear the Include in Scope check box, then the class section remains in the course site. SAIP will not send a message to delete the course section, however any changes made to the course section in the Campus Solutions system will also not be reflected in the external system course site.

IMS Association Number

Enter a number (up to four digits) to uniquely identify each course site that you want to appear in the LMS or other target system. Enter the same number for each of the rows that you want to appear in the same course site. If the field for a given row is left blank or if it assigned an IMS association number that is not shared by any other row, then the row is sent as its own course site.

Associated Class

Displays the Associated Number value from the Class Association page.

See *PeopleSoft Student Records 9.0 PeopleBook*, "Managing the Schedule of Classes," Defining Class Associations.

Note. If the Default IMS Association from Class Association check box is selected on the Scoping and Association page, then for each newly created section SAIP enters each class section's Associated Class value from the Class Association page in PeopleSoft Student Records. You can override the number to associate class sections differently for the external system course site.

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Integration Start Date	When a class section is in scope, it becomes active on the Integration Start Date. This date is initially calculated based on the Class Start Date plus/minus the Integration Offset. The Integration Offset is cascaded down from the Session level. You can manually change the integration start date on this page to override the defaults. After this date has been manually set, it is stored and can only be reset by manually changing it on this page or by clicking the Reset All Sections button on the Term Integration Dating page (Set Up SACR, Foundation Tables, Term Setup, Term/Session Table).
Integration End Date	When a class section is in scope, it becomes inactive on the Integration End Date. This date is initially calculated based on the Class End Date plus/minus the Integration Offset. The Integration Offset is cascaded down from the Session level. You can manually change the integration end date on this page to override the defaults. After this date has been manually set, it is stored and can only be reset by manually changing it on this page or by clicking the Reset All Sections button located on the Term Integration Dating page (Set Up SACR, Foundation Tables, Term Setup, Term/Session Table).
Integration Status	The link in this column indicates the state of readiness (Active or Inactive) of the class section to participate in the integration. A status of Active indicates that all items are in scope (including the class section itself for which the Include in Scope check box must be selected) and the class section is available to the integration. A status of Inactive indicates that at least one item is not in scope, and the class section information cannot be transmitted to an external system. Click the link to access the Integration Status page where you can view detail status for relevant criteria for the class section.
Add Hoc Assoc ID	When a class section is set to participate in an Ad Hoc Section Association, the Ad Hoc Section Association ID appears here. Click on the AD Hoc Association ID to view/edit the Associated Sections.
Include All	Click to select the Include in Scope check box for all rows.
Use Class Association	Click to set all rows to theirAssociated Number values from the Class Association page in PeopleSoft Student Records.

All other fields on this page are from Student Records components under the Curriculum Management menu.

See Chapter 3, "Setting Up SAIP," Setting Default SAIP Scoping and Association Values, page 13.

See Chapter 3, "Setting Up SAIP," Setting the Integration Offsets, page 19.

See Also

PeopleSoft Student Records 9.0 PeopleBook, "Setting Up the Course Catalog"

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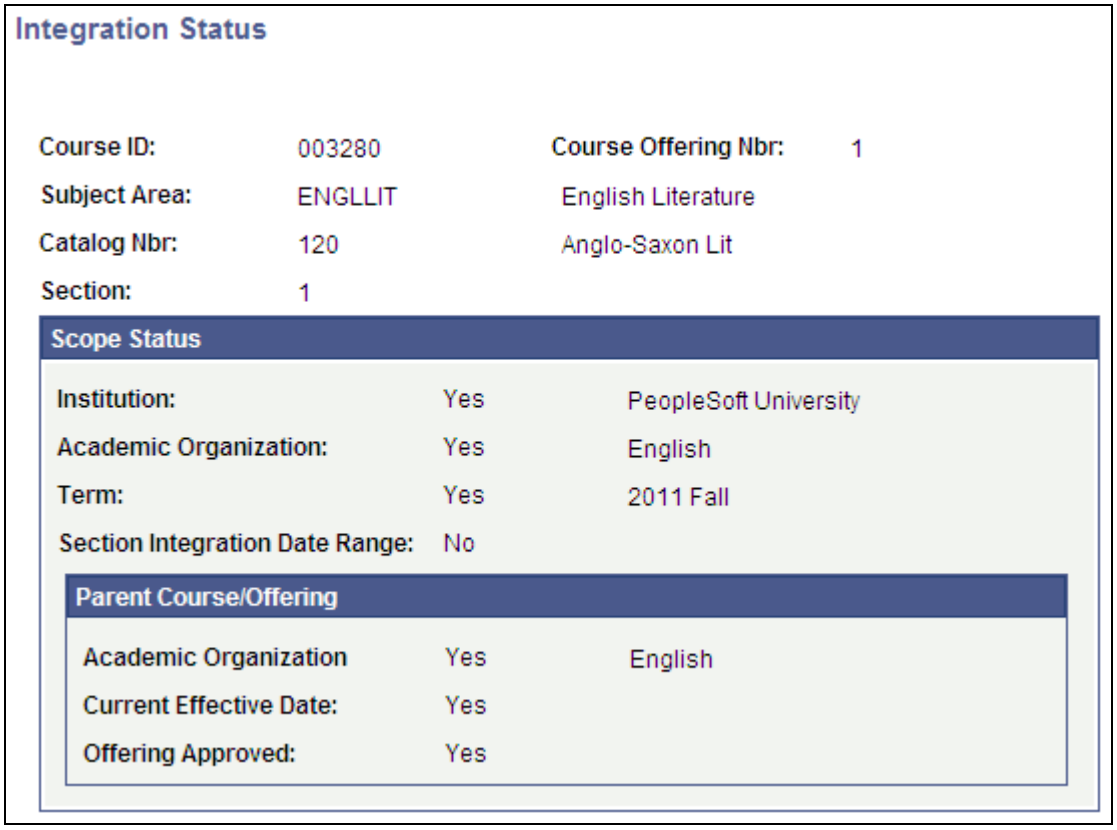
Viewing Integration Status

Access the Integration Status page (click the link in the Integration Status column on the Class Scoping and Association page or on the Combined Sections page).



Integration Status page

Including a class section in scope will not, by itself, enable the class section to participate in the integration and the information about the class section to be transmitted to an external application. Other items must be in scope and dependencies met before the class section is fully available for integration (for example, the term for the class section must also be in scope, the parent course of the class section must have a current effective date, and so on).

Use the Integration Status page to determine the status of criteria required for integration.

A scope status of *Yes* indicates that the item is included in scope or otherwise meets the criteria on the appropriate page.

A scope status of *No* indicates that the item is not in scope or does not meet the criteria and therefore prevents the class section from participating in the integration.

Scope Status

Institution Indicates whether the parent institution of the class section is included in scope on the Class Scoping and Association page.

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Academic Organization Indicates whether the academic organization attached to the class section (defined on Maintain Schedule of Classes, Basic Data page) is included in scope on the Class Scoping and Association page.

Term Indicates whether the In Scope check box is selected for the term for this scheduled class section (defined on the Maintain Schedule of Classes component).

Section Integration Date Range Indicates whether the current date falls between the class section's Integration Start and Integration End dates.

Parent Course/Offering

Academic Organization Indicates whether the academic organization attached to the parent course of this class section (defined on the Course Catalog) and of the parent offering (defined on the Course Catalog, Offering page), are both included in scope on the Class Scoping and Association page.

Current Effective Date Indicates whether the parent course of the class section has a currently effective row on the Course Catalog, Catalog Data page.

Offering Approved Indicates whether the course offering associated with this class section has a Course Approved status of *Approved* on the Course Catalog, Offering page.

Mapping Combined Sections

This section discusses how to map combined sections.

Page Used to Map Combined Sections

Page Name	*Definition Name*	*Navigation*	*Usage*
Associate Combined Sections	SAE_CMBNDSE_ASSOC	Curriculum Management, Combined Sections, Associate Combined Sections	Identify combined sections to include or exclude in the snapshot transfer.
Associate Combined Sections - Integration Status	SAE_CMDCLS_SCOP_ST	Click the link in the Integration Status column on the Associate Combined Sections page.	Display the scope status of the criteria that determine overall integration status.

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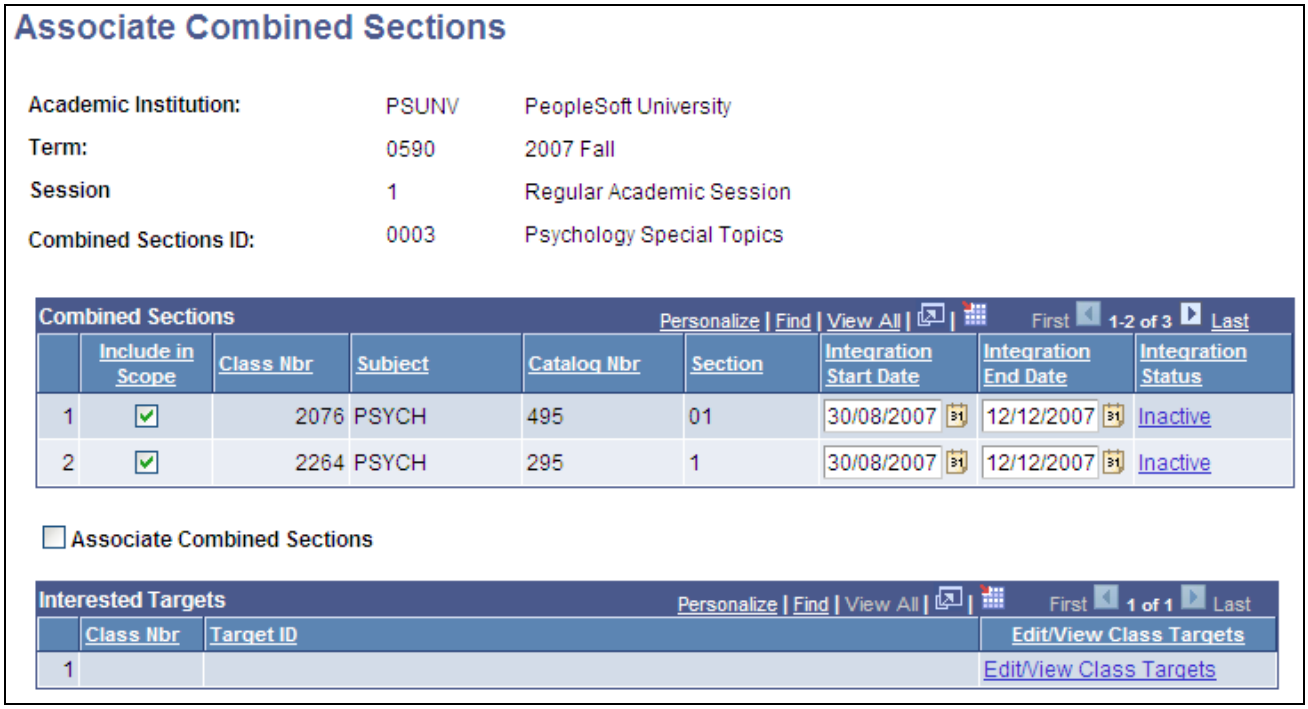
Mapping Combined Sections

Access the Associate Combined Sections page (Curriculum Management, Combined Sections, Associate Combined Sections).



Associate Combined Sections page

Combined Sections

Class sections appear as they are combined for Combined Sections ID on the Identify Combined Sections page in PeopleSoft Student Records.

See *PeopleSoft Student Records 9.0 PeopleBook*, "Managing the Schedule of Classes," Linking Classes to a Combined Section ID.

Include in Scope

Select to include the class section in future snapshot and event-based transfers. When this check box is selected, SAIP continues to transfer and update the class section until it is manually excluded.

The system automatically selects this check box if the class section is currently included in scope, whether set automatically as the result of a default installation setting, or set manually at the element level.

Clear to exclude the class section from snapshot transfer. When this check box is cleared, SAIP ignores the class section and any changes to it until it is manually reincluded in scope.

Note. To associate a combined section for the external system course site, both or all sections must be in scope.

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Associate Combined Sections Select to associate the in-scope sections and present them as one course site.

The course name displayed in the external system is by default drawn from the long description of each course in the course catalog. Consider viewing the resulting description and editing it in the target system.

Integration Start Date When a class section is in scope, it becomes active on the integration start date. This date is initially calculated based on the Class Start Date plus/minus the Integration Offset. The Integration offset is cascaded down from the Session level. You can manually change the integration start date on this page (or on the Class Scoping and Association page) to override the defaults. After this date has been manually set it is stored and can only be reset by manually changing it here (or on the Class Scoping and Association page) or clicking the Reset All Sections button located on the Term Integration Dating page (Set Up SACR, Foundation Tables, Term Setup, Term/Session Table).

Integration End Date When a class section is in scope, it becomes inactive on the integration end date. This date is initially calculated based on the Class End Date plus/minus the Integration Offset. The Integration offset is cascaded down from the Session level. You can manually change the integration end date on this page (or on the Class Scoping and Association page) to override the defaults. After this date has been manually set it is stored and can only be reset by manually changing it here (or on the Class Scoping and Association page) or clicking the Reset All Sections button located on the Term Integration Dating page (Set Up SACR, Foundation Tables, Term Setup, Term/Session Table).

Note. When combined sections are associated, the integration status of each section is still individually evaluated. Therefore, if multiple sections are associated to be delivered into a target system and the sections have different Integration Start and End dates, the integrations become active dependent on their integration date range.

Integration Status The link in this column indicates the state of readiness (Active or Inactive) of the class section to participate in the integration.

A status of Active indicates that all items are in scope (including the class section itself for which the Include in Scope check box must be selected) and the class section is available to the integration.

A status of Inactive indicates that at least one item is not in scope, and the class section information cannot be transmitted to an external system.

Click the link to access the Integration Status page where you can view detail status for relevant criteria for the class section.

See Chapter 3, "Setting Up SAIP," Setting Default SAIP Scoping and Association Values, page 13.

See Chapter 3, "Setting Up SAIP," Setting the Integration Offsets, page 19.

See Chapter 5, "Mapping Course Elements for Course Sites," Mapping and Associating Class Sections, page 49.

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Interested Targets

The Interested Targets group box lists all of the targets for each of the combined sections. All combined sections go to all targets of any section. For example, if Section 1 is targeted to LMS A and Section 2 is targeted to LMS B, then both Section 1 and Section 2 will be sent to both LMS A and LMS B, as long as the combined sections are associated.

The Edit/View Class Targets links take the user to the Class Targets page (SAE_CLS_TARGET) for that section, where the targets may be edited.

Associating Ad Hoc Sections

This section provides an overview of ad hoc section association and discusses how to:

- Add an ad hoc section association.
- Add sections to an ad hoc section association.
- Add multiple sections to an ad hoc section association.

Understanding Ad Hoc Section Association

SAIP has always supported providing targets with section association information for combined sections and multi-section classes. Ad Hoc Section Association provides the ability to send section association information for any collection of sections that are in the same academic institution and the same term. For example, a professor may teach an introductory course and a more advanced course on the same topic in the same semester. Because she is using the Learning Management System (LMS) primarily to share course documents, and because there is a high degree of overlap of those documents between those courses, she would prefer to have both of these classes in the same LMS course site. Ad Hoc Section Association allows the administrator to inform the LMS that these sections are related and may need to be grouped together by sending a Section Association record for them.

Note. SAIP does not allow sections to participate in more than one association simultaneously. For example, if the introductory level class section described above were also part of a Combined Section cluster, and if that cluster had been set to send a Section Association record to the LMS, then that class could not also be added to an Ad Hoc Association.

Pages Used to Associate Ad Hoc Sections

Page Name	*Definition Name*	*Navigation*	*Usage*
Ad Hoc Section Association	SAE_ADH_ASSOC	Curriculum Management, Schedule of Classes, SA Integration Pack, Ad Hoc Association, Ad Hoc Section Association	Set up ad hoc section associations.

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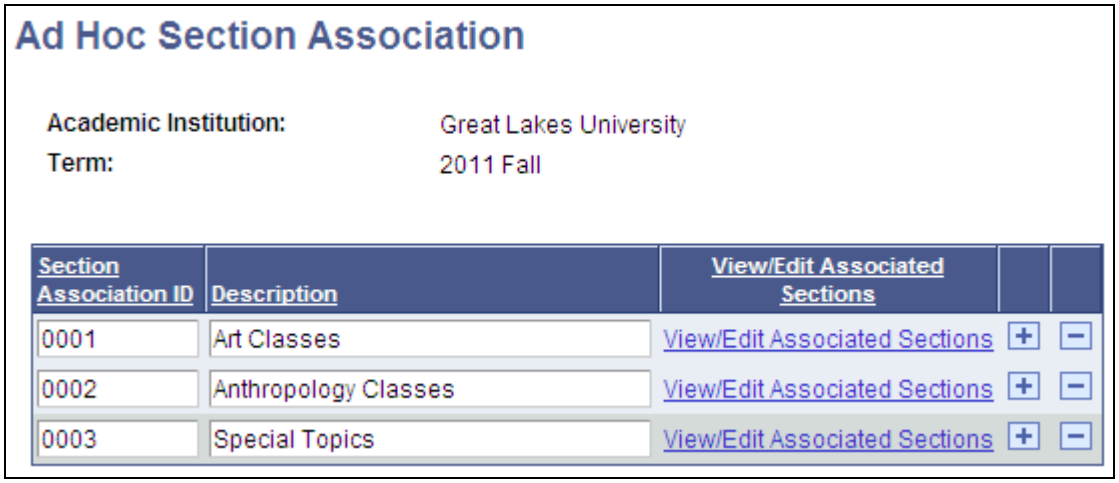
Page Name	Definition Name	Navigation	Usage
View/Edit Associated Sections	SAE_ADH_SECTN	Curriculum Management, Schedule of Classes, SA Integration Pack, Ad Hoc Association, View/Edit Associated Sections	Manage class sections associated in an ad hoc section association.
Look up Class Nbr	SAE_SRCH_CLS	Curriculum Management, Schedule of Classes, SA Integration Pack, Ad Hoc Association, View/Edit Associated Sections, Add More Sections	Look up and select multiple class sections to add to the Ad Hoc Section Association.

Adding an Ad Hoc Section Association

Access the Ad Hoc Section Association page (Curriculum Management, Schedule of Classes, SA Integration Pack, Ad Hoc Association, Ad Hoc Section Association).



Ad Hoc Section Association page

To associate class sections that are not otherwise associated administratively (whether as Combined Sections or as class sections within a course), you must first create the structure that will tie the class sections together.

Section Association ID Set the Section Association ID.

Description Set the association description.

View/Edit Associated Sections Click the link to view and edit sections in the association on the View/Edit Associated Sections page.

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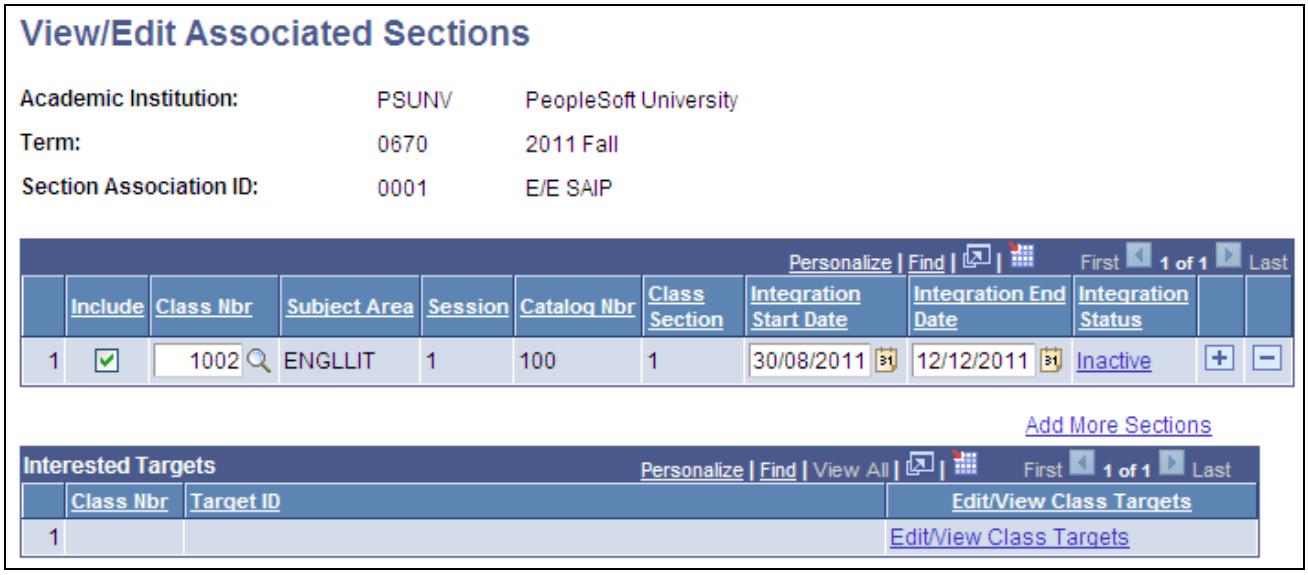
Adding Sections to an Ad Hoc Section Association

Access the View/Edit Associated Sections page (Curriculum Management, Schedule of Classes, SA Integration Pack, Ad Hoc Association, View/Edit Associated Sections).



View/Edit Associated Sections page

Once you have created the section association structure that will tie your class sections together, you can add individual class sections to that section association.

Class Nbr Identify the section to be added by class number.

Include Select the check box to include the section in scope.

Interested Targets View the defined targets for each section. In any ad hoc section association, all sections will be sent to the union of all interested targets, if they are not identical. For example, if PSYCH 274 were targeted for Sakai and Blackboard, and PSYCH 235 were targeted fir eCollege and Sakai, both sections as well as the section associations (PSYCH 274 and PSYCH 235) would be sent Sakai, Blackboard, and eCollege targets.

Edit/View Class Targets Change the targets for that section.

Integration Start Date When a class section is in scope, it becomes active on the Integration Start Date. This date is initially calculated based on the Class Start Date plus/minus the Integration Offset. The Integration Offset is cascaded down from the Session level. You can manually change the integration start date on this page to override the defaults. After this date has been manually set it is stored and can only be reset by manually changing it on this page or by clicking the Reset All Sections button located on the Term Integration Dating page (Set Up SACR, Foundation Tables, Term Setup, Term/Session Table).

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Integration End Date

When a class section is in scope, it becomes inactive on the Integration End Date. This date is initially calculated based on the Class End Date plus/minus the Integration Offset. The Integration Offset is cascaded down from the Session level. You can manually change the integration end date on this page to override the defaults. After this date has been manually set it is stored and can only be reset by manually changing it on this screen or by clicking the Reset All Sections button located on the Term Integration Dating page (Set Up SACR, Foundation Tables, Term Setup, Term/Session Table).

Note. When sections are associated, the integration status of each section is still individually evaluated. Therefore, if multiple sections are associated to be delivered into one course shell in a target system and the sections have different Integration Start and End dates, the integrations become active dependent on their integration date range.

Note. SAIP does not allow sections to participate in more than one association simultaneously. If a section being added to an Ad Hoc Association Cluster has already been added to an association elsewhere, an error message will be displayed.

Adding Multiple Sections to an Ad Hoc Section Association

Access the Look Up Class Nbr page (Curriculum Management, Schedule of Classes, SA Integration Pack, Ad Hoc Association, View/Edit Associated Sections, Add More Sections).

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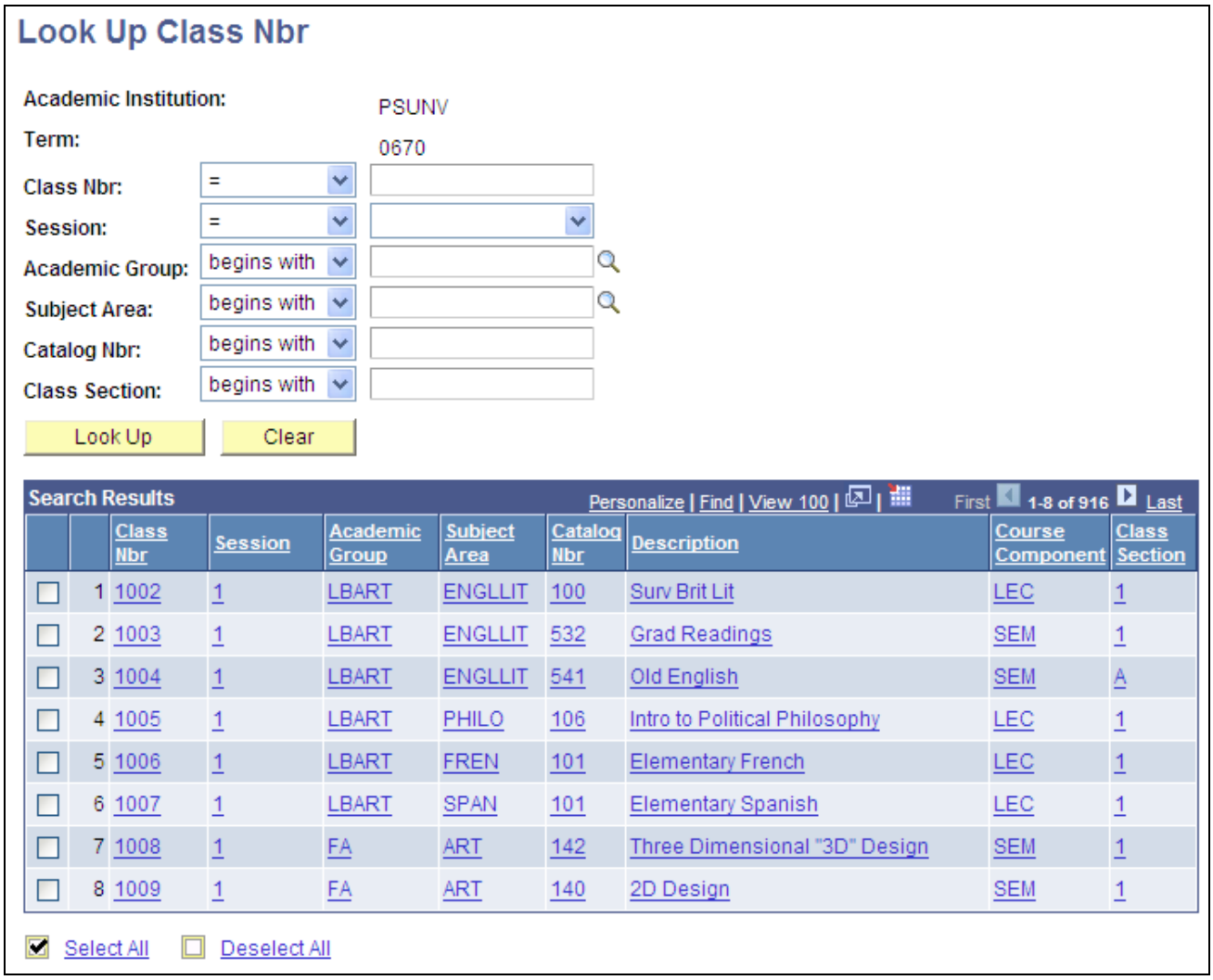

Look Up Class Nbr page

Under some circumstances, users may want to add a number of sections to an ad hoc section association at once that have some criteria in common. For example, the English Department would like to create a centralized course site in the LMS for all English Composition classes. Ad Hoc Section Association allows for the mass selection of class sections to be added to an Ad Hoc Section Association.

Select All Select all of the returned class sections for inclusion in the Ad Hoc Section Association.

Deselect All Clear the check box of all sections on this page. This does not remove class sections that had previously been added for inclusion on the View/Edit Section Association page.

Any class sections that have been selected for inclusion will be added to the grid on the View/Edit Section Associations page.

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Generating the SAIP Class Integration Report

This section discusses how to run the SAIP Class Integration report, including defining the parameters for the report and printing it using various output formats.

See Also

Chapter 5, "Mapping Course Elements for Course Sites," Mapping and Associating Class Sections, page 49

Page Used to Run SAIP Class Integration Report

Page Name	*Definition Name*	*Navigation*	*Usage*
SAIP Class Integration Report	SAE_REPORT_PAGE	SA Integration Pack, SAIP Class Integration Report	Print list of all in-scope class sections within defined parameters.

Running the SAIP Class Integration Report

Access the SAIP Class Integration Report page (SA Integration Pack, SAIP Class Integration Report).

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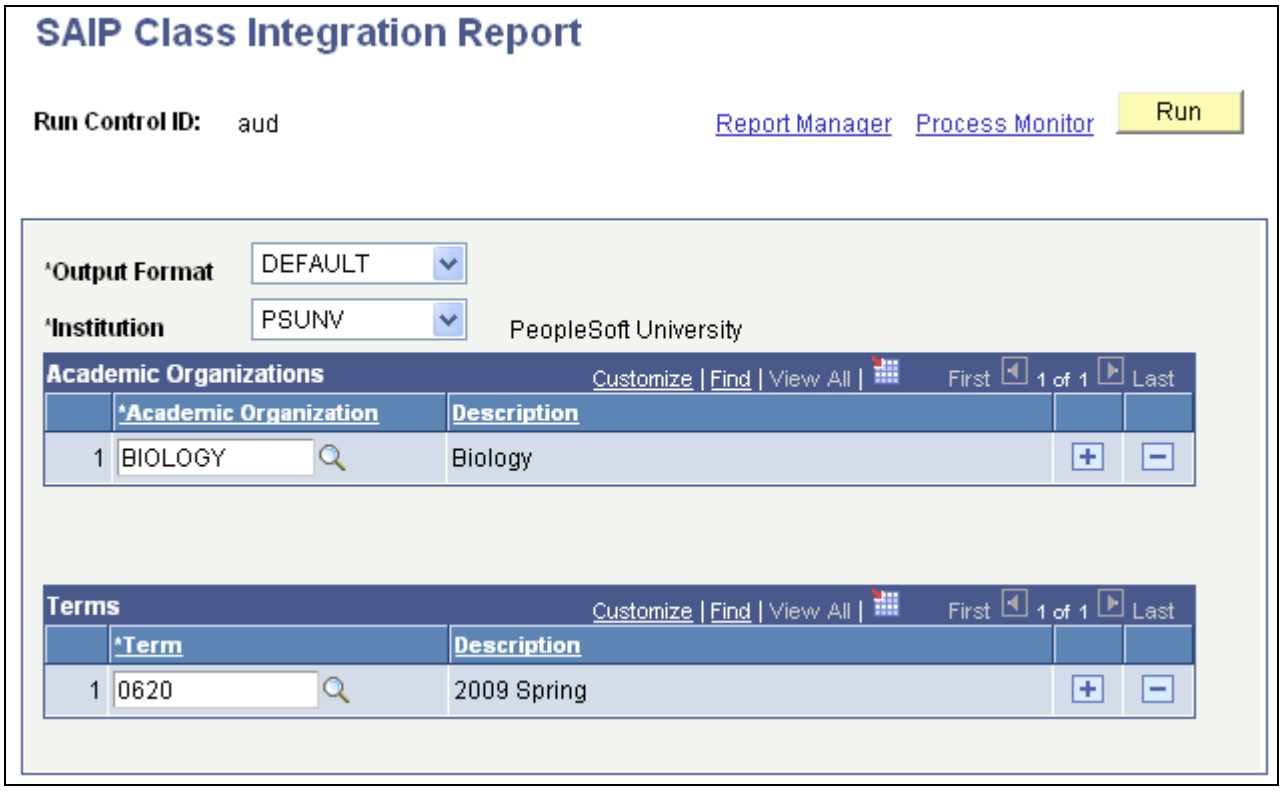

SAIP Class Integration Report page

Output Format

The SAIP Class Integration Report uses the Oracle BI Publisher capability within PeopleTools to generate data that is usable by a range of output formats. Use this field to determine the format in which you would like the final data to be generated.

The available values are:

- DEFAULT: The default format for the report is PDF.
- HTM: The report will be generated as an HTML (web-browser based) document.
- PDF: The report will be generated as an Adobe Acrobat PDF document.
- RTF: The report will be generated as a rich-text-format document.
- XLS: The report will be generated as a Microsoft Excel spreadsheet.

Note that all of these formats can be displayed within your browser.

Institution

Select the institution for the class sections on which you wish to report.

You must select an institution. Selecting an institution without selecting an Academic Organization or Term will return ALL class sections defined as in scope for that institution. Be aware that this could generate a large quantity of data, depending on the nature of the institution and the state of the data.

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Academic Organizations	Select one or more academic organizations as a limiting parameter for your report. By selecting an academic organization, you will limit the results of the report to only those class sections that are defined as in scope and associated with both the Institution and the Academic Organization(s) you have selected.
Term	Select one or more terms as a limiting parameter for your report. By selecting a term, you will limit the results of the report to only those class sections that are defined as in scope and associated with both the Institution and the Term(s) you have selected.

If you select one or more academic organizations and one or more terms, the results will be limited to those class sections which meet all of the criteria (for example, if you select Academic Organizations Anthropology and Biology, and terms 0590 and 0600, the report will list class sections that meet all scope criteria and have an Academic Organization of Anthropology or Biology, for terms 0590 or 0600).

See Also

Appendix B, "SAIP Reports," page 99

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Chapter 6

Importing Grades

SAIP enables you to import final grades from an external system to your PeopleSoft Student Records grade roster.

This chapter provides an overview of grade import and discusses how to:

- Set up grade import.
- Import grades.

Note. The SAIP Grade Import service imports final grades into the Student Records grade roster only. It does not interact with Campus Solutions Gradebook. If you use SAIP Grade Import, you cannot also use Gradebook.

Understanding Grade Import

The IMS LIS specification allows for two different models of Outcomes integration: a "pull" methodology in which one system (usually the final system of record, such as the student information system) requests the grades from the system in grades have initially been entered (such as a learning management system); and a "push" methodology in which the system, in which the grades have initially been entered, sends the grades to the final system of record based on an action within that initial system. SAIP supports both of these models.

Setting Up Grade Import

To enable grade import, you must select the Enable Grade Import check box on the SAIP Installation page. This can be selected at implementation time or any time that you want to enable grade import.

When selected, the Grade Import group box and Import Grades button appear on the PeopleSoft Student Records Grade Roster page for any class section that is currently in scope.

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Page Used to Set Up Grade Import

Page Name	*Definition Name*	*Navigation*	*Usage*
SAIP Installation	SAE_SETUP	Set Up SACR, Install, SAIP Installation	Enable or disable event triggers and grade import, and identify the default usages, file to use for SAIP initialization and updates.

Setting Up Grade Import Pull

The Grade Import Pull method is initiated through the Campus Solutions Grade Roster. To enable Grade Import Pull, you must select the Enable Grade Import check box on the SAIP Installation page. You can select this at implementation time or any time that you want to enable grade import.

In addition to selecting the Enable Grade Import check box, you must enter a Grade Source ID on the Class Targets page (Curriculum Management, Schedule of Classes, SA Integration Pack, Class Targets).

Note. Grade Source ID can be defined at the institution level and cascade down to academic organization and class section. If a grade source target is not set for a section, then the grade import functionality for that section will be unavailable to the user even if Enable Grade Import is checked at the system level. The "Managing Multitarget Integration" chapter contains more information on setting grade source targets.

See Also

Chapter 4, "Managing Multitarget Integration," page 31

Setting Up Grade Import Push

In the Grade Import Push methodology, Campus Solutions Grade Roster is the consumer of information sent from an external grade source such as a learning management system.

To enable Grade Import Push, you must set the following service operations to *Active,* as well as their corresponding handlers and routings:

- SAE_REPLACE_LINEITEM
- SAE_REPLACE_RESULTS

The section "Setting Up Integration Broker for SAIP" contains more information on activating service operations, routings, and handlers.

In addition to activating the services, handlers and routings, you must enter a Grade Source ID on the Class Targets page (Curriculum Management, Schedule of Classes, SA Integration Pack, Class Targets). If a grade source target is not set for a section, then the grade import functionality for that section will be unavailable to the user even if Enable Grade Import is checked at the system level. The "Managing Multitarget Integration" chapter contains more information on setting grade source targets.

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See Also

Chapter 3, "Setting Up SAIP," Setting Up Integration Broker for SAIP, page 20

Chapter 4, "Managing Multitarget Integration," page 31

Importing Grades

This section discusses how to:

- Import grades.
- Review a Grade Error report.
- Import grades using the "push" method.

Note. SAIP Grade Import imports final grades into the Student Records grade roster. It does not import grades into PeopleSoft Gradebook.

See Also

PeopleSoft Student Records 9.0 PeopleBook, "Grading Students"

PeopleSoft Campus Self Service 9.0 PeopleBook, "Using Faculty Center," Entering Grades Through Self-Service

Pages Used to Import Grades

Page Name	*Definition Name*	*Navigation*	*Usage*
Grade Roster	GRADE_ROSTER1	Curriculum Management, Grading, Grade Roster, Grade Roster	Enter official grades and requirement designation grades, view enrollment summary information, and add transcript notes.
Grade Roster	SS_GRADE_ROSTER	Self Service, Faculty Center Click the Grade Roster icon on the Faculty Center page.	If your institution also licenses PeopleSoft Campus Self Service, instructors can view or enter grades, update the roster's approval status, and post grades to the grade roster from the self-service faculty center.

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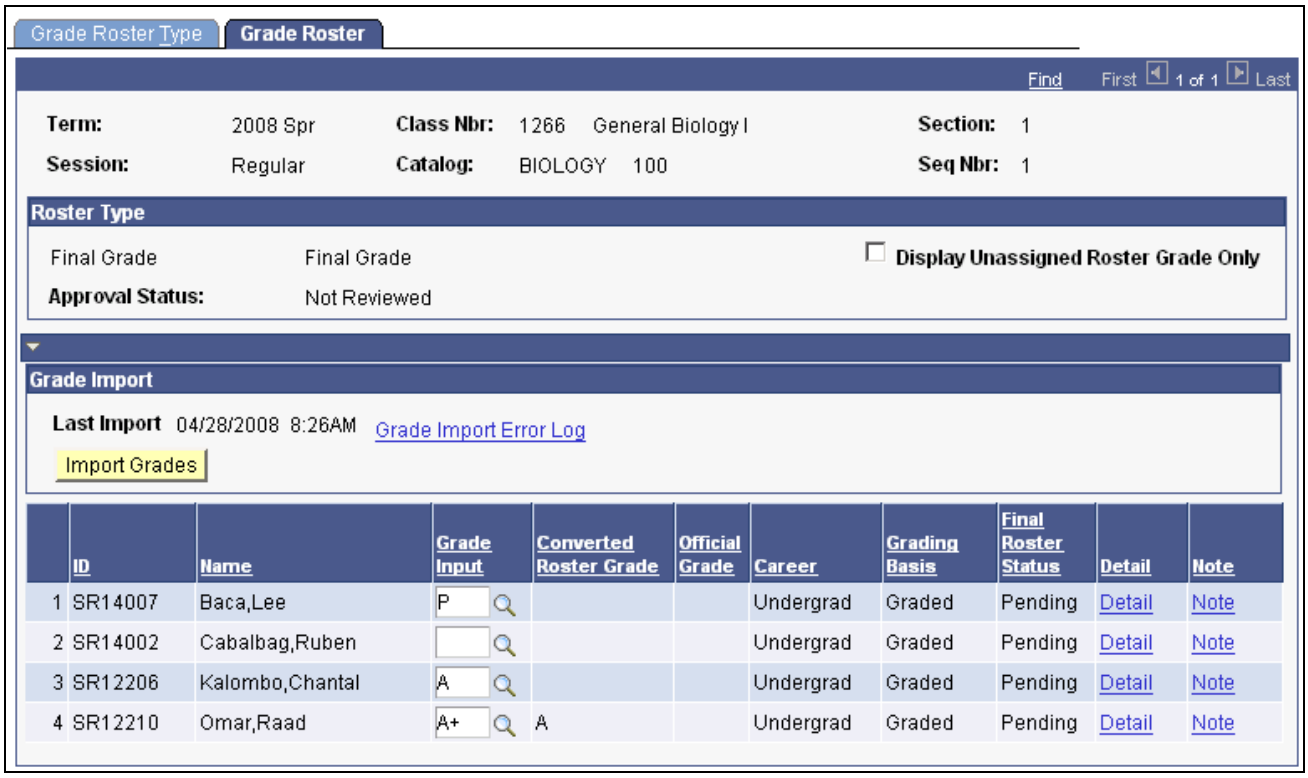
Page Name	Definition Name	Navigation	Usage
Grade Error Report	SAE_GRD_ERR_REPORT	Click the Grade Import Error Log link on the Grade Roster page.	View details of errors and issues encountered during the import of grades from an external system.

Importing Grades

Access the Grade Roster page (Curriculum Management, Grading, Grade Roster, Grade Roster).



Grade Roster page

Note. In order for the Import Grades button to appear on the grade roster, *both*Enable Grade Import must be checked on the SAIP Installation page (Set Up SACR, Install, SAIP Installation)*and* a Grade Source ID must be entered on the Class Targets page (Curriculum Management, Schedule of Classes, SA Integration Pac, Class Targets). If a grade source target is not set for a section, then the grade import functionality for that section will be unavailable to the user even if Enable Grade Import is checked at the system level.

Grade Import

Last Import Displays the date and time when the Import Grades button was last clicked.

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Grade Import Error Log

Appears if any row containing either a student ID or a grade did not successfully import for the course.

Click to access the Grade Error Report page where you can view descriptions of unsuccessful imports.

Note. If a row cannot be imported because no ID is associated, then it also cannot appear in the log, which is ID dependent. A message appears at the bottom of the error log page instead.

Import Grades

Click to capture and import final grades from the external system into the Student Records grade roster.

Grades are pulled for the roster as a whole. You can import grades as many times as desired so long as the roster's approval status is not *Approved* or *Submitted for Approval*, and as long as the grades have not yet been posted.

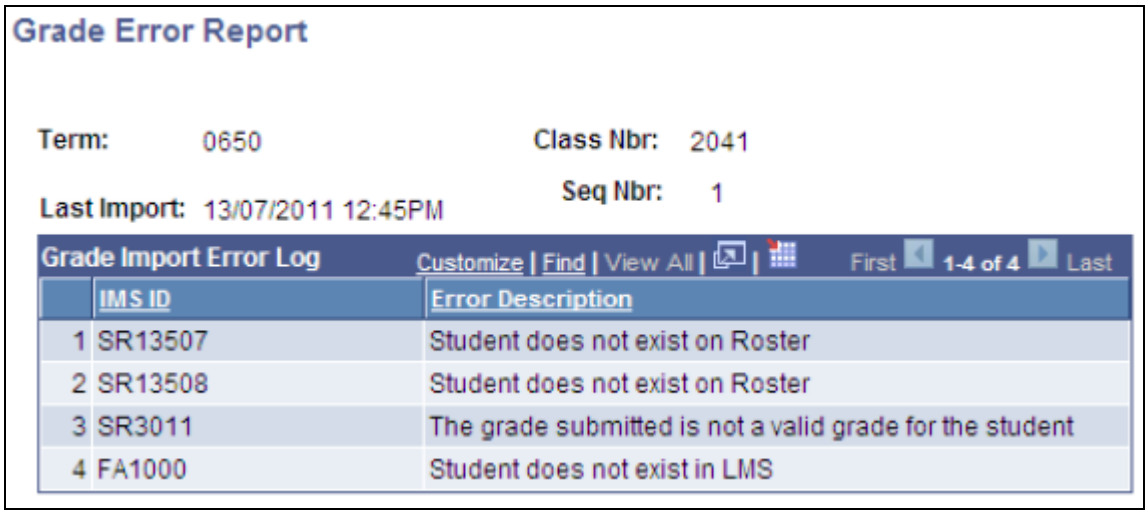
Rows for the imported grades appear in the grid area at the bottom of the page. The grades appear in the Grade Input column and with a status of *Assigned.* Instructors can check, change, and control grades before finalizing and posting them.

Warning! When you re-import grades, all grades data are overwritten and any manual adjustments that you made will be lost.

See *PeopleSoft Student Records 9.0 PeopleBook*, "Grading Students," Using the Grade Roster Page to Enter Grades.

Reviewing a Grade Error Report

Access the Grade Error Report page (click the Grade Import Error Log link on the Grade Roster page.)



Grade Error Report page

IMS ID

The ID of the student whose grade is being imported.

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Error Description

Error or log messages which may appear here for the following conditions:

- Student does not exist on roster: student exists in grade import but not in grade roster.
- Student does not exist in LMS: student exists in grade roster but not in incoming grade import.
- The grade submitted is not a valid grade for the student: grade scheme for a specific student is invalid in grade import.

Importing Grades Using the Push Method

In a Grade Push methodology, Campus Solutions Grade Roster acts as a recipient of an inbound integration service. The user does not need to undertake any action from within the Campus Solutions Grade Roster to initiate integration; rather, the user would undertake that action from the grade source (such as pushing a "Publish Grades" button). The next time the user accessed the Campus Solutions Grade Roster, the final grades would then be visible and actionable in Grade Roster. Institutions that define multiple grade sources (for example, deploying multiple LMSs as part of their campus topology) may be deploying a mix of Grade Pull and Grade Push methods; because the Enable Grade Import check box is an implementation-level value, it is possible that the Grade Import group box, including the Import Grades button, will be visible even for classes whose grade source is a Grade Push source. Users do not need to use the Import Grades button for those classes; if the grade source supports both Push and Pull methods, users may elect either method to import grades for that roster.

Last Import does not display a value for classes whose grade source is a Grade Push source, nor will a Grade Import Error Log be generated or a hyperlink be displayed. For grade sources using a Grade Push method, the grade source application is the solution through which grade integration is tracked and managed, including error management.

As part of the defined process for receiving the Grades via a Push, SAIP will check for several conditions in order to ensure that the grade roster and individual results are in a consistent state:

- Does the student ID exist?
- Does the section exist?
- Is the section gradable?
- Does the student enrollment exist and is it active?
- Is the grade valid for the section?
- Is the input system authorized for grade upload in this section?

  Only one grade source is allowed for a given course section and it must be designated on the Class Targets setup pages.

In any of the above checks result in a condition that would prevent the transfer of Grades for a specific student, SAIP will respond with an appropriate response to the Grade source system.

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Chapter 7

Running Snapshots

This chapter provides overviews of bulk data exchange and snapshot integration, and discusses how to:

- Run snapshot data.
- Monitor snapshot status.

Understanding Snapshots

Snapshots provide a mechanism to move large volumes of data, or any data that consists of more than an individual transaction, through the creation of structured files, the transport of those files, and a set of service operations that allows integrated systems to request, generate, and load in those files.

In previous versions of SAIP, the only supported mechanism to generate snapshots was a request from an external system, such as a learning management system (LMS). The LMS would send a request for a snapshot to SAIP, which would: return a response acknowledging the request, generate the appropriate file, place the file in a predefined location, and send an announcement back to the requestor that signified the response was complete and identified the file location.

With the final version of the IMS LIS 2.0 specification, the consumer-requested pattern is still supported and a second pattern, often referred to as "provider initiated," is also supported. The provider-initiated pattern allows a system of record (such as a student information system) to generate a snapshot and send a notification to a consuming system (such as an LMS) that the snapshot has been generated and where that snapshot can be found, so that the consuming system can uptake the file. Both of these patterns are now managed under the IMS LIS BulkDataExchangeManagement service.

Understanding Consumer-Requested Snapshot Integration

In a consumer-initiated snapshot implementation, SAIP is the recipient of a request from an external system. As such, institutions utilizing a target that generates consumer requests for snapshots only needs to activate the appropriate BulkData service operations and their corresponding handlers and routings. The specific service operations are:

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- Inbound:
  - requestBulkDataExchange
  - reportBulkDataExchange
  - cancelBulkDataExchange
  - ignoreBulkDataExchange
- Outbound: announceBulkDataExchange

The "Setting Up SAIP" chapter contains more information on activating service operations, routings, and handlers.

Note. Institutions defining multiple integration targets for the SAIP can freely deploy a mix of consumer-requested and producer-initiated configured targets.

See Also

Chapter 3, "Setting Up SAIP," page 11

Understanding Producer-Initiatied Snapshot Integration

In a producer-initiated snapshot implementation, the SAIP provides the user interface to initiate the snapshot processes. As such, institutions generating producer-initiated snapshots need to activate the appropriate BulkData service operations and their corresponding handlers and routings. The specific service operations are:

- Outbound:
  - announceBulkDataExchange
  - announceFailureBulkDataExchange
- Inbound: reportBulkDataExchange

Running Snapshot Data

This section discusses how to run or schedule snapshots.

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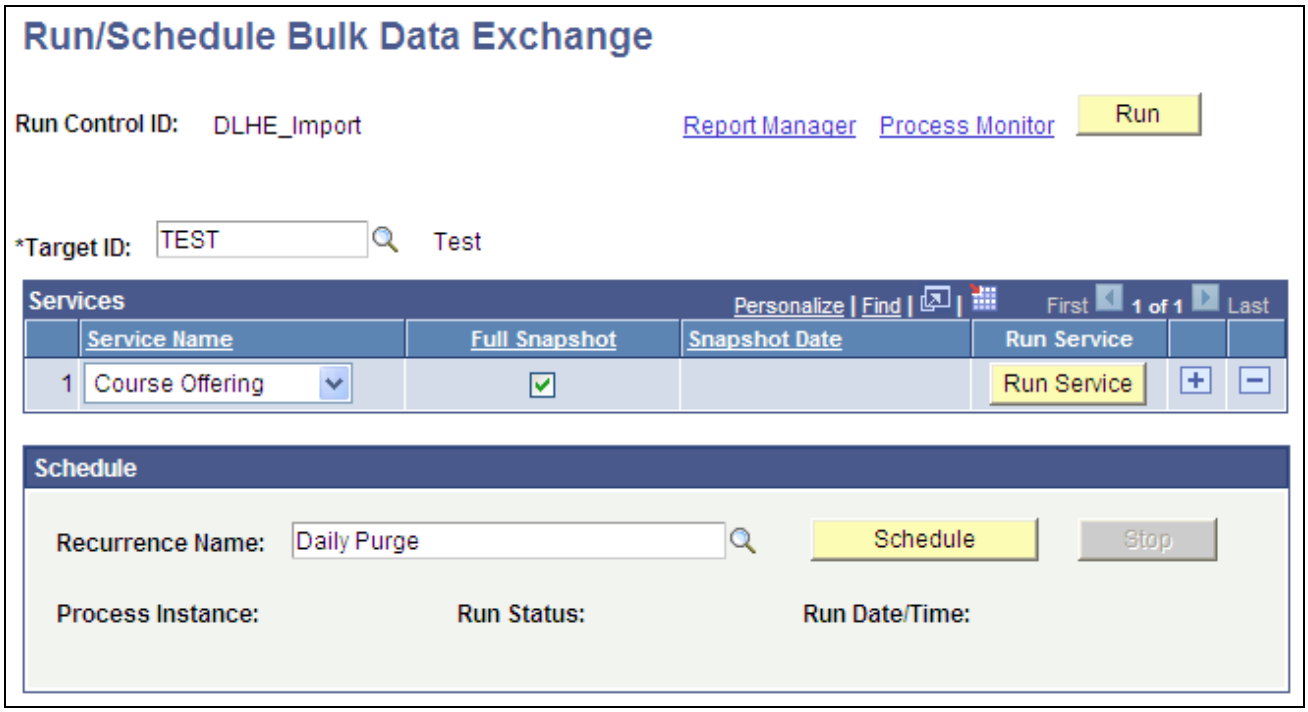
Page Used to Run a Snapshot Data Exchange

Page Name	*Definition Name*	*Navigation*	*Usage*
Run/Schedule Bulk Data Exchange	SAE_BULK_PROCESS	SA Integration Pack, Bulk Data Exchange, Run Bulk Data Exchange	Run or schedule full and incremental snapshots, either ad hoc or on a scheduled basis.

Running or Scheduling Snapshots

Access the Run/Schedule Bulk Data Exchange page (SA Integration Pack, Bulk Data Exchange, Run Bulk Data Exchange).



Run/Schedule Bulk Data Exchange page

To run a snapshot, define the intended target, select the service names and the nature of the snapshot, and run the process. Add or remove rows as needed.

Target ID Identify the target to which the snapshots will be published. Only targets defined as Version 2.0 will be listed to run the snapshots.

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Service Name Select the service appropriate to the IMS LIS entity's data that you wish to publish. The available values are: *Course Offering, Course Section, Course Template, Group, Membership, Person,* and *Section Association.*

Note. The order in which services are entered in the Services grid does not matter, as there is no dependence between services. There may be hierarchical or ordering dependencies on how the services are consumed by the external system.

Full Snapshot Select this check box to run a full snapshot for the defined service. If you select this check box and enter a Snapshot Date, the latter date will be ignored and all data for that entity will be generated and sent. After the system executes the snapshot, it updates the snapshot date with the savepoint date and time. This savepoint value will be used for subsequent incremental snapshot calls.

Note. A Full Snapshot will replace ALL of the information for that entity in the consuming target

Snapshot Date Enter a date/time value as the beginning point from which you wish to gather data for inclusion in the snapshot. Entering a value in this field defines the snapshot as "incremental." For more information on differences between full and incremental snapshots, refer to Chapter 2: Understanding PeopleSoft SAIP. If Snapshot data is left blank and Full Snapshot check box is not selected then it will run the full snapshot for the corresponding service.

Run Service Click this button to generate the snapshot and announcement for the defined service.

Run Click this button to generate snapshots for all of the services defined in the Services grid. This provides ease of use for instances when you want to generate snapshots for a range of services, and removes the need to generate the snapshots individually. The system kicks off each process in order, publishes the individual files to the defined locations, and sends the appropriate corresponding announcement to the target.

Scheduling Bulk Data Exchange

In addition to being able to generate SAIP snapshots as needed on an ad hoc basis, you also can schedule snapshots to be generated on a recurring schedule. A scheduled process generates snapshots for all of the services defined within for the Run Control ID. To schedule services or timings across different schedules, create a Run Control ID for each distinct schedule.

To schedule a bulk data exchange, define the schedule in the Schedule group box and save the page.

Recurrence Name Select a recurrence by the list of defined recurrences.

PeopleTools documentation contains more information on defining recurrences for scheduled processes.

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Schedule	Click to activate the scheduled process. The process will automatically begin at the next instance as defined by the recurrent schedule.
Stop	Click to deactivate the scheduled process. The process will no longer run as scheduled, and will remain dormant unless and until you reactive the schedule by clicking the Schedule button.

Click the Run button to generate snapshots for *all* of the services defined in the Services group box. This provides ease of use for instances when you want to generate snapshots for a range of services, and removes the need to generate snapshots one by one. The system will simply kick off each process in order, publish the individual files to the defined locations, and send the appropriate corresponding announcement to the target.

See Also

PeopleTools: PeopleSoft Process Scheduler, "Defining PeopleSoft Process Scheduler Support Information," Setting Up Recurrence Definitions

Monitoring Snapshot Status

This section discusses how to:

- Monitor bulk data exchange status.
- Review announce status.
- Review bulk data exchange details.

Pages Used to Monitor Snapshot Status

Page Name	*Definition Name*	*Navigation*	*Usage*
Bulk Data Exchange Status	SAE_BULK_STATUS	SA Integration Pack, Bulk Data Exchange, Bulk Data Exchange Status	Review and monitor the status of bulk data exchange operations.
Announce Status	SAE_BULK_ANOUN_STA	Click an Announce Status value on the Bulk Data Exchange Status page.	Review details and any error codes for an Announce.
Bulk Data Exchange Details	SAE_BULK_STAT_DTLS	Click the Failed Details link on the Bulk Data Exchange Status page.	Review details of any failures in the Bulk Data Exchange.

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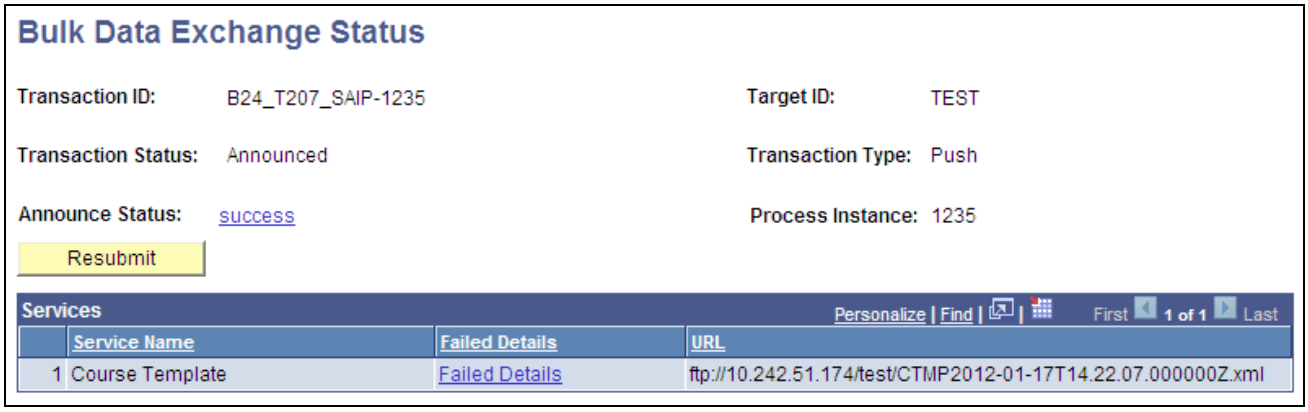
Monitoring Bulk Data Exchange Status

Access the Bulk Data Exchange Status page (SA Integration Pack, Bulk Data Exchange, Bulk Data Exchange Status).



Bulk Data Exchange Status page

On this page, users can view and review the status and details of bulk data transactions, whether those transactions have been generated as producer-initiated transactions, consumer requests, or batch processes such as enrollment or course batch processes.

Transaction ID

Displays a unique value to identify the bulk transactions. The Transaction ID is generated based on the following criteria:

- Push: Value is generated using the Run Control ID and the process instance ID.
- Pull: Unique value part of the requestBulkdataExchange request message passed from the external integration system.
- Batch: Value is the filename of the batch job, which is uniquely generated for each batch.

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Transaction Status

Displays the status of the transaction. The potential values are:

- Announce Fail: To inform the service consumer that a previously issued, and acknowledged, requestBulkDataExchange transaction cannot be serviced by the service provider.
- Announced: To announce the availability of a bulk data object that is ready to be retrieved by service consumers.

  This call suspends real-time event notification.
- Cancelled: Issued by the service consumer to inform the service provider that a previously requested bulk data exchange request has now been cancelled.
- Completed: To report the retrieval of the bulk data object whose availability was announced previously.

  This signals real-time event processing should be restarted.
- Ignored: Issued by the service consumer to inform the service provider that a previously issued announce bulk data exchange request will be ignored.
- Requested: Issued by the service consumer to request a bulk data exchange from the service provider.

Announce Status

Displays the status of the Announce message generated as part of the bulk data exchange service. The potential values are:

- Connector error: Returned when server configuration or connectivity issues are encountered in either SAIP or External Integration System.
- Failure: BulkDataExchange service failed with errors.
- Processing: BulkDataExchange service is processing the bulk data process.
- Success: BulkDataExchange service completed with success.
- Unsupported: Invoked BulkDataExchange service is unsupported by the consumer/provider.

Click a linked status to access the Announce Status page.

Target ID

Displays the target system of the bulk data transaction.

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Transaction Type	Describes the type or source of the bulk data transaction. Potential values are: • *Batch:* Indicates the transaction was generated by a batch process, such as enrollment or course batch processes. • *Pull:* Indicates the transaction was generated by a consumer request. • *Push:* Indicates the transaction was generated as a result of a producer-initiated process.
Process Instance	Displays the process instance number as generated and tracked by the Process Scheduler.
Service Name	Displays the service or services that were invoked as part of the bulk data transaction.
Failed Details	Click this link to access the Bulk Data Exchange Details page.
URL	Displays the target destination of the published snapshot. This destination is defined during the process of Adding A Target.
Resubmit	Resubmit is used when the target system has a problem processing the bulk data exchange on the first run. Click the Resubmit button to create a new Announce message to re-notify the target of the available bulk data files.

See Also

Chapter 4, "Managing Multitarget Integration," Adding a Target, page 33

Reviewing Announce Status

Access the Announce Status page (click an Announce Status value on the Bulk Data Exchange Status page).

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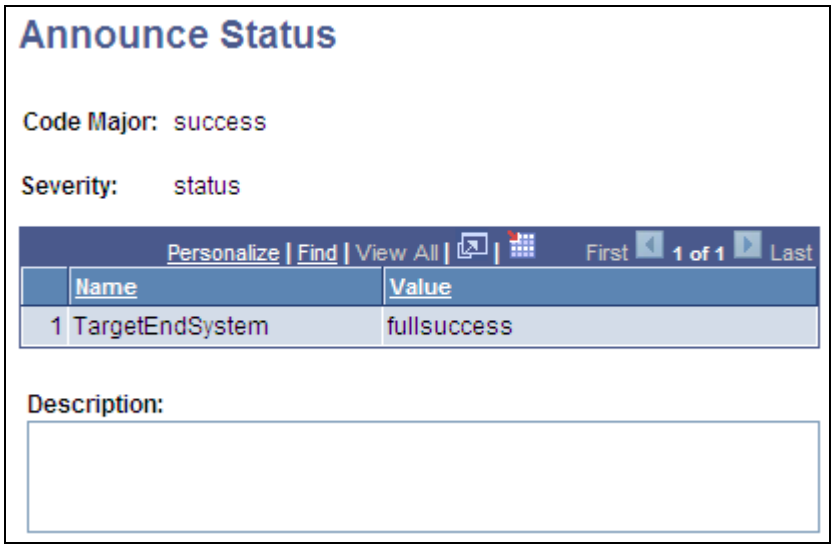


Announce Status page

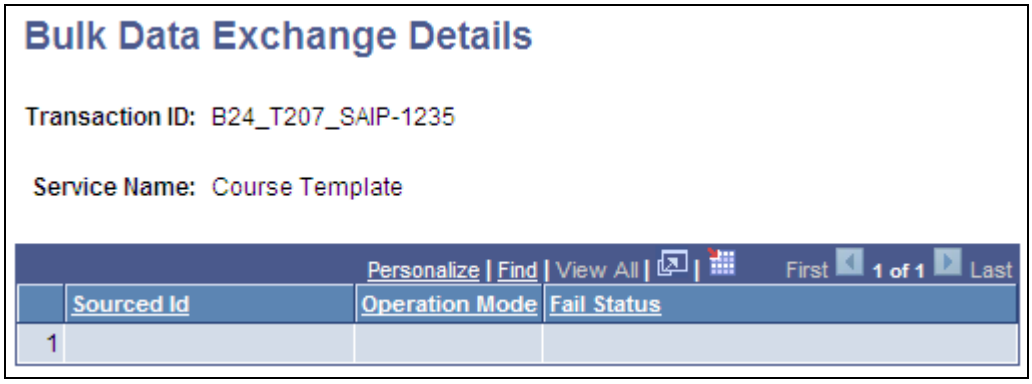
Code Major, Severity Values and descriptions for this page are explained in detail in the "Event Message Statuses" appendix.

See Also

Appendix A, "Event Message Statuses," page 95

Reviewing Bulk Data Exchange Details

Access the Bulk Data Exchange Details page (click the Failed Details link on the Bulk Data Exchange Status page).



Bulk Data Exchange Details page

Transaction ID Displays a unique value to identify the bulk transactions.

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Service Name Displays the specific service invoked, as defined in the corresponding row in the Services group box on the Bulk Event Exchange Status page.

Sourced ID Displays the source ID of the row that failed while processing the bulk data file.

Operation Mode Displays the action or operation of the failed row. Available values are:

- *Add:* Add transaction of the entity.
- *Change:* Update transaction of the entity.
- *Delete:* Delete transaction of the entity.

Fail Status Displays the failure status returned from the external integration system for an individual transaction.

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Chapter 8

Monitoring Event Messages

This chapter provides an overview of event message monitoring, message statuses and errors, and discusses how to use Event Message Monitor.

Understanding Event Message Monitoring

For institutions running event-based integration via SAIP, the need to understand the status of the near-real-time messages is important in understanding the state of the integration and the nature of any errors that may have occurred. SAIP enables you to monitor the messages generated by Integration Broker as part of event-based integration.

Understanding Message Statuses and Errors

As messages are published and subscribed to, there are a number of issues that can occur over the length of the transaction. Errors can occur: in connections, handshakes, and protocols; due to incorrect or incomplete data being passed; or due to a failure within the business process or transaction itself. These errors are understood and accounted for within the IMS LIS 2.0 specification, and to provide users with the greatest possible insight into the status of their event-driven integration, SAIP captures and displays the statuses and error messages exchanged between LIS compliant systems.

Note. You can monitor messages used in snapshot integration on the Bulk Data Exchange Status page.

See Also

Chapter 7, "Running Snapshots," page 71

Using Event Message Monitor

This section discusses how to monitor event messages.

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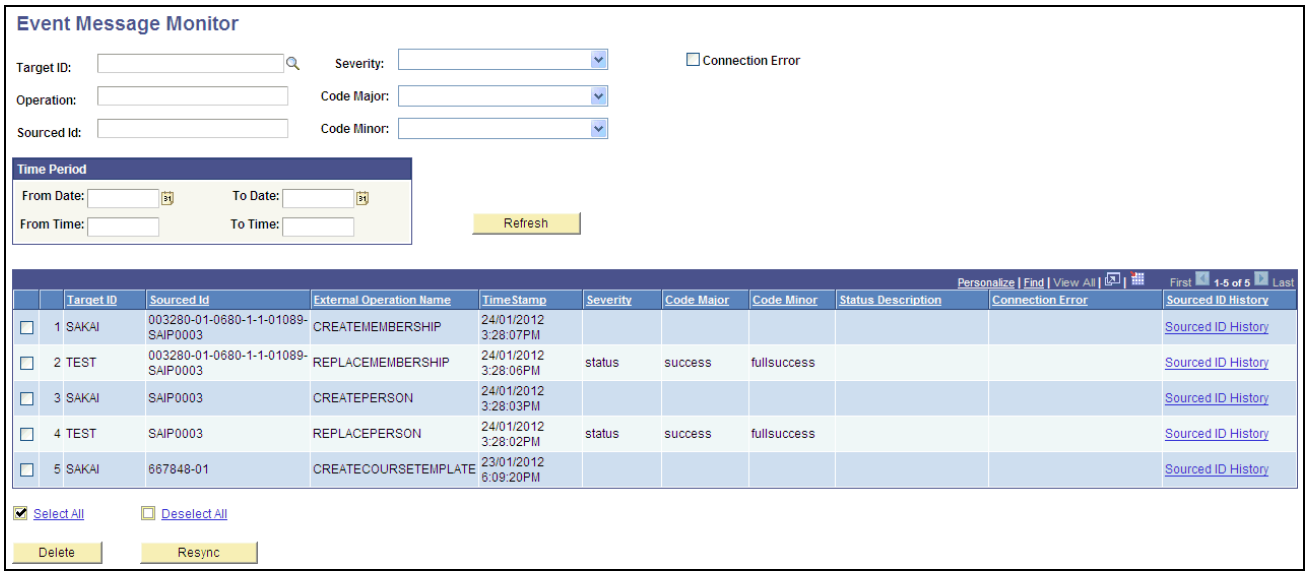
Page Used to Monitor Event Messages

Page Name	*Definition Name*	*Navigation*	*Usage*
Event Message Monitor	SAE_EVENT_STATUS	SA Integration Pack, Event Management, Event Message Monitor	Display the status of SAIP event-based messages and details of any errors that might have occurred.

Reviewing Event Messages

Access the Event Message Monitor page (SA Integration Pack, Event Management, Event Message Monitor).



Event Message Monitor page

Enter values at the top of the page to narrow the list of system messages displayed in the search results grid when you click the Refresh button.

Target ID The system displays only the event messages for a particular target, from the list of targets defined during the Add Target process.

Operation The system displays only the event messages for a particular service operation. For a full listing of SAIP service operations, refer to the *SAIP Installation Guide.*

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Sourced Id

The system displays only the event messages for a particular sourced ID. This ID is the unique identifier for an entity, such as for course sections; the SAIP-generated sourced ID is a concatenation of several Campus Solutions values unique to that class section.

Note. A listing of the mappings of Campus Solutions values to Soured IDs can be found in the "Student Administration Integration Pack for Oracle Academic Enterprise Solutions Technical White Paper" on My Oracle Support.

Severity

The system displays only the event messages with a particular severity value. Severity is a value defined in IMS Status info header of the response message returned from external system. Available severity values are: *error, status,* and *warning.*

Code Major

The system displays only the event messages with a particular code major value. Code Major is a status defined within the IMS LIS specification and passed as part of the interoperation between systems. Available statuses are: *failure, processing, success,* and *unsupported.*

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Code Minor

The system displays only the event messages with a particular code major value. Code Minor is a status defined within the IMS LIS specification and passed as part of the interoperation between systems. Available statuses are:

- deletefailure
- expireddate
- fullsuccess
- idalloc
- idallocinusefail
- incompletedata
- invaliddata
- invalidtransactid
- invalidurl
- linkfailure
- nosourcedids
- overflowfail
- partialdatastorage
- savepoiniterror
- savepointsyncerror
- targetisbusy
- targetreadfailure
- unauthorizedrequest
- unknownextension
- unknownobject
- unknownoperation
- unknownquery
- unknownservice
- unknownvocab
- unsupportedLIS
- unsupportedLISoperation
- unsupportedLISservice

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- unsupportedoperations
- unsupportedservices

A full listing of the Severity, Code Major, and Code Minor values and their meanings can be found in the "Event Message Statuses" appendix.

Connection Error Select to display only those event messages that have returned a connection error. Connection errors are drawn from the Integration Broker service operation monitor and provide detail about the nature of a connection issue or failure.

Refresh Click this button to refresh the list of values displayed in the search results grid.

Select All Check this check box to include all event messages for the Delete action.

Deselect All Check this check box to remove all event messages from selection.

Delete Click to remove all selected event messages from the Event Message Monitor.

Note. This deletes the entries from the Event Message Monitor log and these event statuses will no longer be reviewable from the Event Message Monitor page. You can delete log messages as needed to prevent the log from growing excessively large. If Integration Broker Logging is enabled, administrators can still review the event driven messages from the IB Status Monitor.

Resync Click the Resync button to re-initiate the selected event(s). The resync creates a new event based on the selected event in order to reflect the most current information in the system. Resync is useful, for example, for troubleshooting system integration or in a case where there was a failure in the target system or network.

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Chapter 9

Setting Up and Using LDAP Integration

This chapter provides an overview of SAIP LDAP integration and discusses how to:

- Set up LDAP integration.
- Run an LDAP synchronization.
- Manage multitarget integration.

Understanding SAIP LDAP Integration

In addition to the web service support, SAIP provides the ability to provision person, enrollment, and course data to an LDAP directory. This enables applications that cannot consume web services but can read groups from an LDAP directory to be provisioned. The data is fundamentally the same as that which is provisioned via web services. All XML record types are replicated as LDAP directory subtrees. Because common LDAP practice discourages use of object hierarchy within records, there is an additional subtree type of Person Detail which contains a subset of the data that is contained within the Person XML record in the SOAP integration.

With LDAP integration, SAIP generates one or more LDIF files that may be imported into an LDAP directory. The process of generating LDIFs is conceptually similar to running a batch process for SOAP integration, with two important differences. First, the LDIF process is initiated within SAIP rather than by the consuming application. Second, LDAP integration checks the target system when generating an LDIF in order to validate the delta between the two systems.

Note. The Student Administration Integration Pack is a single target (multi-consumer) mechanism, meaning that it is currently designed to produce a single output stream, although multiple applications can consume that output simultaneously. An LDAP directory would be considered a "target" in the same way that an integration gateway would be considered target. Therefore, you can run either the web serviced binding of the SAIP, or the LDAP binding, but you cannot run the two bindings simultaneously. Doing so will produce unpredictable results.

Setting Up LDAP Integration

This section lists prerequisites and discusses how to set up SAIP LDAP integration with a directory that has been added to PeopleSoft.

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Prerequisites

Before a directory can be added to SAIP integration, it must first be added to the PeopleSoft installation via the Directory Setup page (PeopleTools, Security, Directory, Configure Directory). Only the information on the Directory Setup need be entered. It is not necessary to cache the directory schema.

The following SAIP services must be enabled in order for LDAP integration to function:

- PUBLISHINSTITUTION
- PUBLISHACADORG
- PUBLISHINSTITUTIONTOTARGET
- PUBLISHACADORGTOTARGET
- PUBLISHCOURSETEMPLATE
- PUBLISHCLASSSECTION
- PUBLISHCOMBINEDSECTION
- PUBLISHPERSON
- PUBLISHSTDNTCAREERTERM
- PUBLISHSTUDENTENROLLMENT
- PUBLISHTERM

See Also

PeopleSoft Enterprise Components PeopleBook for PeopleSoft HRMS & Campus Solutions 9.0,"Using PeopleSoft Directory Interface,"Configuring the Directory Connection

Page Used to Set Up LDAP Integration

Page Name	*Definition Name*	*Navigation*	*Usage*
LDAP Targets	SAE_LDAP_TBL	Set Up SACR, Product Related, SA Integration Pack, Set Up Targets, LDAP Targets	Add an LDAP directory for SAIP integration.

Adding a Directory to SAIP

Once the directory has been added to PeopleSoft, access the LDAP Targets component (Set Up SACR, Product Related, SA Integration Pack, Set Up Targets, LDAP Targets) and add the directory there.

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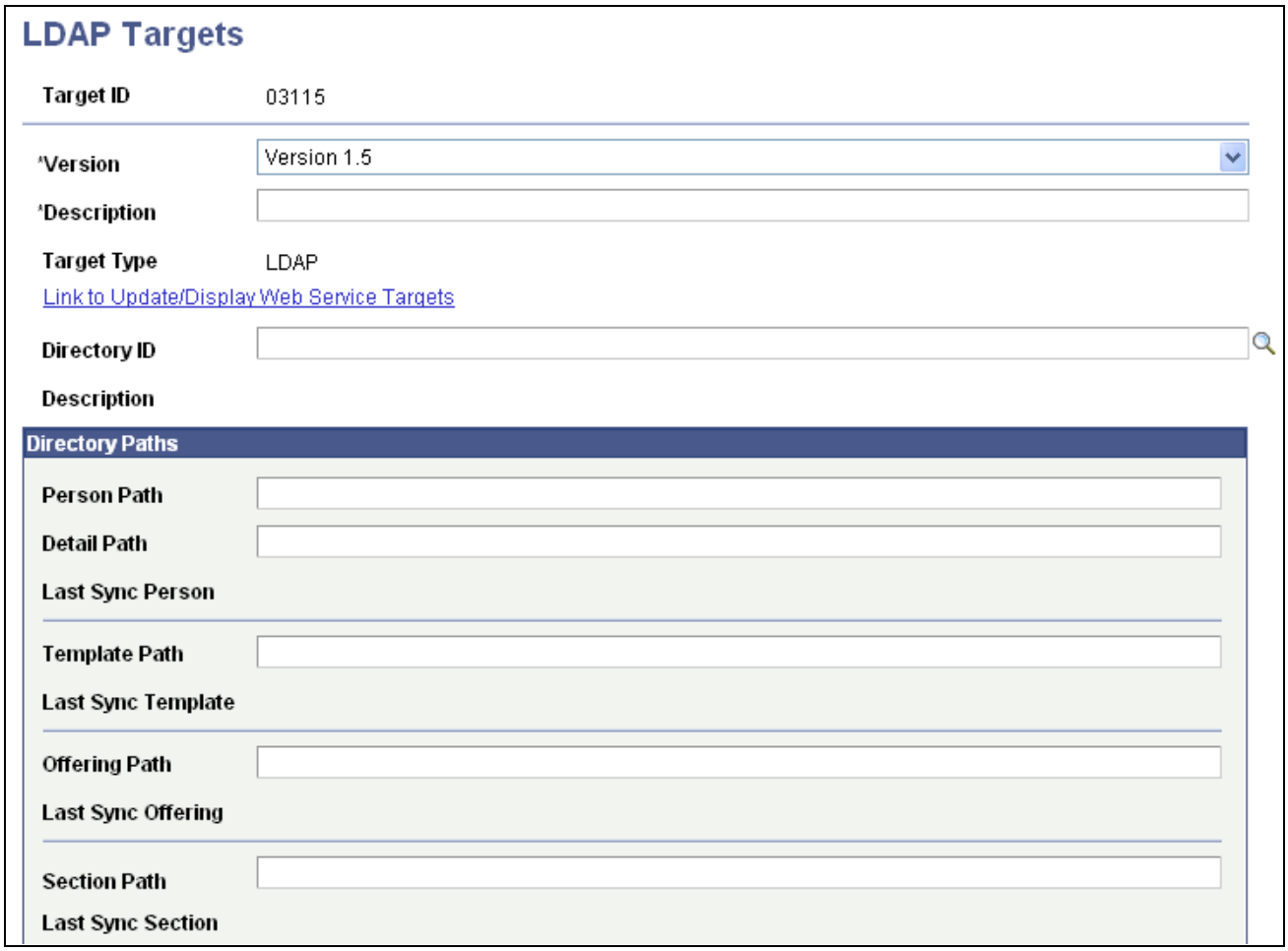
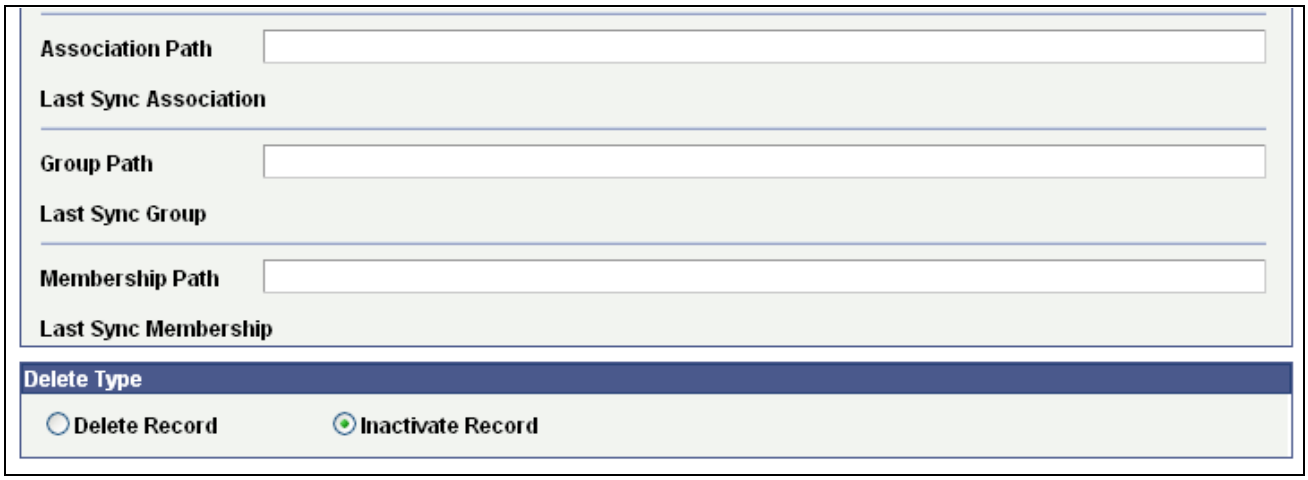


LDAP Targets page (1 of 2)



LDAP Targets page (2 of 2)

Enter or select the items to use as default settings for your institution's initial and subsequent transfers of data to the external system.

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Target ID	Set the ID of the target. **Note.** The Target ID must be globally unique across both LDAP and web service bindings. Consequently, a link is provided to display web service targets in the event of a naming conflict.
Version	Set the version of the SAIP binding to be used. (There are no differences between SAIP LDAP Version 1.0 and Version 1.5.)
Target Type	Describes the type of target (LDAP or web service).
Person Path	Set the directory path for person entries.
Detail Path	Set the directory path for person detail entries.
Last Sync Person	This field provides the date and time that the last synchronization of person entries was run.
Template Path	Set the directory path for course template entries.
Last Sync Template	This field provides the date and time that the last synchronization of course template entries was run.
Offering Path	Set the directory path for course offering entries.
Last Sync Offering	This field provides the date and time that the last synchronization of course offering entries was run.
Section Path	Set the directory path for course section entries.
Last Sync Section	This field provides the date and time that the last synchronization of course section entries was run.
Association Path	Set the directory path for section association entries.
Last Sync Association	This field provides the date and time that the last synchronization of section association entries was run.
Group Path	Set the directory path for group entries.
Last Sync Group	This field provides the date and time that the last synchronization of group entries was run.
Membership Path	Set the directory path for membership entries.
Last Sync Membership	This field provides the date and time that the last synchronization of membership entries was run.

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Delete Type Select to indicate integration behavior when an entry is deleted in PeopleSoft.

Selecting *Delete Record* will remove the LDAP entry from the directory.

Selecting *Inactivate Record* will update the LDAP entry by setting the appropriate status attribute in the entry to Inactive.

Running an LDAP Synchronization

This section discusses generating LDIF files for import into the target directory.

Page Used to Run LDAP Synchronization

Page Name	*Definition Name*	*Navigation*	*Usage*
LDAP Synchronization	SAE_LDAPRUNCNTL	SA Integration Pack, LDAP Synchronization	Generate an LDIF file based on SAIP data.

Generating the LDIF File

Access the LDAP Synchronization run control page (SA Integration Pack, LDAP Synchronization).

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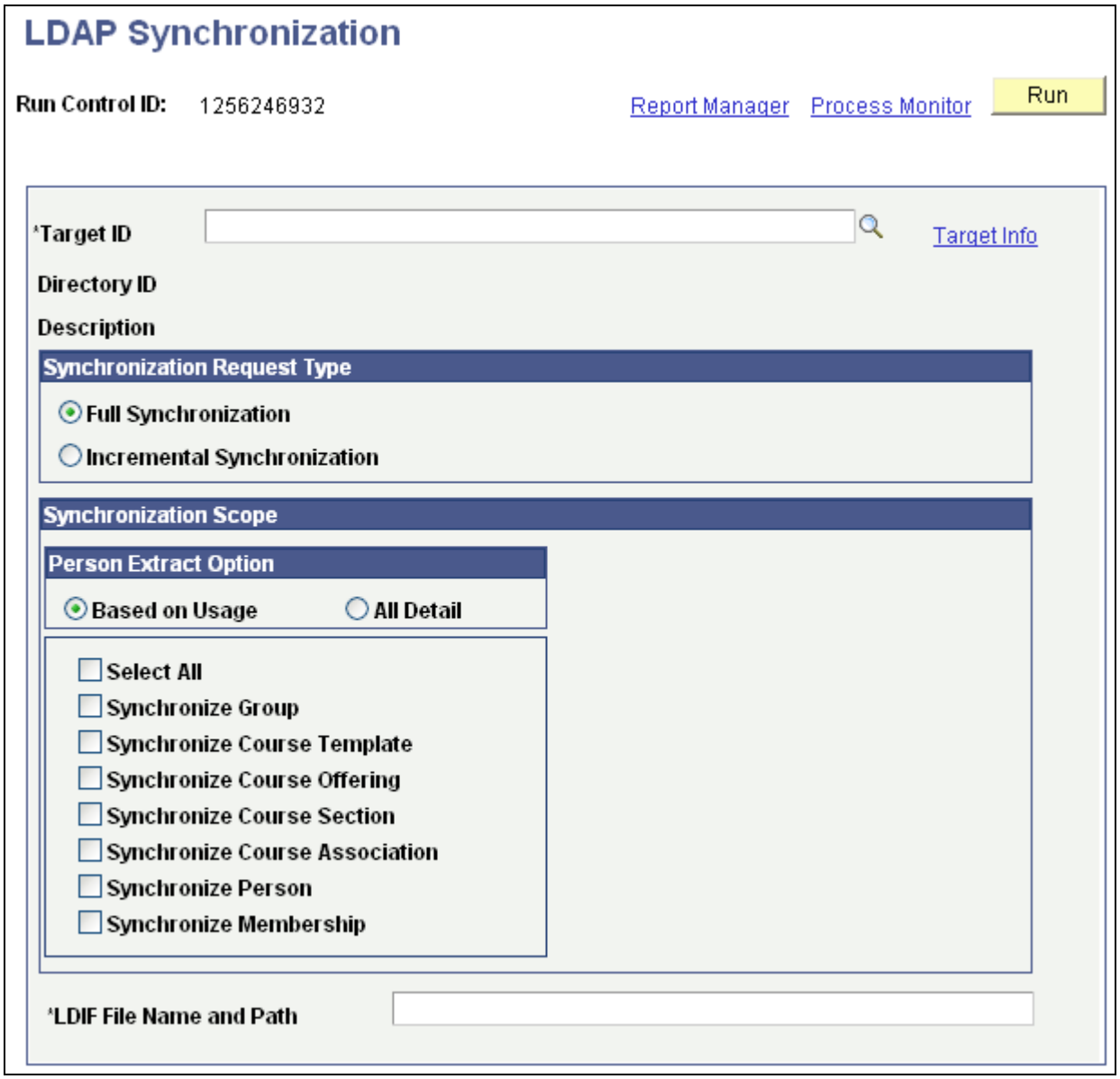

LDAP Synchronization page

Enter or select the items to use as settings for your institution's transfer of data to the external system.

Target Info Click this link to access SAE_LDAP_TARGETS, where you can configure the LDAP target.

Directory ID Select a directory ID from those defined during the setup in the LDAP Targets component.

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Synchronization Request Type

Full Synchronization compares all the data that is in scope with the data in the target system and updates the target system by adding any missing entries, deleting or deactivating any removed entries (depending on setup configuration), and updating any changed entries.

Incremental Synchronization compares only data that has been changed in PeopleSoft since the last synchronization with the data in the target system and updates the target system accordingly.

Person Extract Option

Based on Usage provides Person data based on the options set in the SAIP Installation page.

All Detail provides all Person data available regardless of the options set in the SAIP Installation page.

See Chapter 3, "Setting Up SAIP," Setting Default Installation Values, page 12.

Synchronize…

Check the box for each directory subtree to be synchronized. One LDIF will be generated containing all of the entries for all of the subtrees selected. Entries will automatically be listed in the proper order required to maintain data integrity.

Warning! If LDIFs for subtrees are generated one at a time, they must be created in the proper order.

Update LMS Sent Indicator

Clear this box to prevent the LMS Sent flag from being set after an entry is set.

Note. Because the LMS sent flag will not be switched to Y, child entities will not be picked up as in scope until such time as the parent offering LMS Sent flag has been set to Y. It is recommended that you always set LMS Sent to Y in production situations in order to ensure data integrity.

LDIF File Name and Path

Specify the path and name of the LDIF file being generated. Be sure to include the .ldif extension in the file name.

Click Run to bring up the Process Scheduler Request page. Click OK to run the process scheduler. Check the Process Monitor to ensure that the process has completed without errors.

Warning! If the LDAP directory integration has not been set up, or if the LDAP directory is down, the process will fail.

Import the LDIF file into the external system using LDIF import mechanism or tools provided by the maintainers of the LDAP directory.

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Appendix A

Event Message Statuses

This appendix lists event message status codes, with explanations.

Status Codes and Explanations

The IMS Learning Information Services implemented by the SAIP have a number of transaction status codes that are returned to the invoking agent. A common phrase is used for a common status code in different services. The meaning of these status codes is summarized below.

Status Code	***Explanation of the Cause of the Code***
'CodeMajor=unsupported' 'Severity=Status' 'CodeMinor= unsupportedLISservice'	This service in LIS is not supported by the target system. Every system that implements any part of the LIS specification must return this status code for a service component in LIS that is not supported. This code must originate in the service provider.
'CodeMajor=unsupported' 'Severity=Status' 'CodeMinor= unsupportedLISoperation'	This operation is not supported by the target system. Every system that implements any part of the LIS specification must return this status code for an operation that is not supported in a supported service. This code must originate in the service provider.
'CodeMajor=unsupported' 'Severity=Status' 'CodeMinor= unknownservice'	This service is not supported by the target system. It is not a known LIS service. This code must originate in the service provider.
'CodeMajor=unsupported' 'Severity=Status' 'CodeMinor=unknownoperation'	This operation is not supported by the target system. It is not a known operation in the LIS service. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=targetisbusy'	The target end-system received the request but is busy and cannot process the request. The request should be resubmitted. This code must originate in the service provider.

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Status Code	***Explanation of the Cause of the Code***
'CodeMajor=Failure' 'Severity=Error' 'CodeMinor=linkfailure'	There has been a failure in the end-to-end system communications mechanism and so the request has not been delivered. This code can originate in any of the SOAP nodes.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=unauthorizedrequest'	The source system is not authorized to make this request of the target. The reason for the refusal can be one of several causes. This code must originate in the service provider.
'CodeMajor=Success' 'Severity=Status' 'CodeMinor=fullsuccess'	The request has been fully and successfully implemented by the target system and the corresponding object has been processed as requested. No failure condition has occurred. This code must originate in the service provider.
'CodeMajor=Success' 'Severity=Status' 'CodeMinor= nosourcedids'	The read request has been fully and successfully implemented by the target system and no object identifiers were found. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=idallocfail'	The target could not allocate a unique identifier to the corresponding object because there are no more spare identifiers available. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=overflowfail'	The target could not create the corresponding object due to a lack of target allocation memory. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=idallocinusefail'	The target could not allocate the required unique identifier to the corresponding object as it is already in use. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=invaliddata'	Part or all of the returned data was detected as invalid by the source system. This code must originate in the service consumer.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=incompletedata'	Some mandatory part of the data has been detected as missing by the target system. This code must originate in the service provider.
'CodeMajor=Success' 'Severity=Status' 'CodeMinor=partialreadfail'	Some of the object identifiers are unknown in the target system and so those objects could not be read. This code must originate in the service provider.

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Status Code	*Explanation of the Cause of the Code*
'CodeMajor=Success' 'Severity=Warning' 'CodeMinor=partialdatareturn'	The target has only returned a subset of the data object, for example, only the mandatory parts. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=invalidlineitemtype'	The defined LineItemType for the LineItem object is unknown in the target system. This code must originate in the service provider.
'CodeMajor=Success' 'Severity=Warning' 'CodeMinor=partialdatastorage'	The target has only stored a subset of the sent data record, for example, only the mandatory parts. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=unknownobject'	The corresponding object identifier is unknown in the target system and so the object could not be processed as requested. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor= deletefailure'	The target system has not been able to delete the identified object. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=targetreadfailure'	The target system has detected an error in the stored object and so cannot return the data. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=unknownrelation'	The RelationId is unknown for the identified Group or Course object. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=savepointerror'	An error has occurred in the processing of the save point identifier information, making it impossible to read the correct objects from the database. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=savepointsyncerror'	The value of the save point reference from the source was later than that of the target system. No identifiers have been returned. The target system save point value is reported to the source system for information. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=unknownquery'	The target system cannot understand the query request that has been received; for example, the query/filter language is unknown. This code must originate in the service provider.

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Status Code	***Explanation of the Cause of the Code***
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=unknownvocabulary'	The target system could not identify the defined vocabulary term. This may be due to an incorrect term or a missing vocabulary file. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=unknownextension'	The target cannot process the proprietary data model extensions used in the object. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=invalidtransactionid'	The transaction identifier supplied by the BDEMS service consumer is invalid. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=invalidurl'	The URL supplied by the BDEMS service consumer is invalid. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=unsupportedservices'	One or more of the services named, in the bulk block data file object for the BDEMS, is not supported by the service consumer. This code must originate in the service provider.
'CodeMajor=Failure' 'Severity=Status' 'CodeMinor=unsupportedoperations'	One or more of the services named, in the bulk block data file object in the BDEMS, is not supported by the service consumer. This code must originate in the service provider.

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Appendix B

SAIP Reports

This appendix provides an overview of SAIP reports and discusses how to view a summary table of all reports.

Note. For samples of these reports, see the Portable Document Format (PDF) files published on CD-ROM with your documentation.

On June 1, 2011, Oracle discontinued distribution of SAP's Business Objects Enterprise and Crystal Reports with PeopleTools. Existing customers may use Business Objects Enterprise and Crystal Reports licenses previously received from Oracle. Customers who wish to use future versions of Business Objects and Crystal Reports products with PeopleSoft will need to obtain appropriate license and support directly from SAP/Business Objects.

See Also

PeopleTools: PeopleSoft Process Scheduler

SAIP Reports: A to Z

This table lists the SAIP reports, sorted alphanumerically by report ID. If you need more information about a report, refer to the report details at the end of this appendix.

Report ID and Report Name	*Description*	*Navigation*	*Run Control Page*
Report ID and Report Name SAE_CLS_SCO (SAIP Class Integration report)	Enables you to generate a printable report of all class sections that currently meet all scope criteria and are participating in or are ready to participate in the integration.	SA Integration Pack, SAIP Class Integration Report	SAE_REPORT_PAGE

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