CHAPTER 1

Integrating Campus Solutions with Human Capital Management

This chapter provides an overview of Campus Solutions-to-Human Capital Management (CS-to-HCM) integration and discusses how to:

- Integrate person data.
- Integrate setup data.
- Integrate using the higher education constituent hub (HECH).
- Monitor integrations using the Integrity Utility.

See Also

Campus Solutions-HCM Integration White Paper on My Oracle Support, ID 1553319.1 (http://support.oracle.com)

Understanding CS-to-HCM Integration

The CS suite of products has historically resided in a single database instance with HCM. This coupling has enabled CS and HCM to share a person model, a single instance of a person in the system, and student refund processing through HR Payroll. The releases of HCM 9.1and HCM 9.2 require CS 9.0 and HCM to operate in separate instances. Separation is not mandatory until your institution upgrades to HCM 9.1 or HCM 9.2. However, as of CS 9.0, Oracle delivers the flexible toolset needed to integrate with separated instances of HCM 9.0, 9.1 and 9.2. Whenever your institution decides to separate, its business processes will determine the proper way to integrate the separate instances. This chapter describes several possible integration approaches. Although the two databases will be separated, your institution still maintains the ability to search for people and maintain a single EmplID across CS and HCM.

Integrating Person Data

This section provides overviews of person data integration and business processes, and discusses how to:

- Review integrated person data.
- Publish and subscribe to person data.

Understanding Person Data Integration

In CS 9.0 Feature Pack 4, Oracle delivered the tools that provide for an integration of person data directly between the CS and HCM systems. The suite of person attributes is transferred primarily by the PERSON_BASIC_SYNC message. The data that comprises the message includes the core person data historically contained in PERSON_BASIC_SYNC, plus CS extension data (such as FERPA) contained in the PERSON_SA message and global subrecords. Ethnicity and diversity information are also part of the integrated person data set. Subscription handlers enable inbound person additions and updates in both CS and HCM. PERSON_BASIC_SYNC can also subscribe to incoming person data from an external source.

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As delivered, direct integration between CS and HCM requires only the use of Integration Broker to enable and orchestrate the integration. No additional integration mechanism is required.

CS also subscribes to the WORKFORCE_SYNC message to bring job data (still mastered in HCM) into CS for those CS processes that require it (such as assigning an instructor to a class).

Reviewing Integrated Person Data

Bundle 32
New content
In general, the following key person bio-demo and other data are synchronized between the systems. The delivered integrations include data fields for country localizations and other personal attributes which may or may not be used in your implementation.

- Names
- Addresses
- Phones
- Email Addresses
- National IDs
- Gender
- Birth date
- Date of Death
- Marital Status
- FERPA Flag
- Disability
- Ethnicity/Diversity
- Citizenship
- Passport
- Visa/Permits
- Job
- HR Operator Defaults
- User Profiles

In the distinct ownership model, the following person bio-demo data is fetched from one system to the other as part of the External Search/Match process:

- EmplID
- Names
- Addresses
- Phones
- Email Addresses
- National IDs
- FERPA Flag
- VA Benefit

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Understanding the Business Process

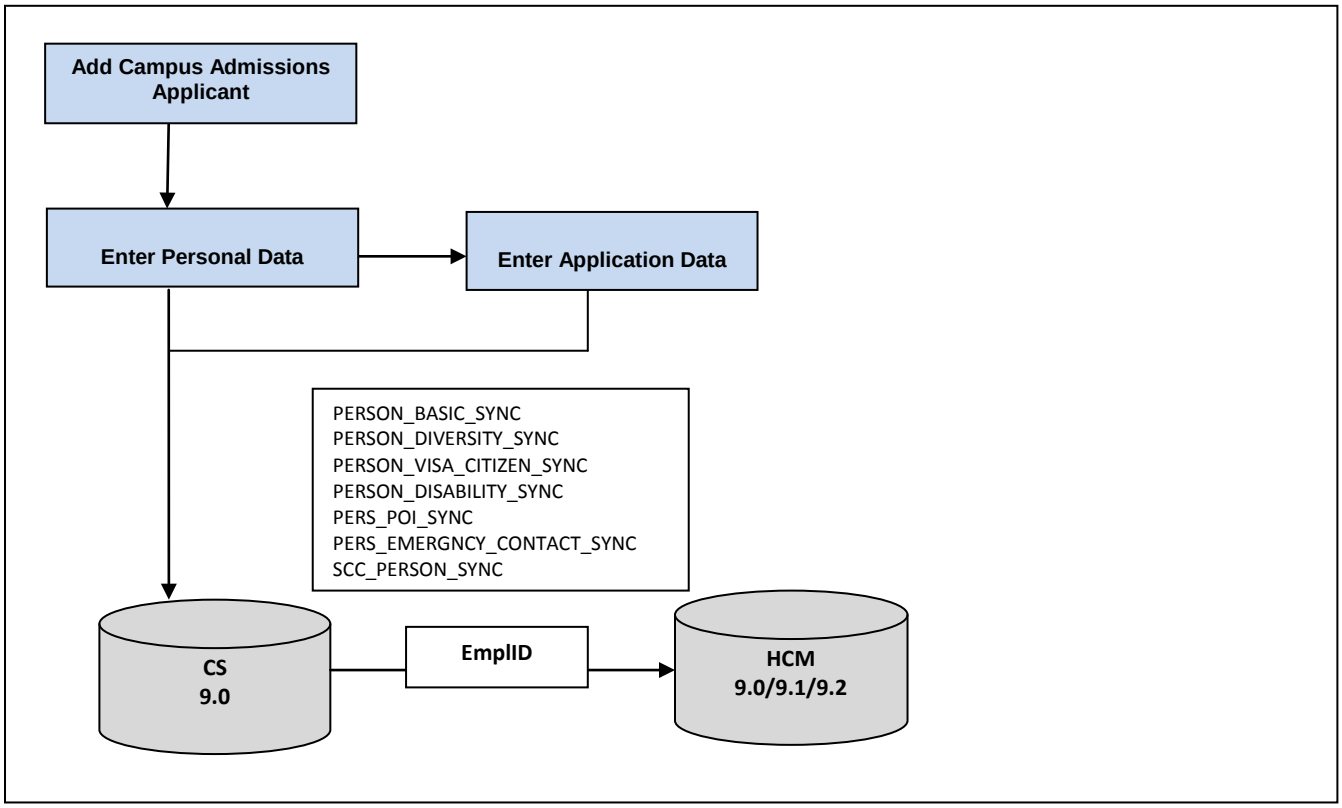
In a shared CS-HCM instance, data is available in both systems and updates in either system change a single record. In a CS-to-HCM integrated environment, the person record is physically separated.

In thinking about the flow of person data between separated instances, institutions are no longer bound by the absolute sharing of data conferred by a single shared data model. Instead, they can use the tools described in this documentation to configure the integration to reflect the business needs of the institution. For example, some institutions would prefer to retain, as much as possible, the legacy model in which all person data is shared between CS and HCM; other institutions may want to separate not just their data but their business processes to more closely reflect policies of data ownership between student and human resources administration on campus.

CS supports four models of integration of person data between CS and HCM: Owner/Subscriber, Subscriber-Only, Distinct Ownership, and integration using the Higher Education Constituent Hub.

Owner-Subscriber

In an owner-subscriber integration model, one system is defined as the system of record and the other system subscribes to its person data messages. All EmplIDs exist and are in sync in both databases. For example, if CS is defined as the owner for adding and updating person data, the HCM system subscribes to the person messages; integration setup feeds person data additions and updates to HCM. The end-user experience can be managed via a portal or related content to navigate a combination of CS and HCM menus and pages.



Process of adding an admissions applicant in CS

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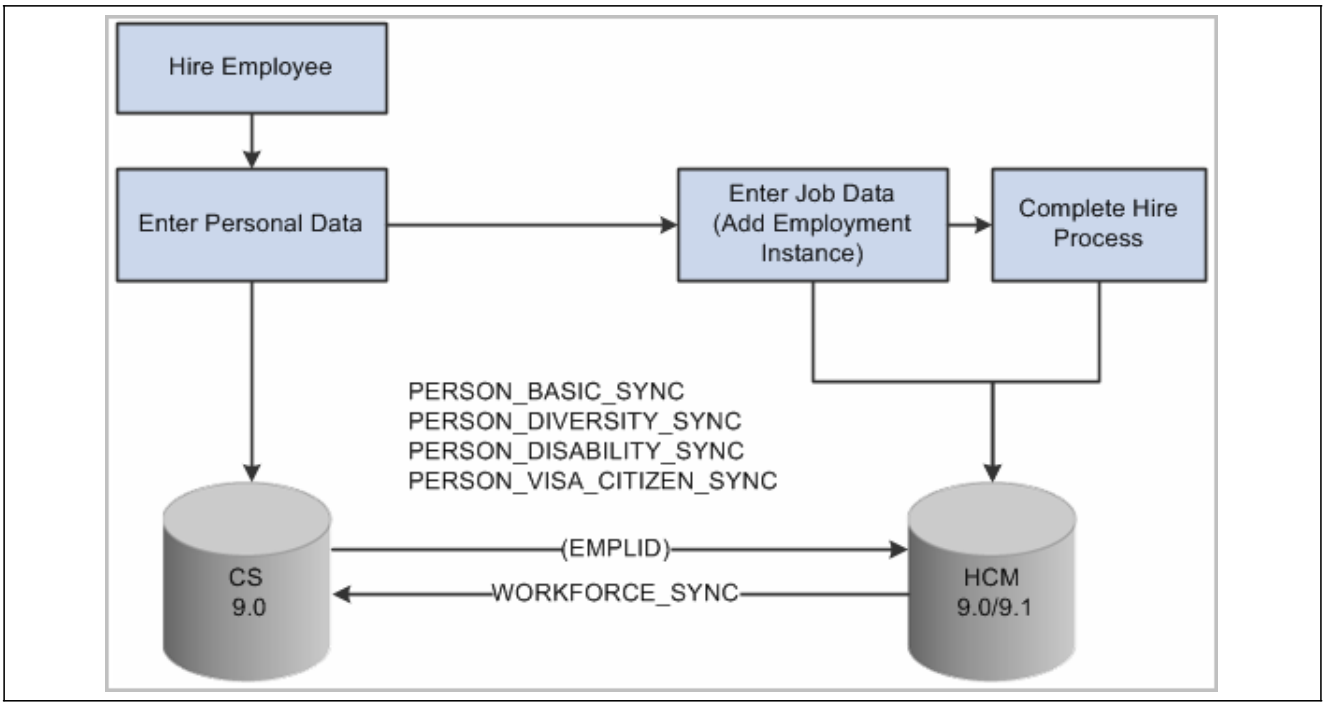

Process of hiring an employee in HCM

Bundle 32
New integration model

Subscriber-Only

In a subscriber-only integration model, both systems are defined as system of record and and integrations are configured to allow both systems to publish and subscribe to person data messages. All EmplIDs are populated to both systems and are kept in sync.

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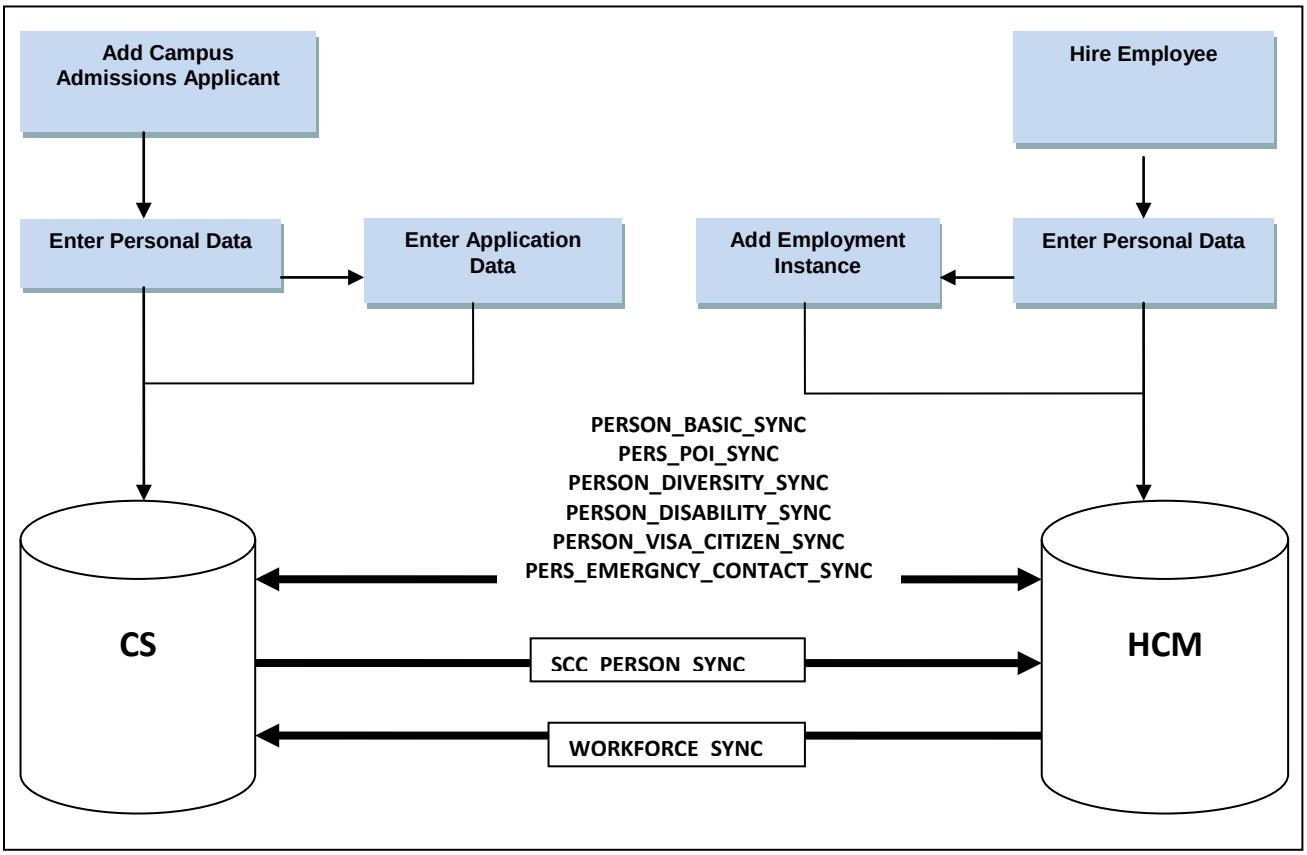

Process of adding an admissions applicant or employee in the Subscriber-only model

Distinct Ownership

In a distinct ownership integration model, person data is added and updated in the appropriate CS or HCM system (as determined by the business processes of your institution; for example, employees are added and maintained in HCM). External Search/Match then becomes the method used in each system to ensure that users do not create duplicate records on campus. For example, as an employee is added to HCM, External Search/Match determines whether that new employee is already a student in CS with an EmplID and other bio-demo data housed in the CS system. If so, a "fetch" process can pull that EmplID and person data to HCM, ensuring that the individual retains a single unique ID on campus. Thereafter, each system must be manually updated, with no further integration between them.

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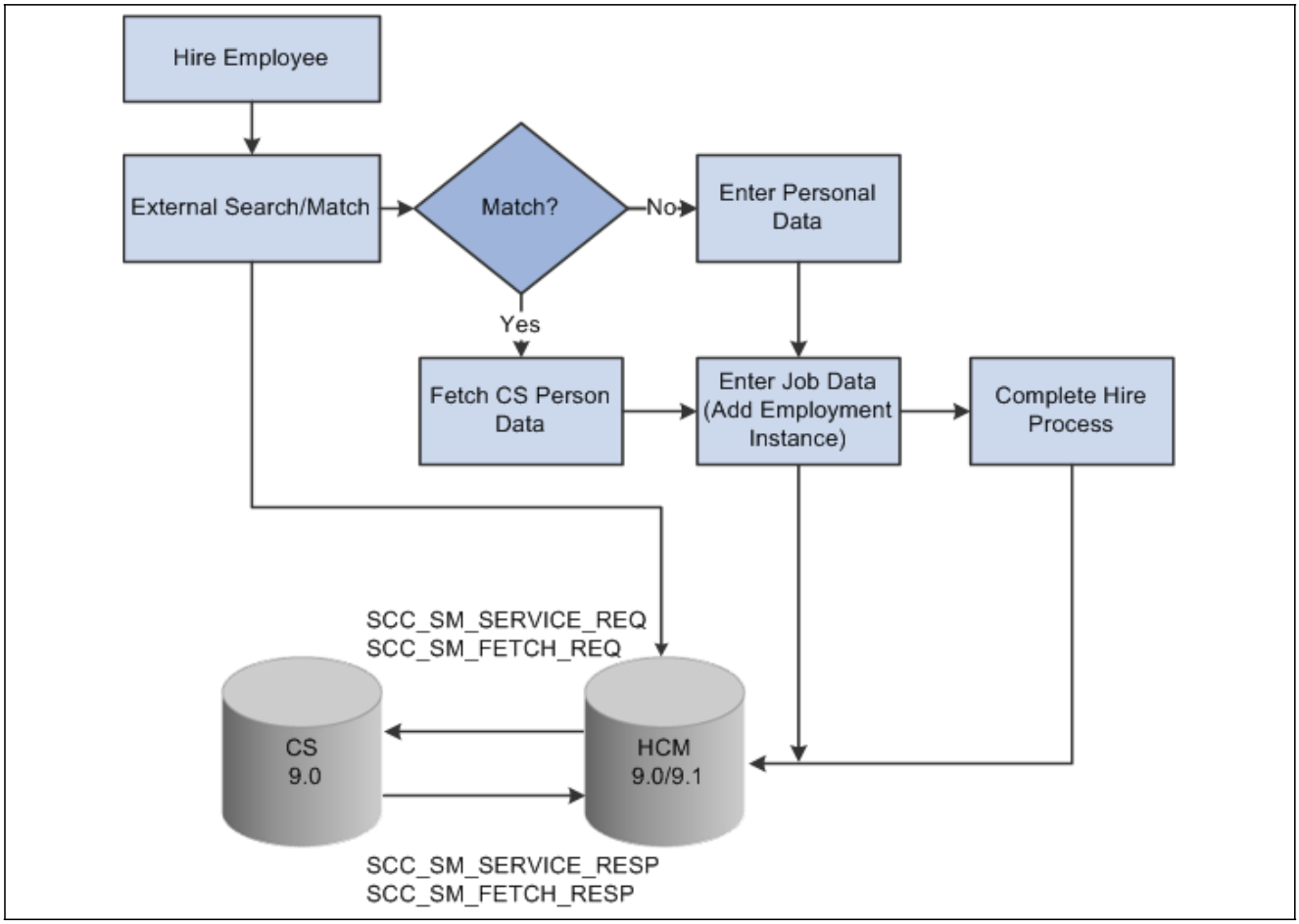

Process of hiring an employee in HCM using External Search/Match to CS

Understanding External Search/Match Integration

Bundle 32
New content

In a single-instance environment, users add persons in their respective application (HCM or CS). In an integrated, separate-instance environment using the distinct ownership model, users who want to maintain a single EmplID must use External Search/Match in each system to ensure the creation of unique person records. Initially, users use positive External Search/Match results to locate and add person data from the external system (such as a CS user searching against HCM); subsequently, person updates must be done manually in both instances to avoid becoming out of sync.

In both the distinct ownership integration and HECH integration models, External Search/Match is the tool used to ensure that only unique EmplIDs are added to any system. With distinct ownership, people are added in either the CS or HCM system (as appropriate); both systems use External Search/Match to search for possible duplicate records so only unique IDs are shared between the databases. However, both databases must be running in order for External Search/Match to work. With the HECH, External Search/Match can search against that system as it would any external system.

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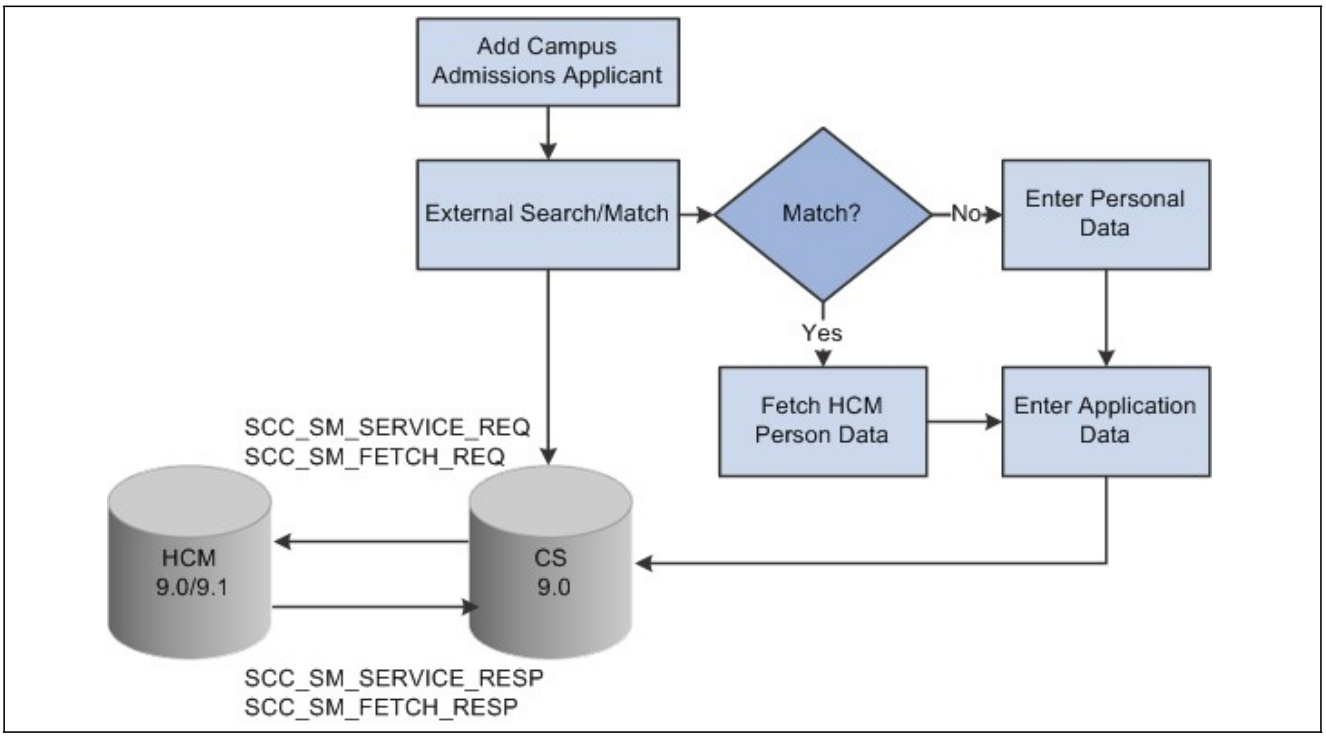
Using External Search/Match to Integrate with External Systems

External Search/Match can search against the HECH, HCM 9.0, HCM 9.1, or HCM 9.2 to identify potential duplicate person records as well as carry EmplIDs throughout a business process.

See Also

[PeopleSoft Enterprise Campus Community 9.0 Fundamentals PeopleBook - Update 1]Setting Up External Search/Match

[PeopleSoft Enterprise Campus Community 9.0 Fundamentals PeopleBook - Update 1]Using External Search/Match



Process of adding an admissions applicant in CS using External Search/Match to HCM

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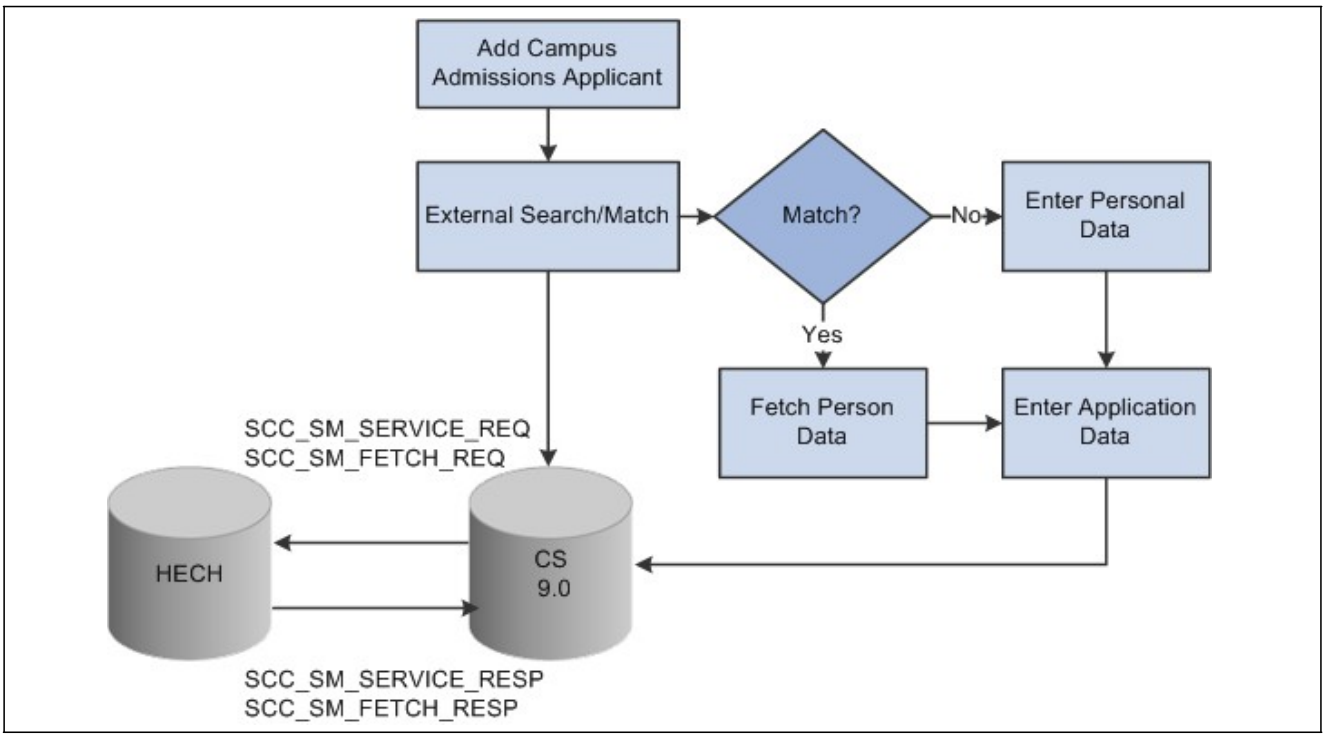
HECH

In a HECH integration model, the HECH becomes the owner of all person data, and all other systems on campus subscribe to it. Your institution can use External Search/Match to ensure that users do not create duplicate records in your CS system.



Process of adding an admissions applicant in CS using HECH

Configuring the Last Employee ID Assigned Number

Bundle 32

New feature

You will need to review and update the Last Employee ID Assigned numbers on your systems to ensure EMPLID values are assigned in proper ranges and to prevent data integrity problems with conflicting EMPLID values being assigned.

- In an owner/subscriber configuration, the database instance that is the system of record for personal information, is responsible for assigning the next EMPLID value.
- In a subscriber-only configuration, both databases assign EMPLID values. Determine the range of EMPLID values that will provide the maximum number of new persons expected to be added to each system over its lifetime. For example, you may anticipate more new persons to be added first to your CS system, therefore set the Last Employee ID Assigned value in the CS instance to a value that will allow for the most growth over time.

This step should be done with careful evaluation of the EMPLID number strategy you have implemented. Consider the following:

- Do you have custom EMPLID assignment routines that are used to set the next ID number?
- Do your users have established business practices that reserve certain number ranges?
- Which system is expected to typically create the most new persons?

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To update the Last ID Assigned, navigate to Setup HRMS, Install, Installation Table. This navigation is the same for both CS and all HCM releases.

On the Last ID Assigned page, update the Last Employee ID Assigned field to the number desired.

See Also

[PeopleSoft Campus Solutions 9.0 Application Fundamentals PeopleBook]Integrating Setup Data

[PeopleSoft Campus Solutions 9.0 Application Fundamentals PeopleBook]Selecting General Installation Options

Publishing and Subscribing to Person Data

In an owner-subscriber integration approach, the following messages move data asynchronously from the owner to the subscriber:

- PERSON_BASIC_SYNC
- PERSON_DIVERSITY_SYNC
- PERSON_VISA_CITIZEN_SYNC
- PERSON_DISABILITY_SYNC

Bundle 32
New messages

- PERS_POI_SYNC
- PERS_EMERGNCY_CONTACT_SYNC
- SCC_PERSON_SYNC

The WORKFORCE_SYNC message integrates job data between the two systems; where necessary, from HCM to CS.

Bundle 32
New functionality
Minimum setup information must be available and loaded from your HCM system to your CS 9.0 system for implementation. This should be completed before any transactional data syncs are performed. The values defined in these setup tables are key to person bio-demo data integrity. Oracle recommends that your setup tables be mastered in the HCM instance.

Incremental Synchronization

Data in the supporting tables in your system of record may change over time after the initial loading of setup, transactional data, and security data. Use incremental sync (Sync) services to send this information from your system of record to your subscribing target system to maintain data integrity.

An incremental sync captures data that was created, added, changed, or deleted in the system of record since the last synchronization. It uses the captured data to overwrite the same data in the subscribing system, thereby refreshing the subscribing system so that both systems have the same data.

After the initial Fullsync data loads have completed in your subscribing target system, you may inactivate the associated FullSync services, and then activate the appropriate incremental Sync services to keep your systems updated.

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Manual Entry Data Load

You can, if necessary, enter data manually into your CS 9.0 and HCM 9.0/9.1 systems. However, it would be tedious, time consuming, and possibly introduce typographical errors. Oracle does not recommend this method for most data elements unless required to load a small amount of data.

Transactional Data Loading Sequence

For all owner/subscriber configurations, person transactional information must be available and loaded from your system of record to your subscribing system for implementation. Oracle recommends your CS 9.0 system be the system of record for Person data. Your HCM system should remain the system of record for all HCM Workforce and other HR related transactional data.

Note. Carefully plan your requirements for the initial load of transaction data for your specific implementation. If you are doing a new install of HCM, you will need to load this transaction data as part of your implementation. Customers upgrading to HCM 9.1 or HCM 9.2 from a combined HCM and CS 9.0 database will already have the proper transaction data in place in both systems.

The following table lists the required integration, indicates the type of service recommended, and the order in which you must load transactional table data into your HCM system.

Person Transaction Data Campus Solutions 9.0 to HCM

Integration Name	HCM Table
PERSON_BASIC_FULLSYNC.VERSION_4	PERSON PERS_DATA_EFFDT PERS_DATA_USF* PERS_NID NAMES ADDRESSES EMAIL_ADDRESSES PERSONAL_PHONE PERS_SMOKER* PERSON_BRA* PERS_DATA_BRA* PERS_DATA_CAN PERS_DATA_CHE* PLACE_ORIG_CHE* PERS_HUKOU_CHN* PERS_DATA_DEU* NATIONALITY_GER* PERS_DATA_ESP* PERSON_FRA* PERS_DATA_FRA* PERS_DATA_IND* PERS_DATA_ITA* PERS_DATA_JPN* PERS_DATA_MEX* PERS_DATA_USA PERS_DATA_FPS* PERSON_SA *Existing CS functionality does not populate

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Integration Name	HCM Table
	these tables. Depending on your use of HCM functionality, the records marked with an asterisk may not have data present at the time the Fullsync is published.
PERS_POI_FULLSYNC.VERSION_1	PER_POI_TYPE PER_POI_SCRTY PER_POI_SCR_DT PER_POI_TRANS
PERSON_DISABILITY_FULLSYNC.VERSION_2	DISABILITY ACCOM_REQUEST DISABILITY_FRA* DISABILITY_GER* DISABILITY_CHE* DISABILITY_ESP* DISABILITY_BRA* DISABILITY_NLD* DISABILITY_NZL* *Existing CS functionality does not populate these tables. Depending on your use of HCM functionality, the records marked with an asterisk may not have data present at the time the Fullsync is published.
PERSON_DIVERSITY_FULLSYNC.VERSION_2	DIVERSITY DIVERS_ETHNIC DIVERS_RELIGION* *Existing CS functionality does not populate these tables. Depending on your use of HCM functionality, the records marked with an asterisk may not have data present at the time the Fullsync is published.
PERSON_VISA_CITIZEN_FULLSYNC1.VERSION_1	CITIZENSHIP CITIZEN_PSSPRT
PERSON_VISA_CITIZEN_FULLSYNC2.VERSION_1	VISA_PMT_DATA VISA_PMT_SUPPRT

Configuring Web Services for Person Data

Bundle 32

Content incorporated from existing appendixes

This section provides a summary of Person Data FullSync and Sync Service Operations and Handlers, and discusses how to:

- Configure Integration Broker Gateway and Nodes.
- Configure PERSON_BASIC_SYNC Service.

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Configuring Integration Broker Gateway and Nodes

To configure the Integration Broker Gateways and Nodes in your CS and HCM databases:

1. Set the Service Configuration in the HCM 9.1 database.
2. Configure the Gateway in the HCM 9.1 database.
3. Configure the default local node in the HCM 9.1 database.
4. Configure the HCM Gateway in the CS 9.0 database.
5. Configure the CS node in the HCM database.
6. Configure the default LOCAL node in the CS database.
7. Configure the HCM node in the CS database.
8. Update the HCM Gateway nodes in the HCM database.
9. Update the HCM Gateway nodes in the CS database.
10. Update the Single Sign-on nodes.
11. Test Nodes.

Note. The steps detailed in the following tasks demonstrate the setup for HCM 9.1 and CS 9.0 databases.

---

1. Setting the Service Configuration in the HCM 9.1 database.

a. Navigate: PeopleTools, Integration Broker, Configuration, Service Configuration.

b. Set Service Namespace = http://xmlns.oracle.com/Enterprise/HCM/services.

c. Set Schema Namespace = http://xmlns.oracle.com/Enterprise/Tools/schemas

d. Set Target Location = http://machinename:port/PSIGW/PeopleSoftServiceListeningConnector

e. Set Service System Status = Production.

2. Configuring the Gateway in the HCM 9.1 database

a. Navigate: PeopleTools, Integration Broker Configuration, Gateways.

b. Select Integration Gateway ID = LOCAL

c. Set URL = http://machinename:port/PSIGW/PeopleSoftServiceListeningConnector/SPLTHL91

d. Click the **Load Gateway Connectors** button. It should load 9 connectors.

e. Save.

f. Click the **Ping Gateway** button. It should be successful and show the status as *Active.*

3. Configuring the default local node in the HCM 9.1 database.

a. Navigate: PeopleTools, Integration Broker, Integration Setup, Nodes.

b. Select the default local node.

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c. Set Descr = HCM 9.1 Instance.

d. Set Authentication Option = Password.

e. Node Password = PS.

f. Default User ID = PS.

g. Click the **Connectors** tab.

h. Use gateway **LOCAL**.

i. Set Connector Id = PSFTTARGET.

j. Click the **Portal** tab.

k. Set Tools Release = 8.50.xx.

(Note: by pressing the <CTL>+J keys, you should be able to see the tools release string.

l. Set Application Release = HCM 9.1.

m. Set Content URI Text = http://machinename:port/psc/SPLTHL91.

n. Set Portal URI Text = http://machinename:port/psp/SPLTHL91.

o. Click the **WS Security** tab.

p. Set Authentication Token Type = none.

q. Disable the **Encrypted** checkbox.

r. Click Save.

4. Configuring the HCM Gateway in the CS 9.0 database.

a. Navigate: PeopleTools, Integration Broker, Configuration, Gateways

b. Add a New Value

c. Integration Gateway ID = *<Gateway Name for HCM 9.1>*.

d. URL = http://machinename:port/PSIGW/PeopleSoftListeningConnector/databasename

e. Click the **Load Gateway Connectors** button. It should load 9 connectors.

f. Save.

g. Click the **Ping Gateway** button. It should be successful and display an 'Active' status.

5. Configuring the CS node in the HCM database.

a. Navigate: PeopleTools, Integration Broker, Integration Setup, Nodes.

b. Add Node = *<Name of CS 9.0 Node>*

c. Set Descr = CS 9.0 Instance.

d. Set Authentication Option = Password.

e. Node Password = *PS*

f. Default User ID = *PS*

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g. Click the **Connectors** tab.

h. Set Gateway = LOCAL

i. Set Connector ID = PSFTTARGET

j. Click the **Portal** tab.

k. Set Tools Release = 8.50.xx

(Note: by pressing the <CTL>+J keys, you should be able to see the tools release string)

l. Set Application Release = CS 9.0.

m. Set Content URI Text = http://machinename:port/psc/databasename

n. Set Portal URI Text = http://machinename:port/psp/databasename.

o. Click the **WS Security** tab.

p. Set Authentication Token Type = none.

q. Disable the **Encrypted** checkbox.

r. Click Save.

6. Configuring the default LOCAL node in the CS database.

(Note: the gateway used by this node is the HCM gateway. The node passwords must be consistent between the CS database and the HCM database.)

a. Navigate: PeopleTools , Integration Broker , Integration Setup , Nodes

b. Select the default local node

c. Set Descr = CS 9.0 Instance.

d. Set Authentication Option = Password

e. Node Password = PS

f. Default User ID = PS

g. Click the **Connectors** tab.

h. Select Gateway = <*Gateway Name for HCM 9.1*> (Note: this is not the local gateway.)

i. Set Connector Id = PSFTTARGET.

j. Click the **Portal** tab.

k. Set Tools Release = 8.50.xx. (Note: by pressing the <CTL>+J keys, you should be able to see the tools release string.

l. Set Application Release =CS 9.0.

m. Set Content URI Text = http://machinename:port/psc/databasename

n. Set Portal URI Text = http://machinename:port /psp/databasename

o. Click the **WS Security** tab.

p. Set Authentication Token Type = none.

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q. Disable the **Encrypted** checkbox.

r. Click Save.

7. Configuring the HCM node in the CS database.

[Note that each node is defined twice: once in each database. They should all use the same gateway.]

a. Navigation: PeopleTools > Integration Broker > Integration Setup > Nodes.

b. Add Node: <Name of HCM Node>

c. Set Descr = HCM 9.1 Instance

d. Set Authentication Option = Password

e. Node Password = PS

f. Default User ID = PS

g. Click the **Connectors** tab.

h. Gateway ID = <Gateway Name for HCM 9.1> (Note: this is not the local gateway.)

i. Set Connector Id = PSFTTARGET.

j. Click the Portal tab.

k. Set Tools Release = 8.50.xx.

(Note: by pressing the <CTL>+J keys in the HCM database PIA, you should be able to see the tools release string.

l. Set Application Release = HCM 9.1

m. Set Content URI Text = http://machinename:port/psc/databasename

n. Set Portal URI Text = http://machinename:port/psp/databasename

o. Click the **WS Security** tab.

p. Set Authentication Token Type = none.

q. Disable (turn off) the **Encrypted** checkbox.

r. Click **Save**.

s. Node Saved message box. Click **OK**.

8. Updating the HCM Gateway nodes in the HCM database

Both CS and HCM database nodes should point to the same Gateway. The specific Gateway should also have both Nodes listed in the Gateway Advanced Properties.

a. Navigate: PeopleTools, Integration Broker, Configuration, Gateways.

b. Select gateway **LOCAL**.

c. Select the **Gateway Setup Properties** link.

d. User ID = administrator

e. Password = password

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f. Click **OK**.

g. In the 'Gateway Default App. Server' frame, Set the App Server URL = ' //machinename:port

(Note: your port must match that specified in your HCM application server.)

h. Enter the appropriate User ID

i. Enter the appropriate Password

j. Set the tools release = 8.50.xx. (Note: by pressing the <CTL>+J keys, you should be able to see the tools release string.)

k. Make sure both the HCM and CS nodes are in the **PeopleSoft Nodes** tab

l. Ping the HCM node. It should be successful.

m. Click **Return**.

9. Updating the HCM Gateway nodes in the CS database.

a. Navigate: PeopleTools, Integration Broker, Configuration, Gateways.

b. Select gateway **LOCAL**.

c. Select the **Gateway Setup Properties** link.

d. User ID = administrator

e. Password = password

f. Click OK.

g. In the **Gateway Default App. Server' frame, Set the App Server URL** = //machinename:port

(Note: your port must match that specified in your HCM application server.)

h. Enter the appropriate User ID.

i. Enter the appropriate Password.

j. Set the tools release = 8.50.xx. (Note: by pressing the <CTL>+J keys, you should be able to see the tools release string.)

k. Make sure both the HCM and CS nodes are in the **PeopleSoft Nodes** tab.

l. Ping the HCM node. It should be successful.

m. Click return.

10. Updating the Single Sign-on nodes in both CS and HCM databases. Single Sign-on is used in this recommended configuration.

a. Navigate: PeopleTools, Security, Security Objects, Single Signon.

b. Make sure that both the default local node and the other node you will be using are listed.

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11. Testing Nodes.

Both nodes must be 'pingable' from each database.

a. Navigate: PeopleTools, Integration Broker, Service Operations Monitor, Administration, Node Status. Do this on each database.

b. For each node name, enter its name and click the 'Ping Node' button.

c. It should respond with **Success**.

Configuring PERSON_BASIC_SYNC Service

Bundle 32

Content incorporated from existing appendixes

The PERSON_BASIC_SYNC service is the primary integration point for syncing core personal data between your CS and HCM systems. The following tasks detail how to configure the PERSON_BASIC_SYNC service to publish from your CS 9.0 system and subscribe in the target HCM 9.0/9.1.

- Owner/Subscriber: If you implement the owner/subscriber model, you will configure your PERSON_BASIC_SYNC service to publish from your master CS 9.0 system to your target HCM 9.0/9.1 system.
- Subscriber Only: If you implement the subscriber–only model, you will configure the PERSON_BASIC_SYNC service in both your CS 9.0 and HCM 9.0/9.1 systems to publish and subscribe.

Note. The examples of the source and target database configuration tasks are of CS 9.0 (source) and HCM 9.1 (target) on PeopleTools 8.51.03.

Source Database CS 9.0 Configuration Tasks

1. Update security by adding the Service Operation(s) to your primary permission list:

a. Navigate to PeopleTools, Security, Permissions & Roles, Permission Lists.

b. Select the relevant permission list from the search dialog box.

c. Select to the **Web Services** tab.

d. Enter the corresponding Service(s) for the Service Operation(s) you wish to use.

e. Click the **Edit** link and add access to the relevant Service Operation(s) listed on the Web Service Permissions secondary page by selecting the **Full Access** option for the Access column.

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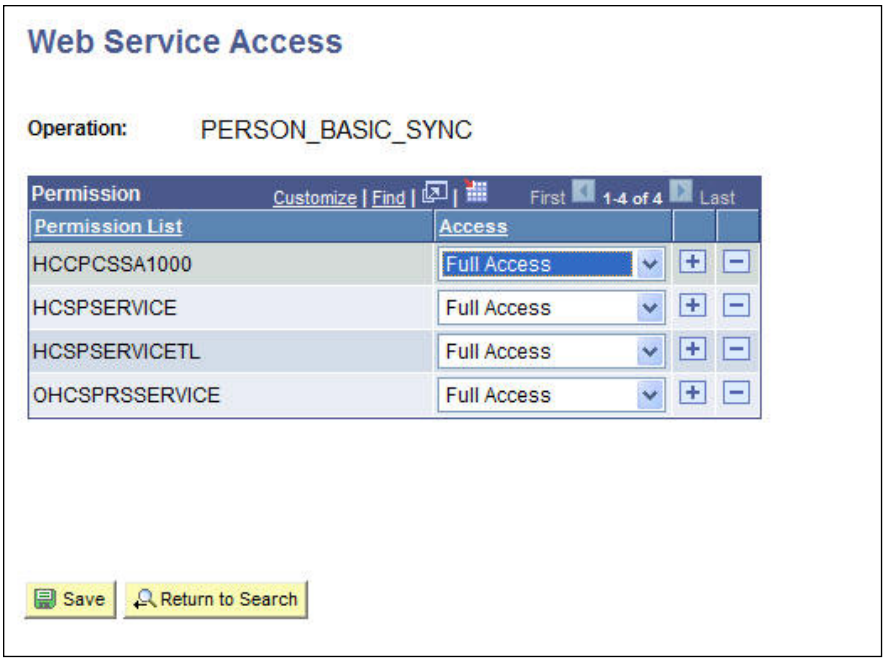

Web Service Access page-PERSON_BASIC_SYNC operation

2. Activate Service Operation(s) and Create Routing(s) in CS 9.0:

a. Navigate to PeopleTools, Integration Broker, Integration Setup, Service Operations.

b. Select PERSON_BASIC_SYNC from the search dialog box.

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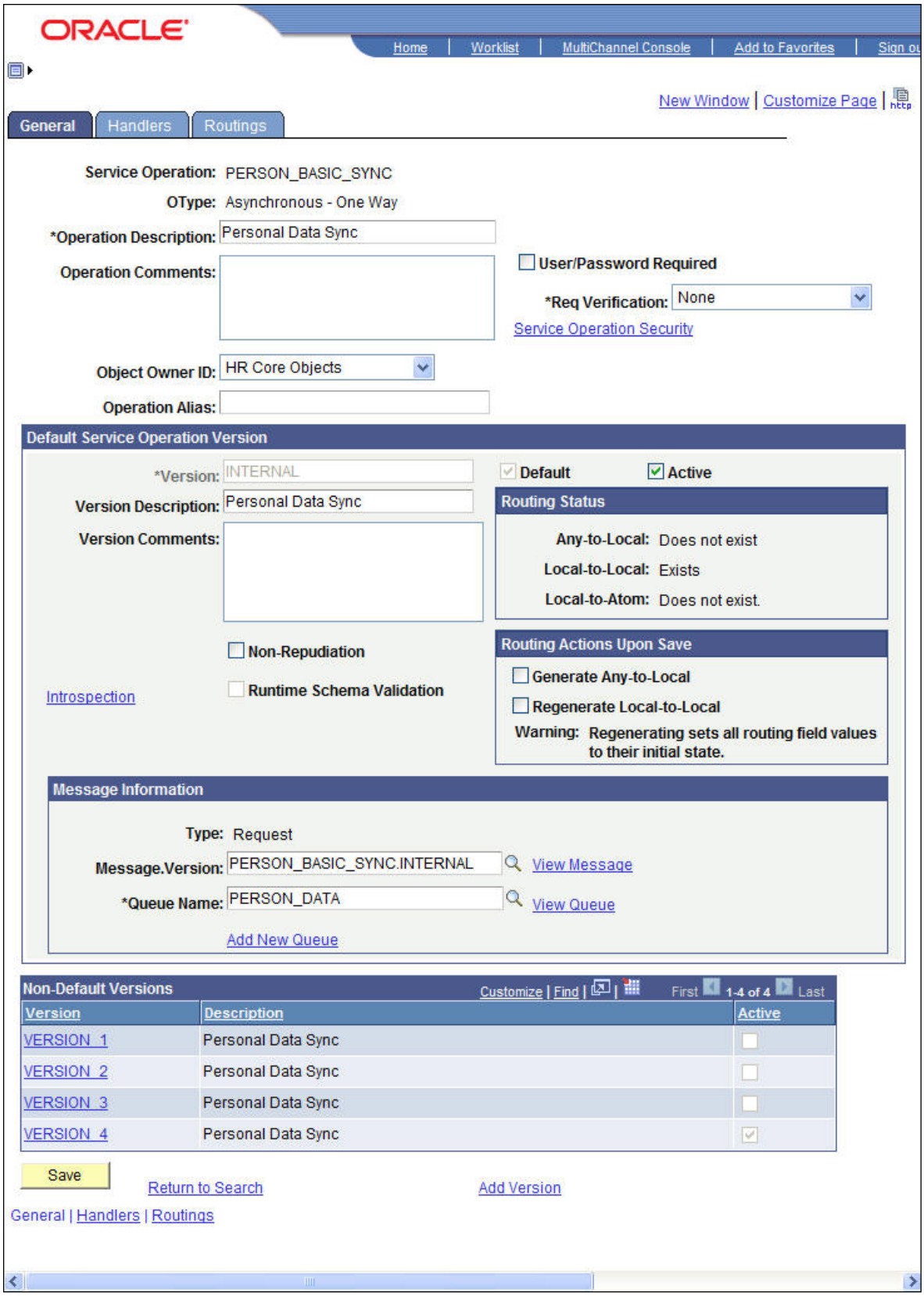

PERSON_BASIC_SYNC Service Operation

c. Check the **Active** check box on the **General** tab.

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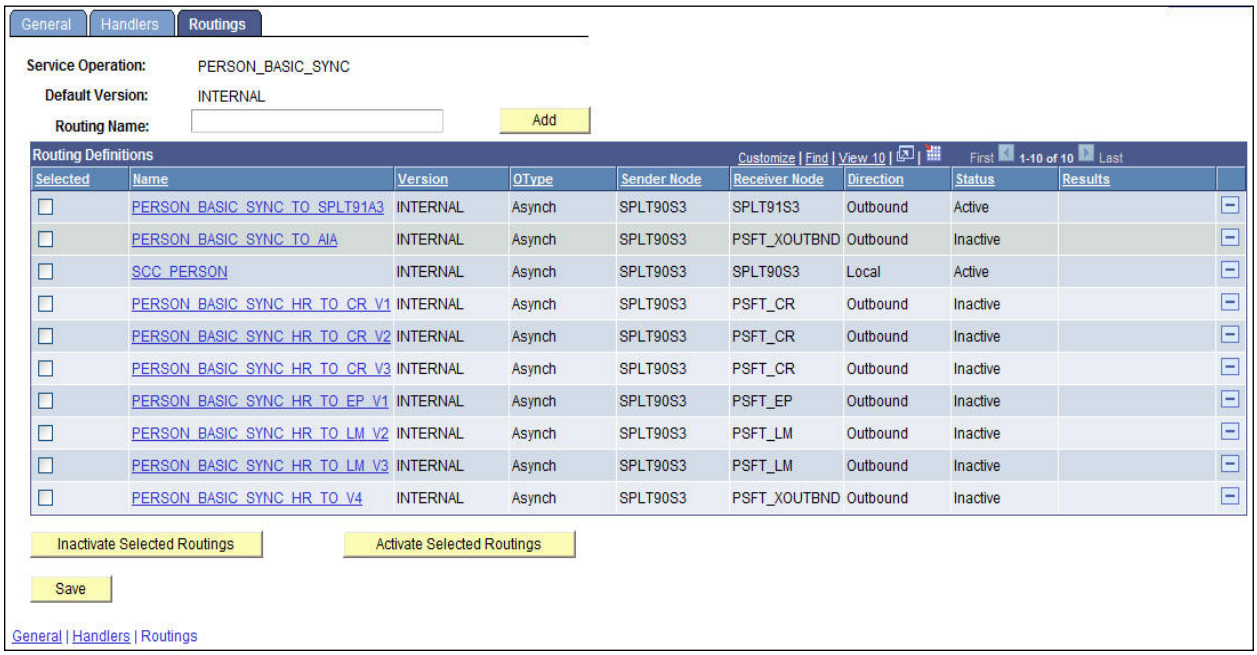
d. Make note of the **Queue Name** field, as you will verify that the PERSON_DATA Queue is in *Running* status later.

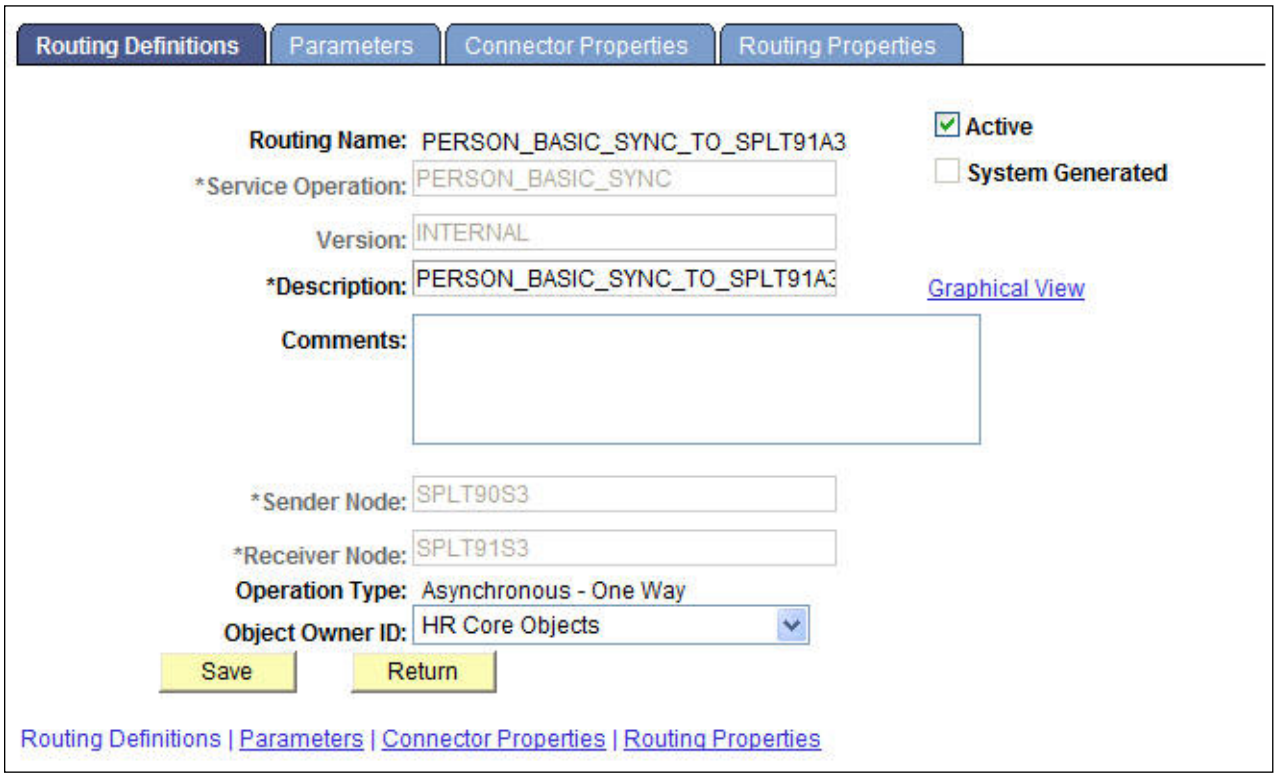
e. Click the **Routings** tab and add a new routing for the Service Operation by entering a value in the **Routing**

f. **Name** field and clicking the **Add** button.



PERSON_BASIC_SYNC Routings

g. Enter a **Sender Node** and a **Receiver Node** on the **Routings Definition** page of the **Routings** component.



PERSON_BASIC_SYNC Routing Definition

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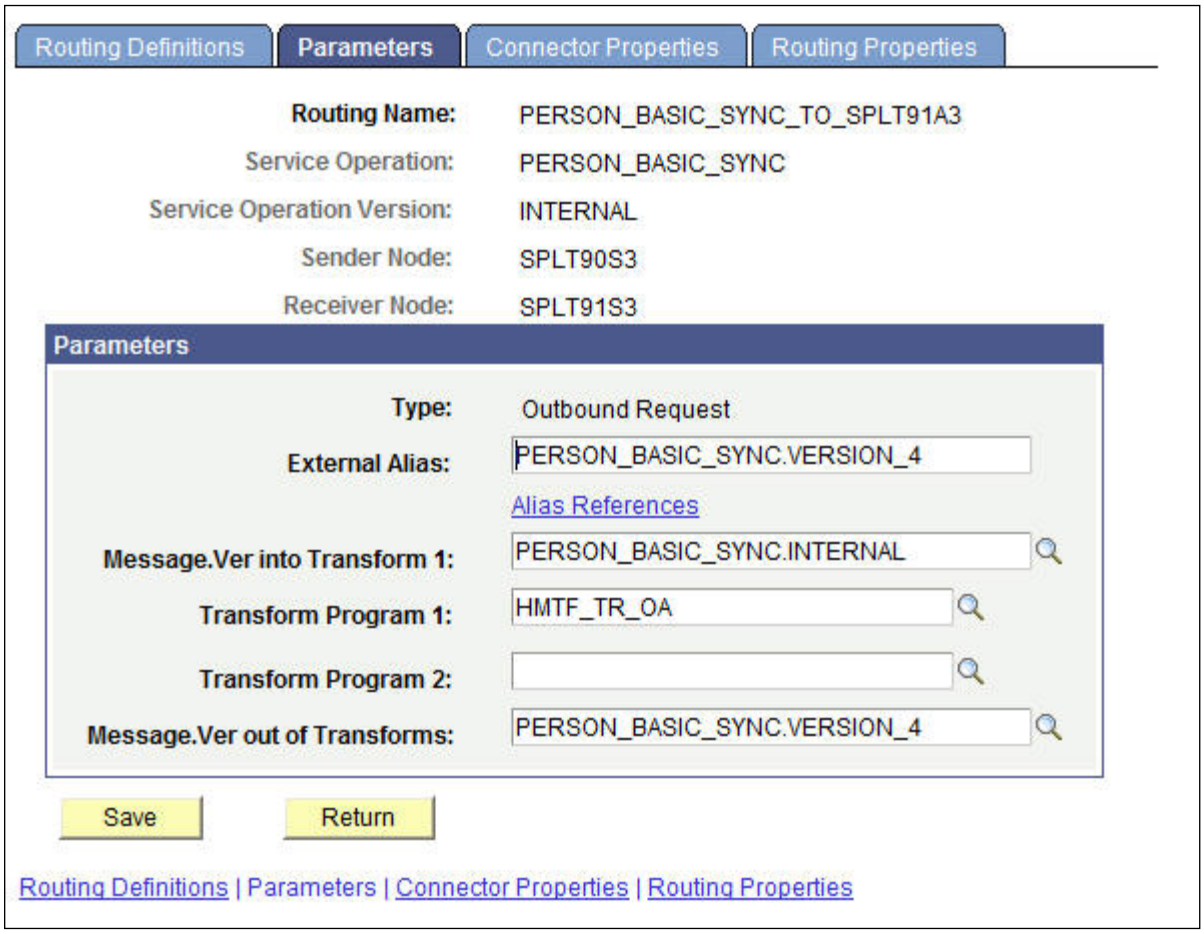
h. Verify that the **Active** check box is checked.

i. Click the **Parameters** tab.



PERSON_BASIC_SYNC Routing Parameters

j. Enter External Alias = PERSON_BASIC_SYNC.VERSION_4

k. Enter Message.Ver into Transform 1 = PERSON_BASIC_SYNC.INTERNAL

l. Enter Transform Program = HMTF_TR_OA

m. Enter Message.Ver out of Transforms = PERSON_BASIC_SYNC.VERSION_4

n. Click **Save** at the bottom of the Parameters page to save the routing.

o. Click **Return** at the bottom of the Parameters page to return to the Service Operation setup page.

p. Click **Save** at the bottom of any page in the Service Operations component to save the Service Operation.

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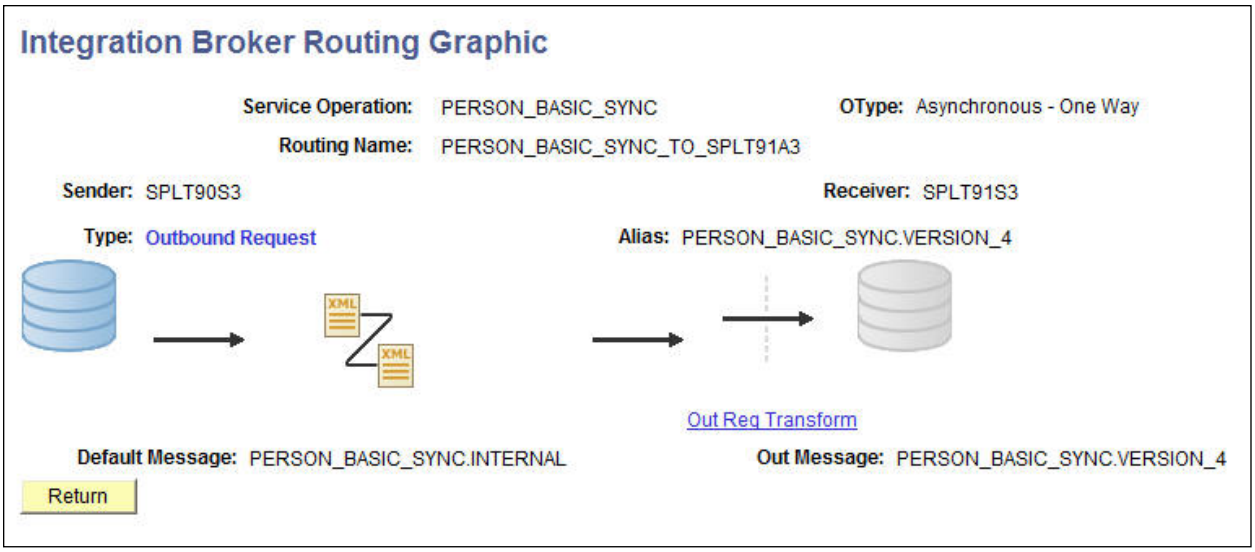

Integration Broker Routing

3. Activate Message Queue.

a. Navigate to PeopleTools, Integration Broker, Service Operations Monitor, Administration, Queue Status.

b. Scroll down the page until you find the relevant PERSON_DATA Queue Name.

c. Review the queue Status and activate the queue by clicking **Run,** if needed. The queue status should be set to *Running* before leaving this page.

PAY_EXPENSES_ACKNOWLEDGE	Paused	Run
PAY_EXPENSES_ISSUE	Paused	Run
PAY_EXPENSES_REQUEST	Paused	Run
PERF_MEASUREMENT_SETUP	Paused	Run
PERSON_DATA	Paused	Run
PERSON_SETUP	Paused	Run
PERSON_TIME	Paused	Run
PM_CHANNEL	Running	Pause
PROCESS_SCHEDULER	Running	Pause
PROJECTS_SETUP	Paused	Run
PSHARING_PAYROLL_INTERFACE	Paused	Run
PSRF_REPORTING_FOLDERS	Running	Pause

PERSON_DATA Queue Status

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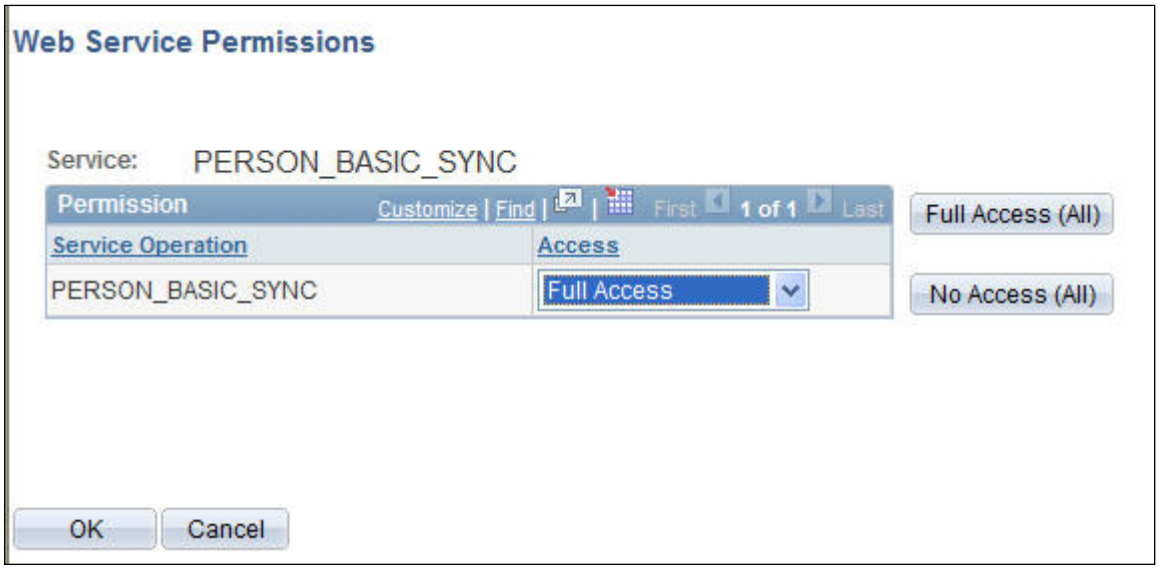
Target Database HCM 9.1 Configuration Tasks

1. Update security by adding the service operation to the required user's permission list.
   a. Navigate to PeopleTools, Security, Permissions & Roles, Permission Lists.
   b. Select the relevant permission list from the search dialog box (primary permission list for the user).
   c. Select the **Web Services** tab.
   d. Enter the corresponding Service(s) for the Service Operation(s) you wish to leverage.
   e. Click the **Edit** link and add access to the relevant Service Operation(s) listed on the Web Service Permissions secondary page.
   f. Click **OK** to return to the Web Services page.
   g. Click **Save** to save the updated Permission List.



Web Service Permissions page- PERSON_BASIC_SYNC service

2. Activate Service Operation(s) and Create Routing(s) and Subscription Handler in HCM 9.1:
   a. Navigate to PeopleTools, Integration Broker, Integration Setup, Service Operations.
   b. Select PERSON_BASIC_SYNC from the search dialog box.
   c. Check the **Active** check box on the **General** tab.
   d. Make note of the **Queue Name** field, as you will verify that the PERSON_DATA Queue is in *Running* status later.

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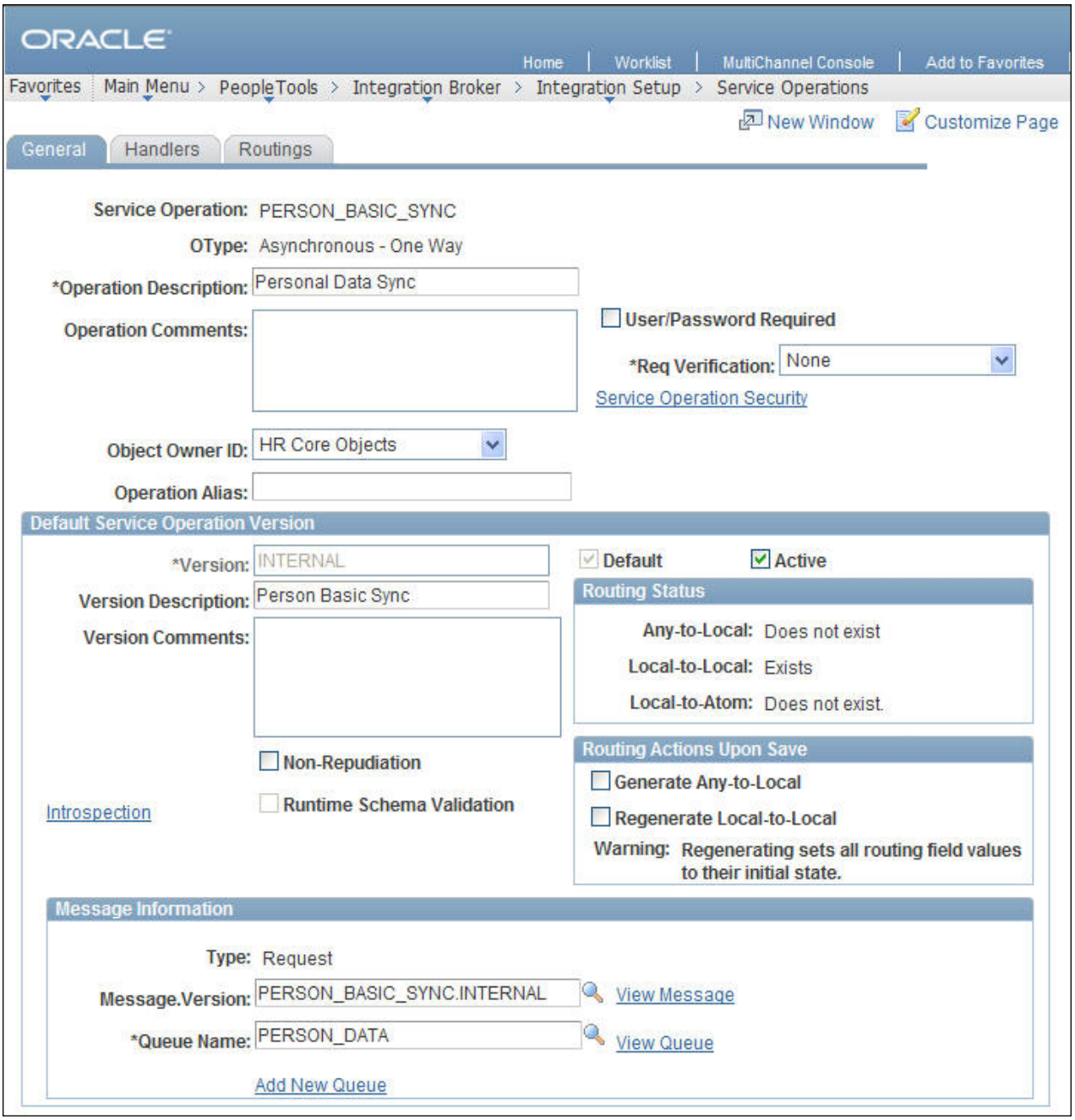

HCM 9.1 PERSON_BASIC_SYNC Service Operation

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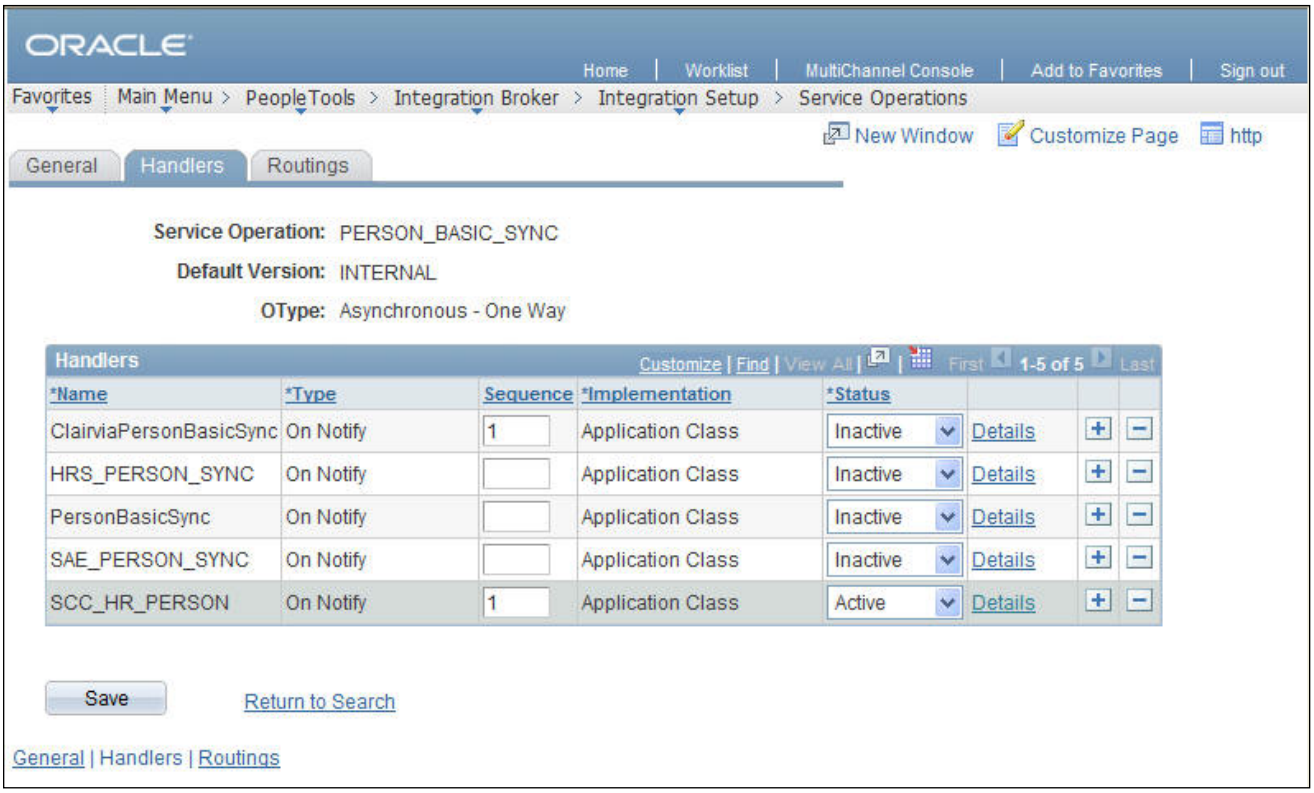
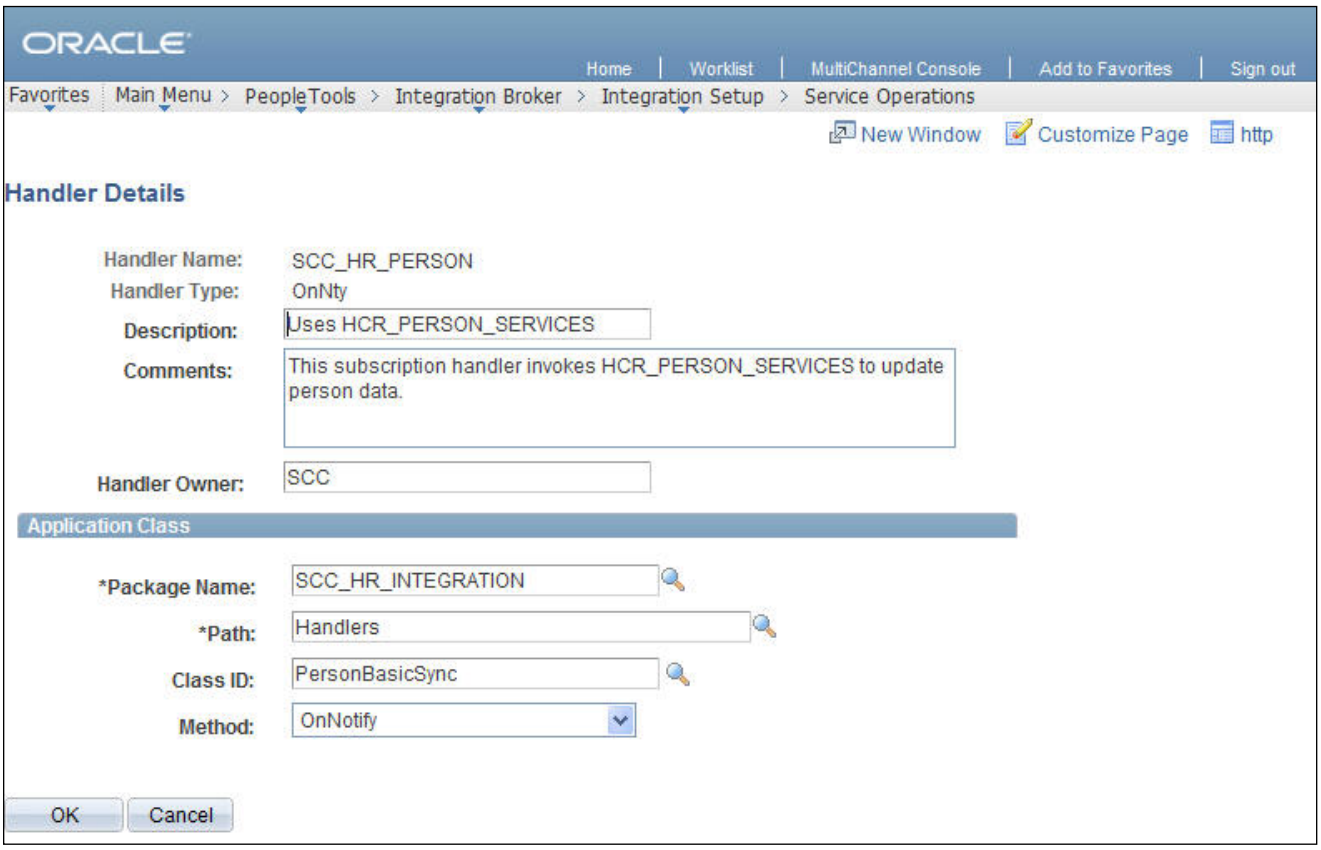
e. Click the **Handlers** tab. Set the SCC_HR_PERSON handler to *Active*.



HCM 9.1 PERSON_BASIC_SYNC Handlers



HCM 9.1 SCC_HR_PERSON Handler Details

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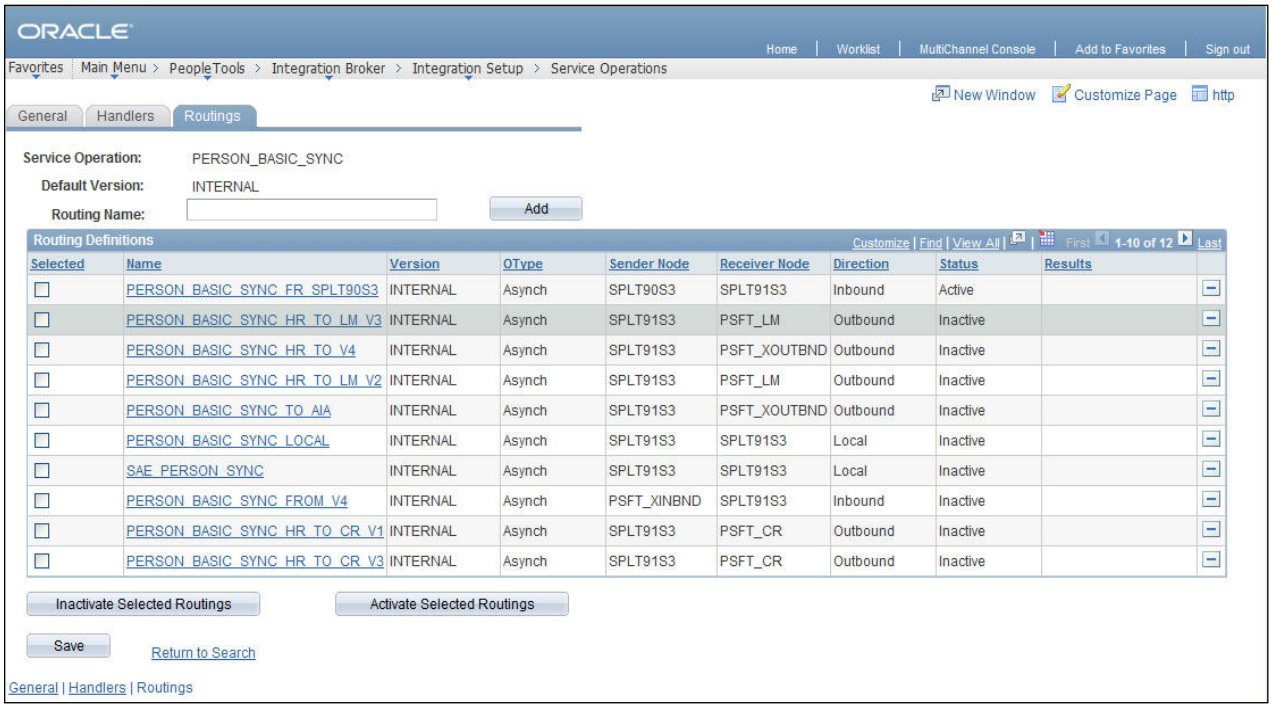
f. Select the **Routings** tab and add a new routing for the Service Operation by entering a value in the **Routing Name** field and clicking the **Add** button.



HCM 9.1 PERSON_BASIC_SYNC Routings

g. Enter the CS 9.0 **Sender Node** and an HCM 9.1 **Receiver Node** on the Routings Definition page of the Routings component.

h. Verify that the **Active** check box is checked.

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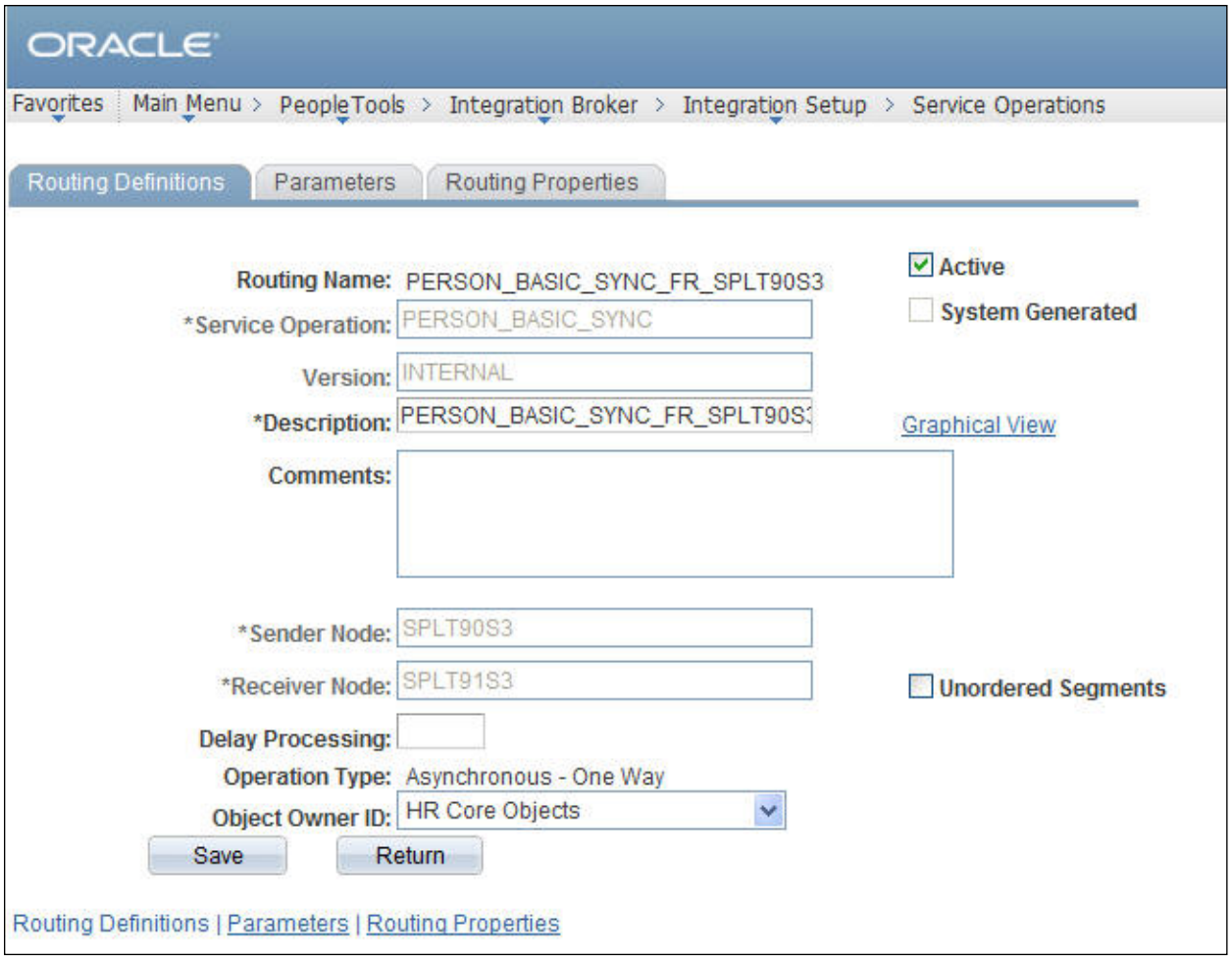

HCM 9.1 PERSON_BASIC_SYNC Routing Definitions

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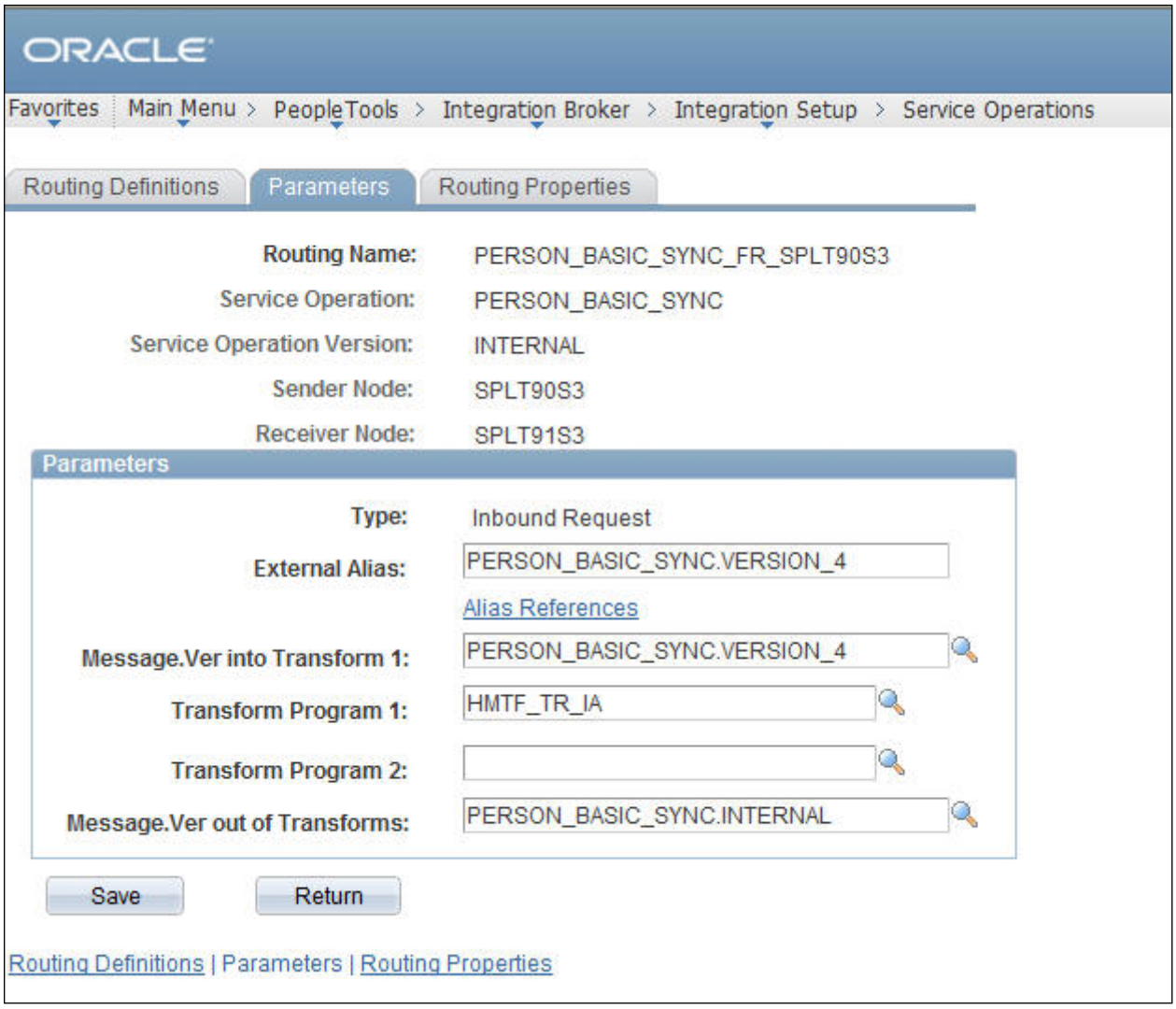
i. Select the **Parameters** tab.



HCM 9.1 PERSON_BASIC_SYNC Routing Parameters

j. Enter External Alias = PERSON_BASIC_SYNC.VERSION_4

k. Enter Message.Ver into Transform 1 = PERSON_BASIC_SYNC.VERSION_4

l. Enter Transform Program = HMTF_TR_IA

m. Enter Message.Ver out of Transforms = PERSON_BASIC_SYNC.INTERNAL

n. Click **Save** at the bottom of the Parameters page to save the routing.

o. Click **Return** at the bottom of the Parameters page to return to the Service Operation setup page.

p. Click **Save** at the bottom of any page in the Service Operations component to save the Service Operation.

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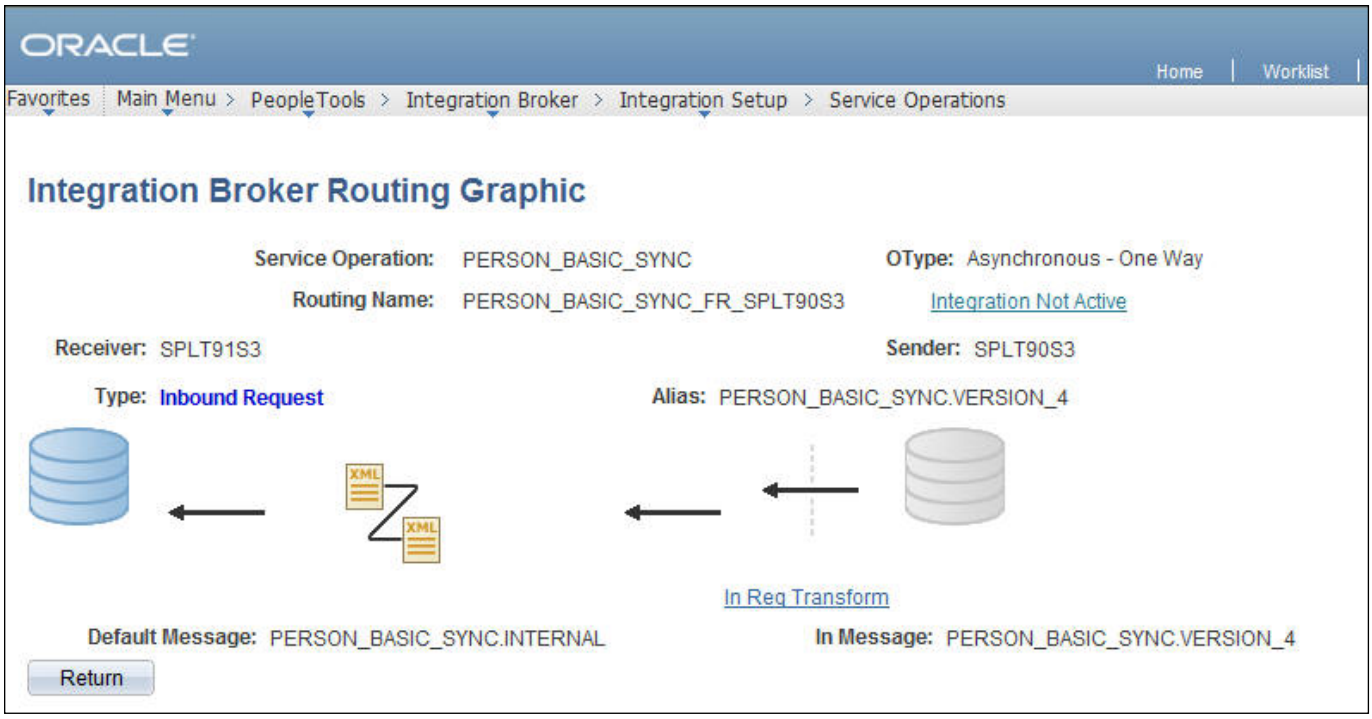

HCM 9.1 PERSON_BASIC_SYNC Routing Graphic

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Person Data FullSync and Sync Service Operations and Handlers

Bundle 32
Content incorporated from existing appendixes

The following table summarizes the FullSync and Sync Service Operations, and the Subscription Handler that you should use to configure your CS–HCM person bio-demo data integrations.

Service Name	Queue	Subscription Handler App Package
PERS_POI_FULLSYNC.VERSION_1	PERSON_DATA	PersPoiFullSync PERSPOIFULLSYNC/PersPoiFullSync/OnNotify
PERS_POI_SYNC.VERSION_1	PERSON_DATA	PersPoiSync PERSPOISYNC/PersPoiSync/OnNotify
PERSON_BASIC_FULLSYNC.VERSION_4	PERSON_DATA	PersonBasicFullsync PERSON_BASIC_FULLSYNC/PersonBasicFullSync/OnNotify
PERSON_BASIC_SYNC.VERSION_4	PERSON_DATA	SCC_HR_PERSON SCC_HR_PERSON/PersonBasicSync/OnNotify
PERSON_DISABILITY_FULLSYNC.VERSION_2	PERSON_DATA	ONNOTIFY PERSON_DISABILITY_FULLSYNC/PersonDisabilityFullsync/OnNotify
PERSON_DISABILITY_SYNC.VERISON_2	PERSON_DATA	ONNOTIFY PERSON_DISABILITY_SYNC/PersonDisabilitySync/OnNotify
PERSON_DIVERSITY_FULLSYNC.VERSION_2	PERSON_DATA	PersonDiversityFullSync PERSON_DIVERSITY_FULLSYNC/PersonDiversityFullsync/OnNotify
PERSON_DIVERSITY_SYNC.VERSION_2	PERSON_DATA	PersonDiversitySync PERSON_DIVERSITY_SYNC/PersonDiversitySync/OnNotify
PERSON_VISA_CITIZEN_FULLSYNC1.VERSION_1	PERSON_DATA	ONNOTIFY PERSON_VISA_CITIZEN_FULLSYNC1/PersonVisaCitizenFullSync1/OnNotify
PERSON_VISA_CITIZEN_FULLSYNC2.VERSION_1	PERSON_DATA	ONNOTIFY PERSON_VISA_CITIZEN_FULLSYNC2/PersonVisaCitizenFullSync2/OnNotify
Bundle 32 **Modified value** PERSON_VISA_CITIZEN_SYNC.VERSION_2	PERSON_DATA	ONNOTIFY PERSON_VISA_CITIZEN_SYNC/PersonVisaCitizenSync/OnNotify
WORKFORCE_FULLSYNC.VERSION_3	PERSON_DATA	WorkforceFullSync WORKFORCE_FULLSYNC/WorkforceFullSync/OnNotify
WORKFORCE_SYNC.VERSION_3	PERSON_DATA	WorkforceSync WORKFORCE_SYNC/WorkforceSync/OnNotify

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Integrating Setup Data

This section provides overviews of HCM-to-CS setup data and enterprise integration points (EIPs) for messaging between CS and HCM.

Understanding Setup Data Integration

In all integration configurations, some setup data underlies all person transactions. This setup data needs to be synchronized between the HCM instance and CS 9.0. The following list of the data is integrated in one direction, from HCM to CS:

- Address Types
- National ID Types
- Ethnic Groups
- HCM Business Units
- Currency Codes
- Company Codes
- Major Subject Codes
- Country Codes
- State Codes
- Departments
- Holiday Date Schedules
- Job Codes
- Locations
- Name Titles
- Name Types
- Name Prefixes
- Name Royal Prefixes
- Name Royal Suffixes
- Name Suffixes
- Name Formats
- POI Types
- Regulatory Regions
- SetIDs
- TableSet Controls
- U.S. Standard Occupational Codes
- Visa Permit Types
- Visa Permit Documents

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Configuring the Web Services for Setup Data

Oracle delivers several EIPs to automate the process of synchronizing setup data between CS and HCM; this ensures that the setup data underlying the transactional data remains in sync. Other delivered EIPs enable your institution to integrate data in support of External Search/Match and core business processes. The Feature Pack 4 implementation guides contain detailed information on all delivered EIPs and web services.

Note that person data EIPs are designated *sync* or *fullsync*. Fullsync EIPs republish all the data in their source records at once. Incremental sync EIPs send real-time sync messages; as soon as you make a change in the database of record, the system triggers the sync and sends only the changed information to the other database.

Bundle 32
New functionality
This section discusses how to configure FullSync Service Operations.

Also See
PeopleSoft Enterprise Campus Community 9.0 Fundamentals PeopleBook, Integrating Campus Solutions with Human Capital Management, Configuring Web Services for Person Data, Configuring Integration Broker Gateway and Node.

Configuring FullSync Service Operations

The following steps for setting up and activating each FullSync service operation in Integration Broker must be performed on the source and target databases.

Source Database Configuration Tasks

Note: The examples in the source database configuration tasks are of an HCM 9.1 database on PeopleTools 8.51.

---

1. Update security by adding the Service Operation(s) to your primary permission list:
   a. Navigate to PeopleTools, Security, Permissions & Roles, Permission Lists.
   b. Select the relevant permission list from the search dialog box.
   c. Select the **Web Services** tab.
   d. Enter the corresponding Service(s) for the Service Operation(s) you wish to use.
   e. Click the **Edit** link and add access to the relevant Service Operation(s) listed on the Web Service Permissions secondary page by selecting the **Full Access** option for the Access column.

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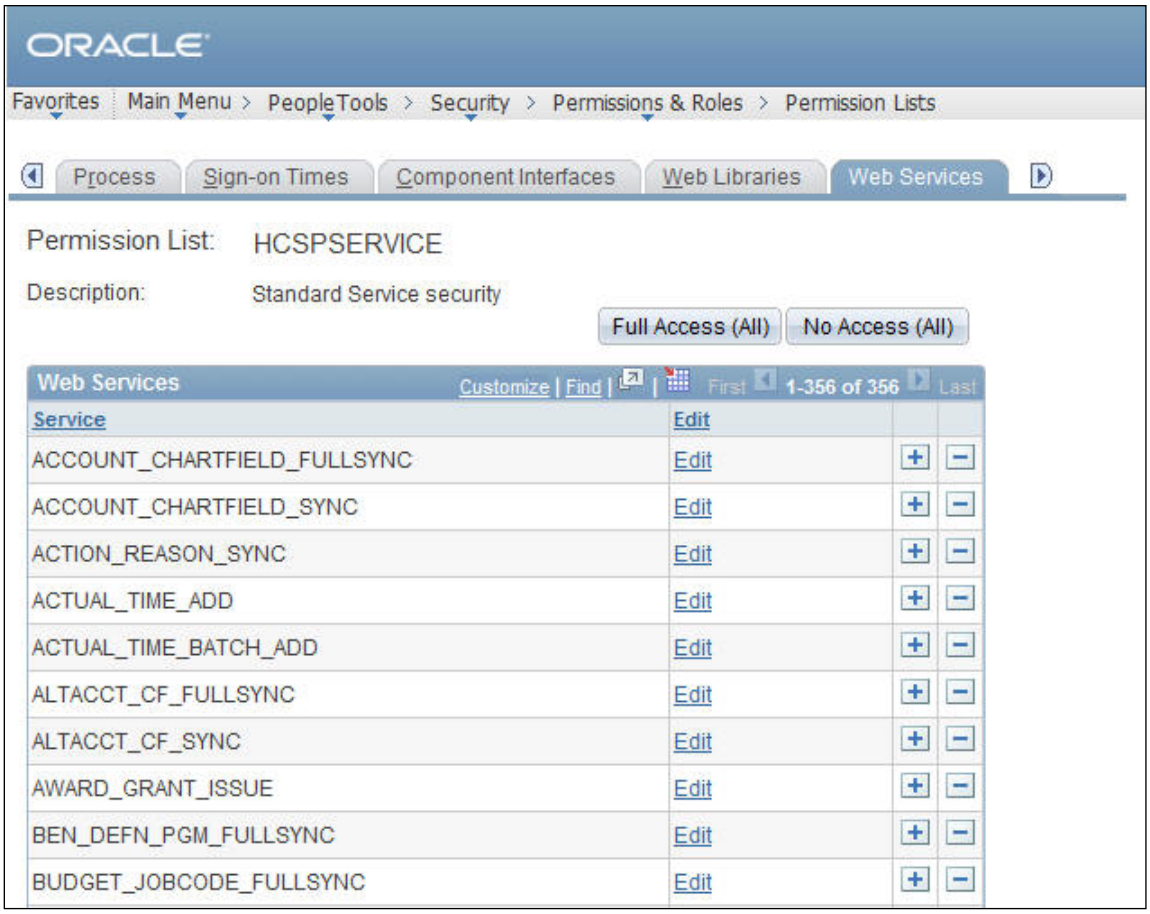
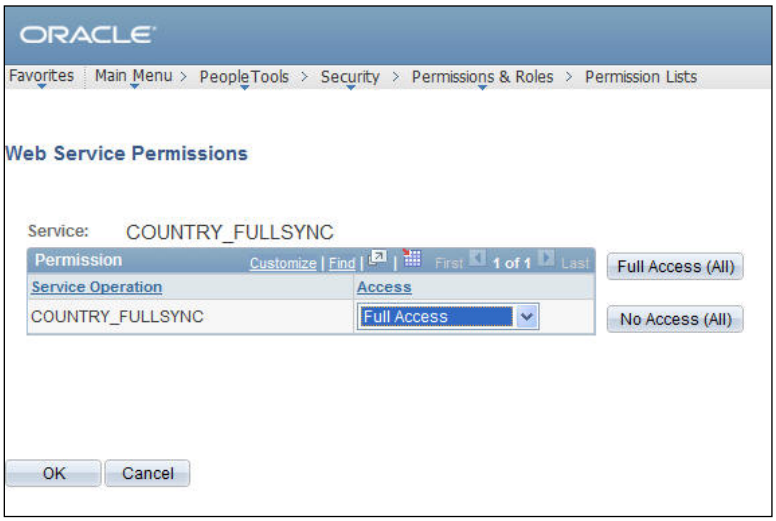


Web Services page- Permission List



Web Service Permissions page

2. Activate Service Operation(s) and Create Routing(s):

a. Navigate to PeopleTools, Integration Broker, Integration Setup, Service Operations.

b. Select the relevant Service Operation(s) from the search dialog box.

c. Check the **Active** check box on the **General** tab.

d. Make note of the **Queue Name** field, as you will need to verify that the Queue is in *Running* status later.

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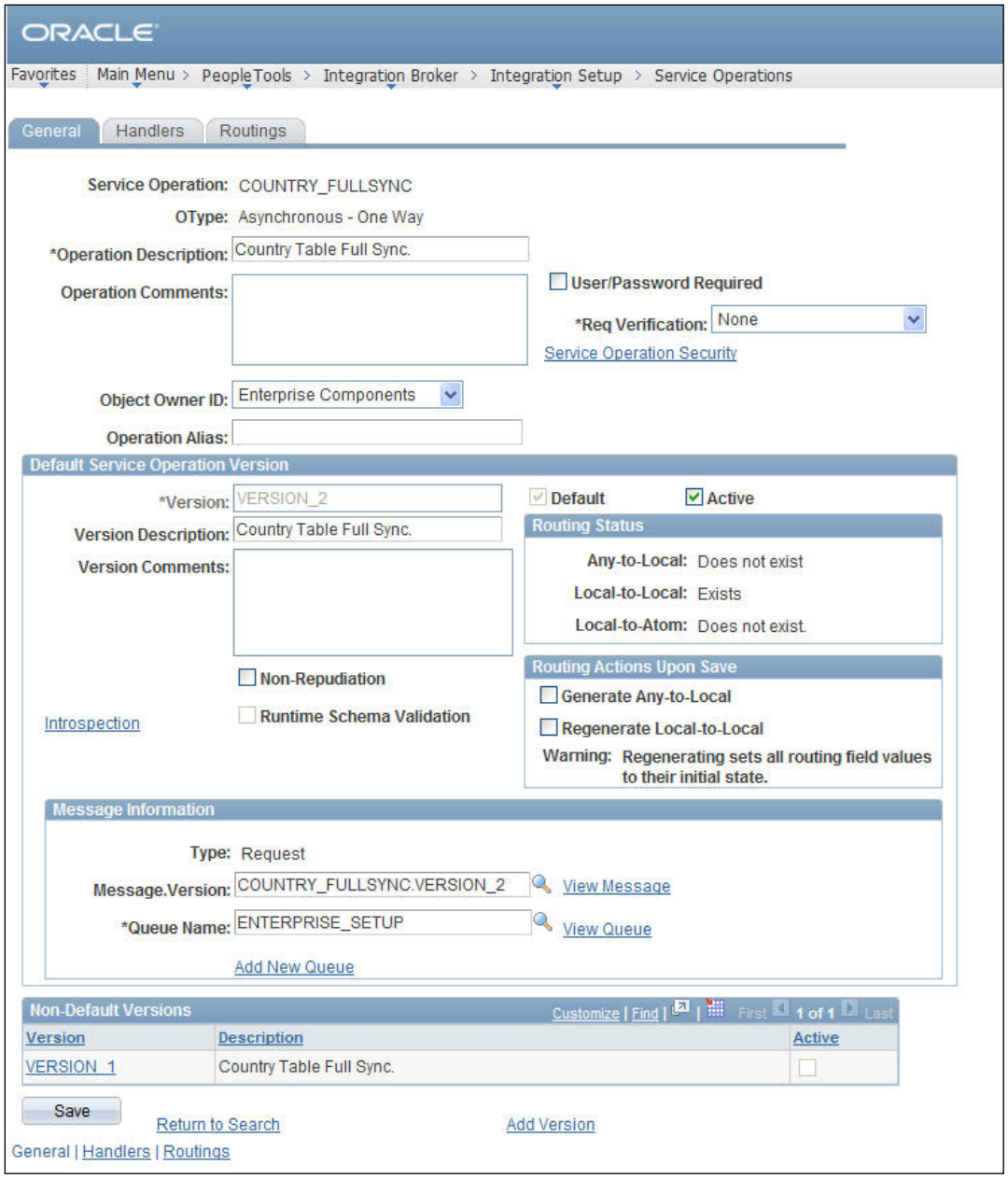
e. Select the **Routings** tab and add a new routing for the Service Operation by entering a value in the **Routing Name** field and clicking the **Add** button.



Service Operations Definition page

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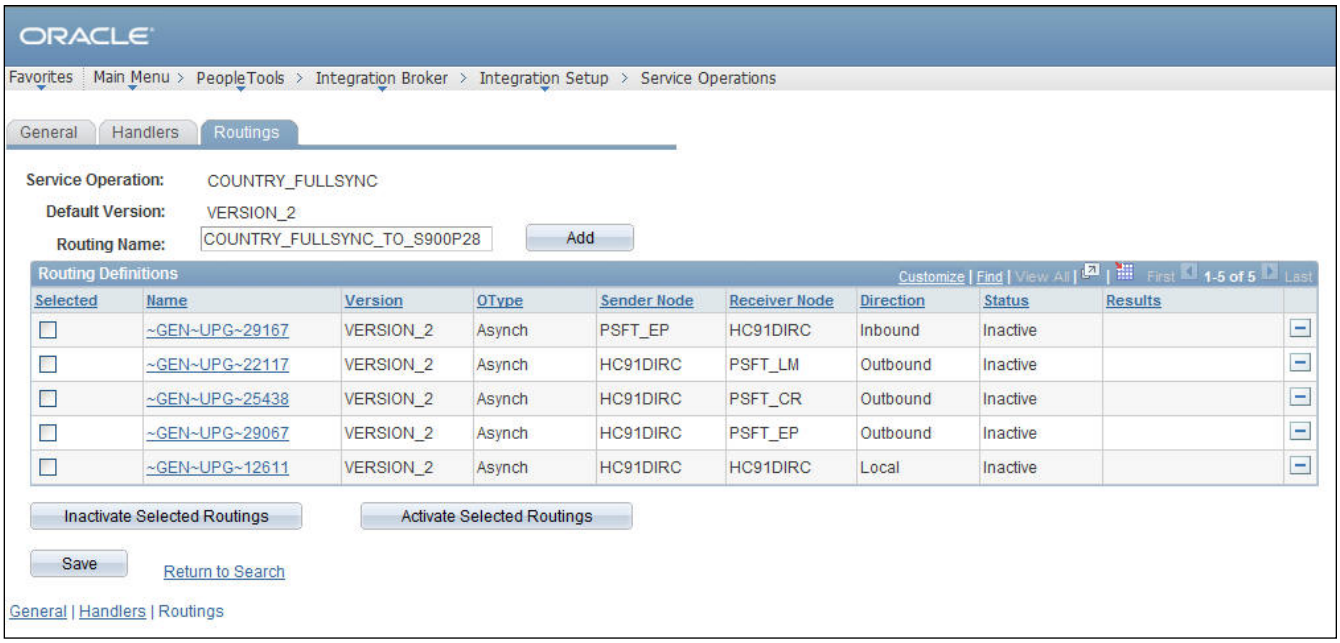

Service Operations page-Routings

f. Enter a Sender Node and a Receiver Node on the Routings Definition page of the Routings component.

g. Verify that the Active check box is checked.

h. Click the Save button at the bottom of the Routings Definition page to save the routing.

i. Click the Return button at the bottom of the Routings Definition page to return to the Service Operation setup component.

j. Click Save at the bottom of any page in the Service Operations component to save the Service Operation.

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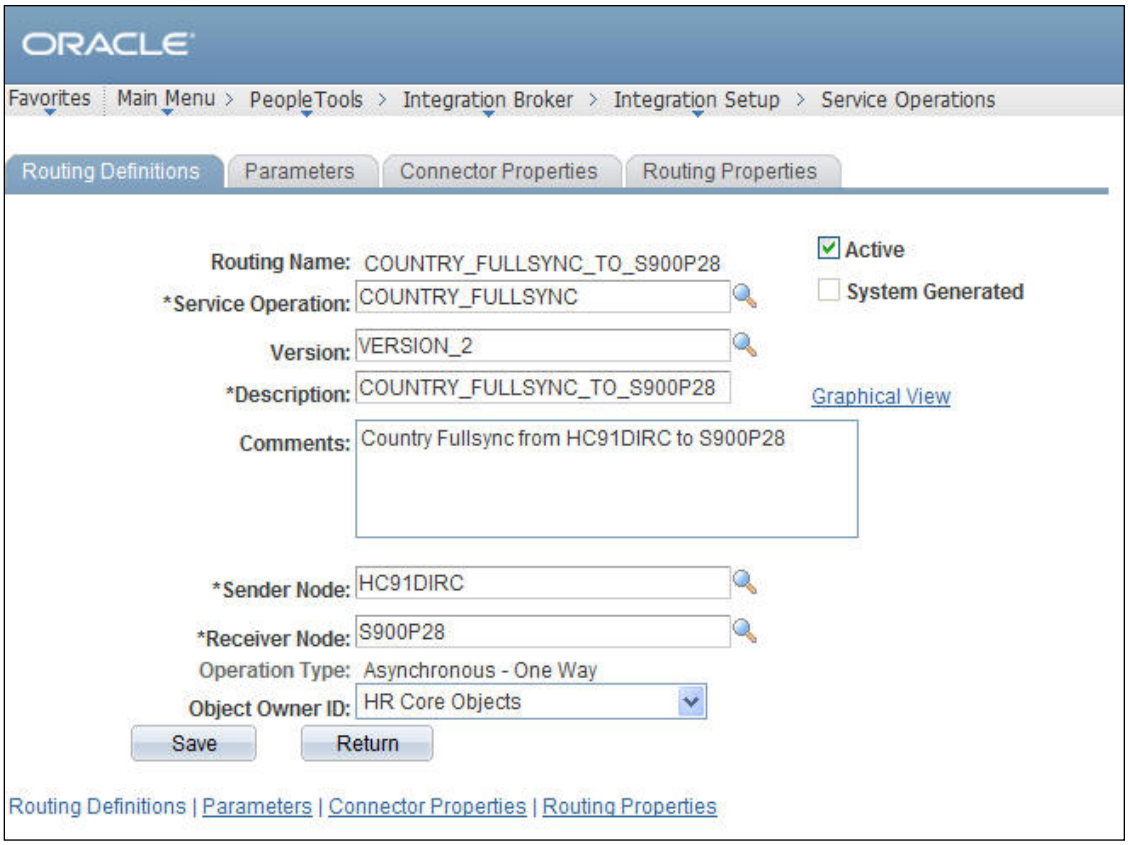

Service Operation Routing Definitions page

3. Activate Message Queue.

a. Navigate to PeopleTools, Integration Broker, Service Operations Monitor, Administration, Queue Status.

b. Scroll down the page until you find the relevant Queue Name (from the Service Operation setup page noted earlier).

c. Review the queue Status and activate the queue by clicking the **Run** button if needed. The queue status should be set to *Running* before leaving this page.

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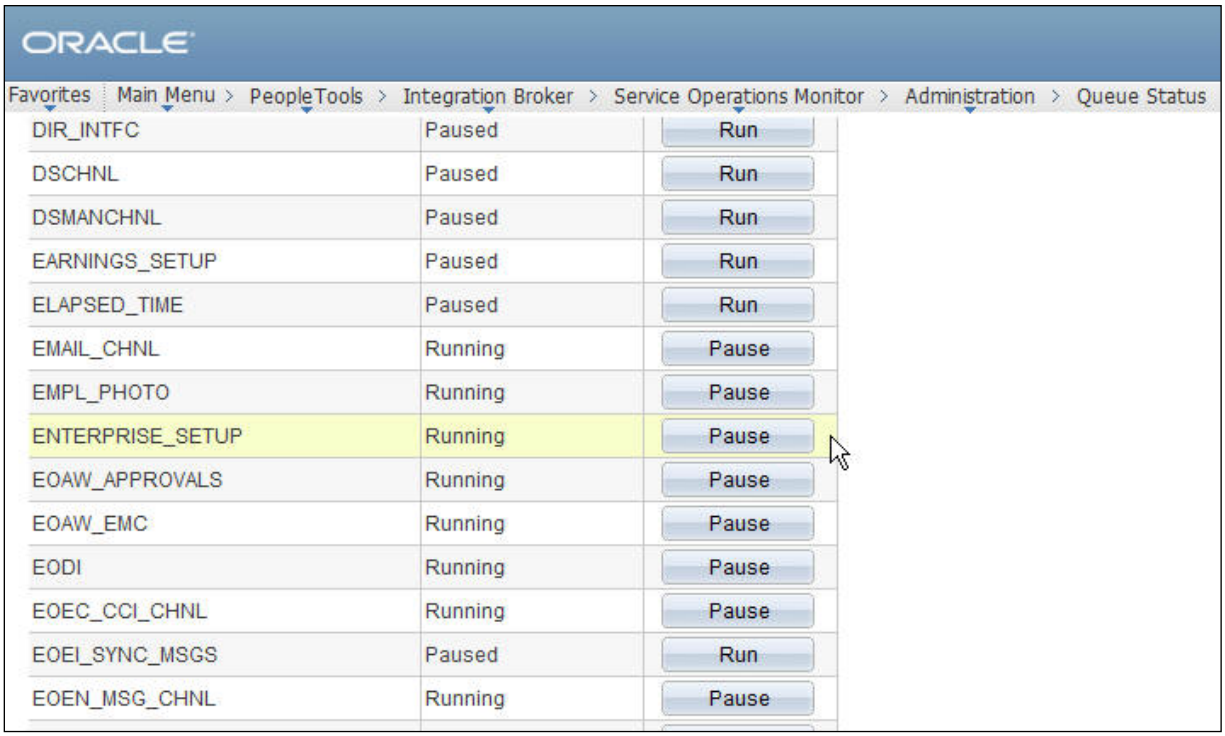

Queue Status page

Target Database Configuration Tasks

Note: The examples in the source database configuration tasks are of a CS 9.0 database on PeopleTools 8.51.

1. Update security by adding the service operation to the required user's permission list.
   a. Navigate to PeopleTools, Security, Permissions & Roles, Permission Lists.
   b. Select the relevant permission list from the search dialog box (primary permission list for the user).
   c. Select the **Web Services** tab.
   d. Enter the corresponding Service(s) for the Service Operation(s) you wish to leverage.
   e. Click the **Edit** link and add access to the relevant Service Operation(s) listed on the Web Service Permissions secondary page.
   f. Click **OK** to return to the Web Services page.
   g. Click **Save** to save the updated Permission List.

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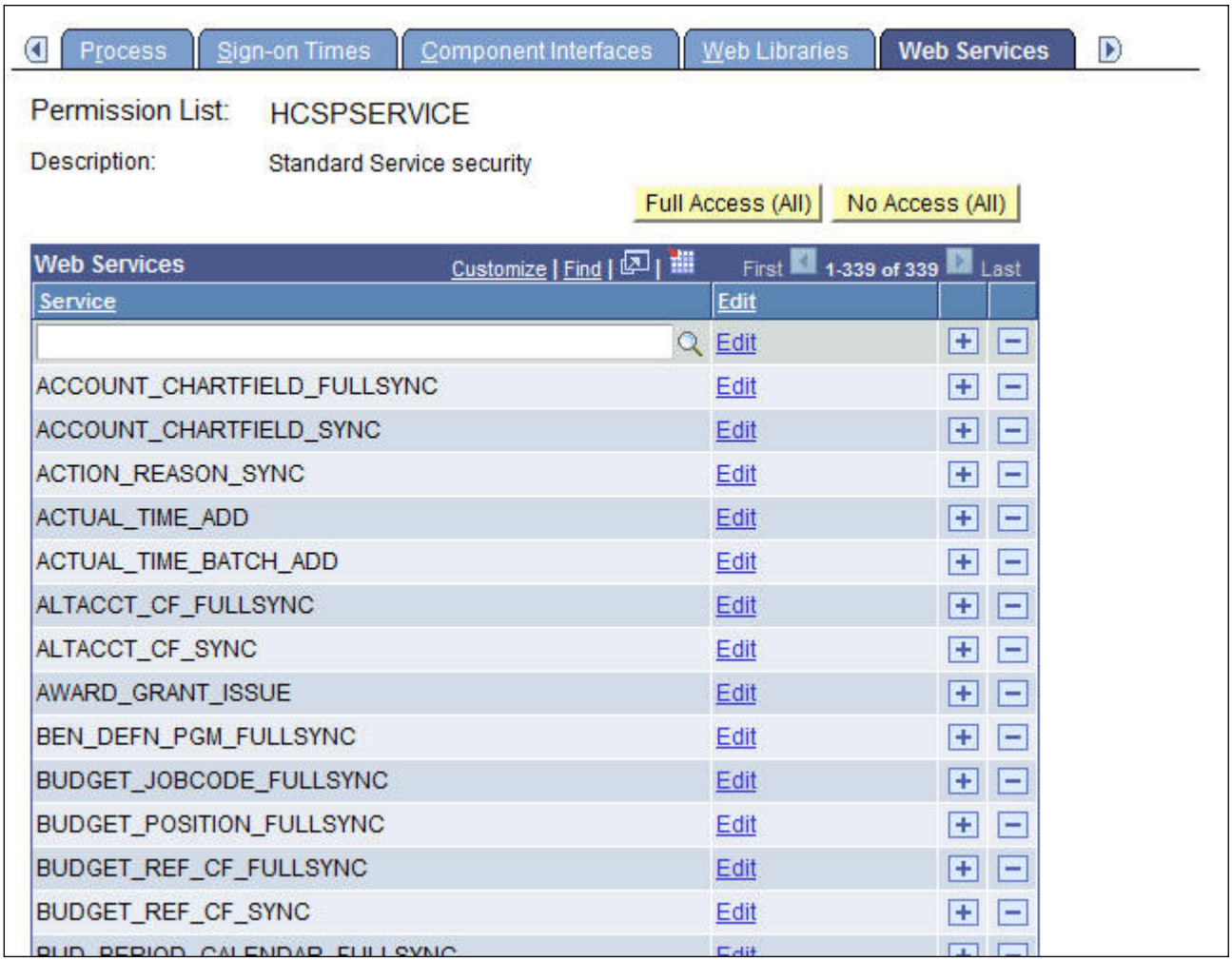
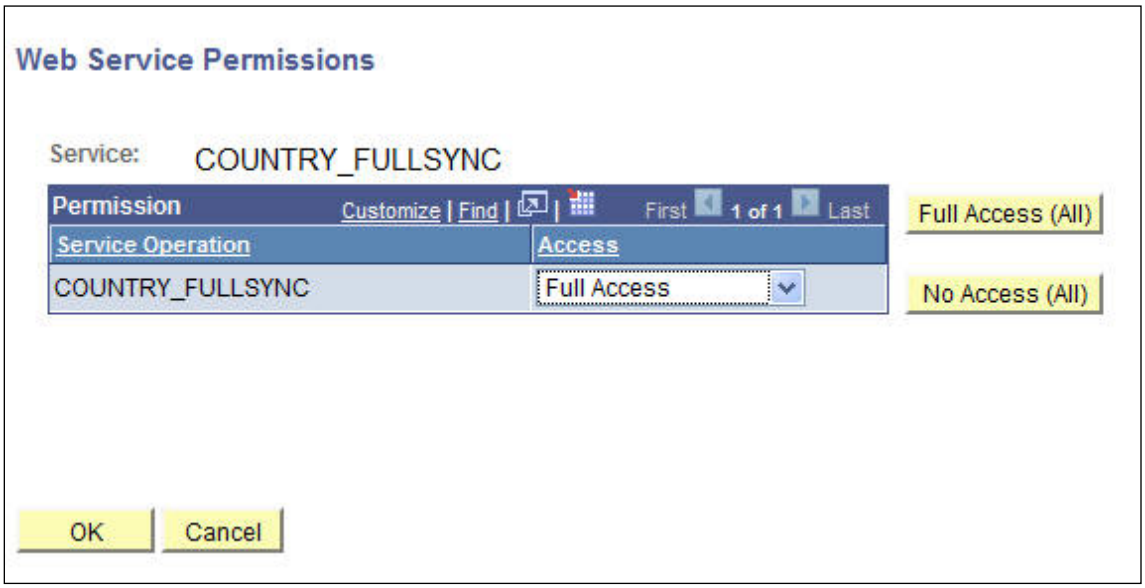


Web Services Security- Permission List



Web Services Permissions page

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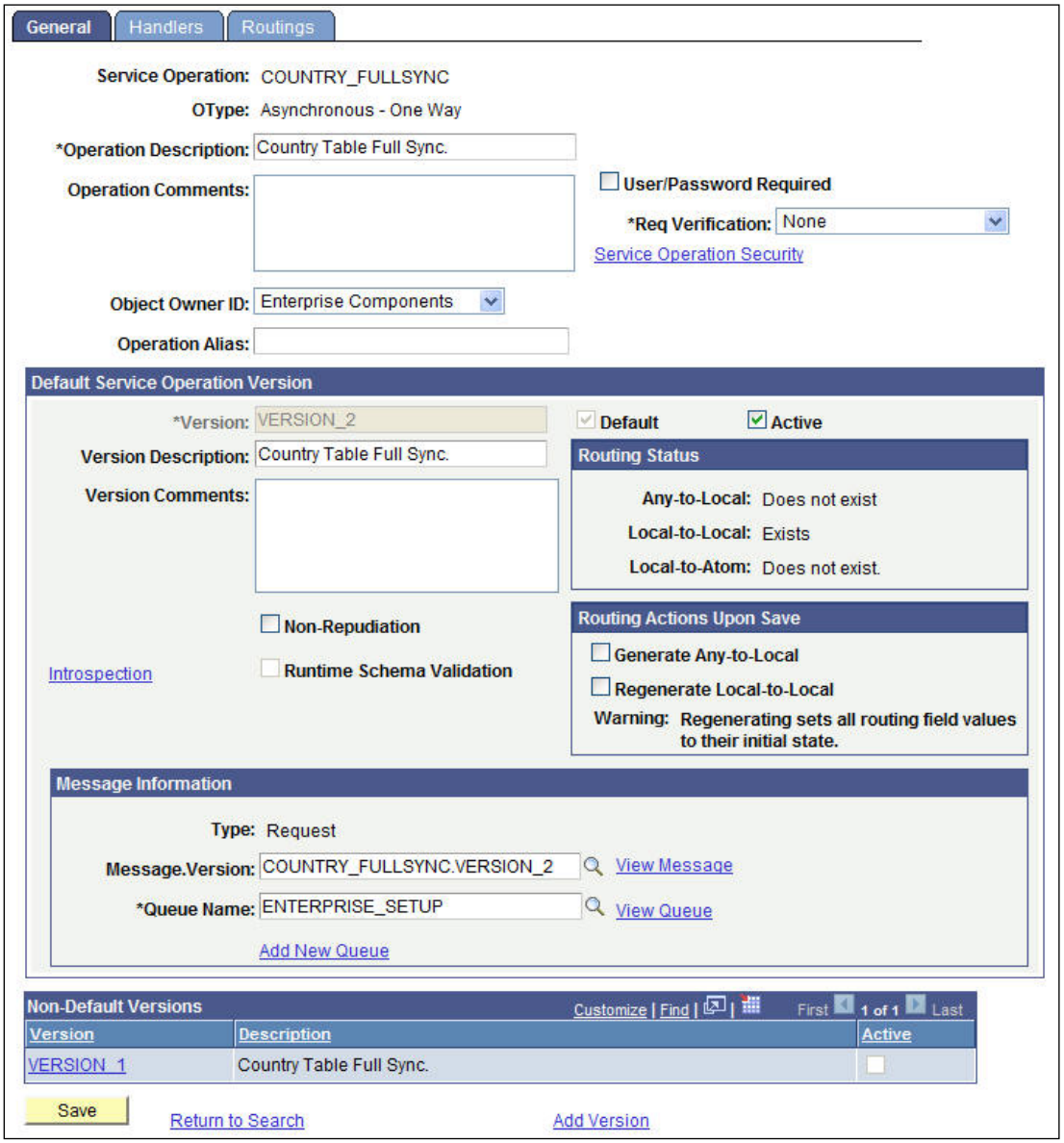
2. Activate Service Operation and Create Routing.

a. Navigate to PeopleTools, Integration Broker, Integration Setup, Service Operations.

b. Select the relevant Service Operation(s) from the search dialog box.

c. Select the **Active** check box on the **General** tab.

d. Make note of the **Queue Name** field, as you will need to verify that the Queue is in the *Running* status later.



Service Operation Definition page

e. Select the **Routings** tab and add a new routing for the Service Operation.

f. Enter a **Sender Node** and a **Receiver Node** on the Routings Definition page of the **Routings** component.

g. Verify that the **Active** check box is checked.

h. Click the **Save** button at the bottom of the Routings Definition page to save the routing.

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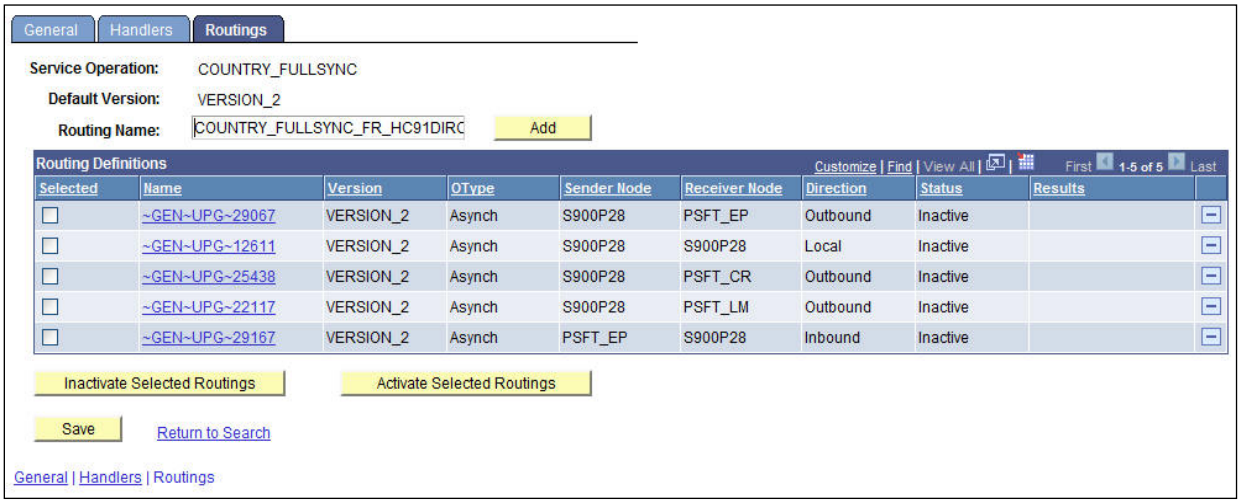
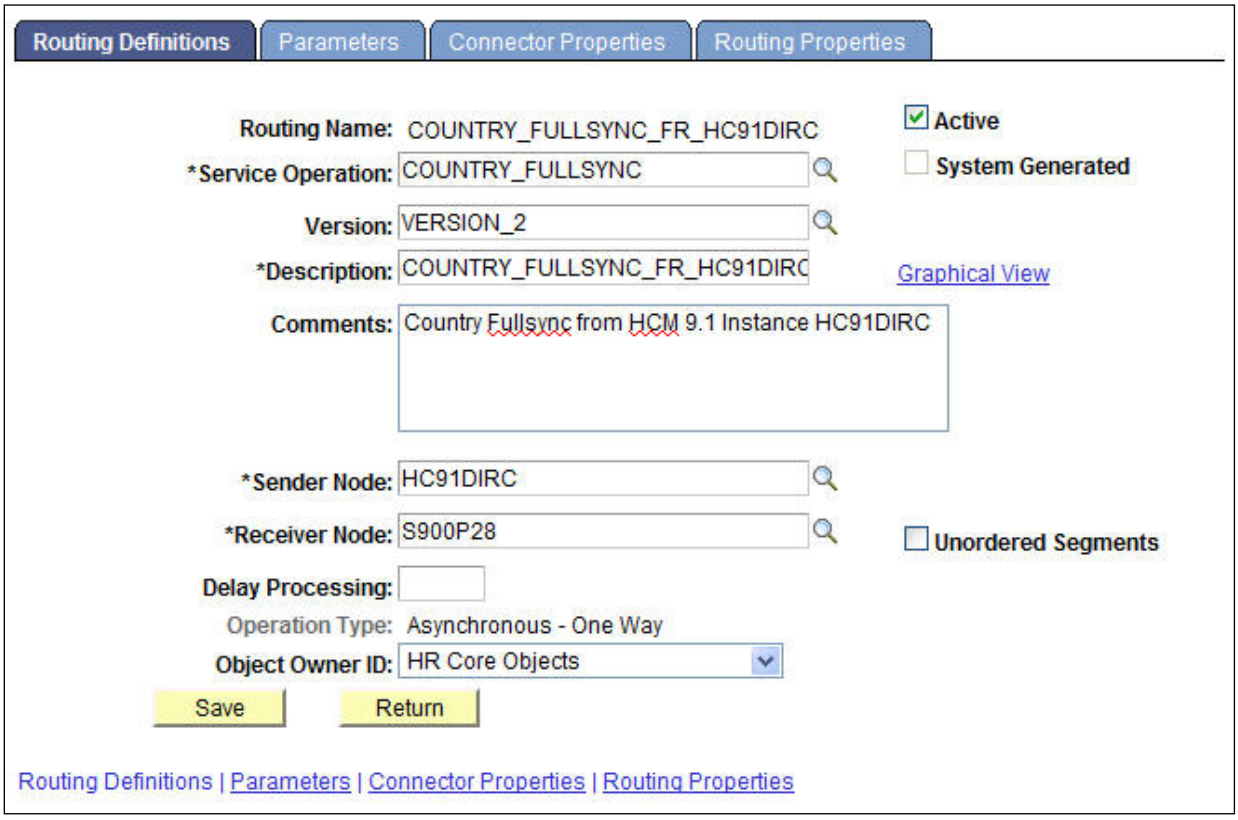
i. Click the **Return** button at the bottom of the Routings Definition page to return to the Service Operation setup component.

j. Click **Save** at the bottom of any page in the Service Operations component to save the Service Operation.



Service Operation Routings page



Routing Definitions page

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3. Activate or create the required Service Operations OnNotify handler.

a. Click the **Handlers** tab of the Service Operations component.

b. Enter a Handler Name as shown below if one does not exist.

c. Set Handler Name = For example, “BusUnitHRFullSync”. See the *Full Sync Service Operations* table (Application Package Name/ Class/ Method column) for the required value for this field.

d. Set Type = OnNotify

e. Set Implementation =Application Class

f. Set Status = Active

g. Select the Details link.

h. Set Package Name = For example, “GEN_UPG_HANDLER_12332. See the *FullSync Service Operations* table (Application Package Name/ Class/ Method column) for the required value for this field.

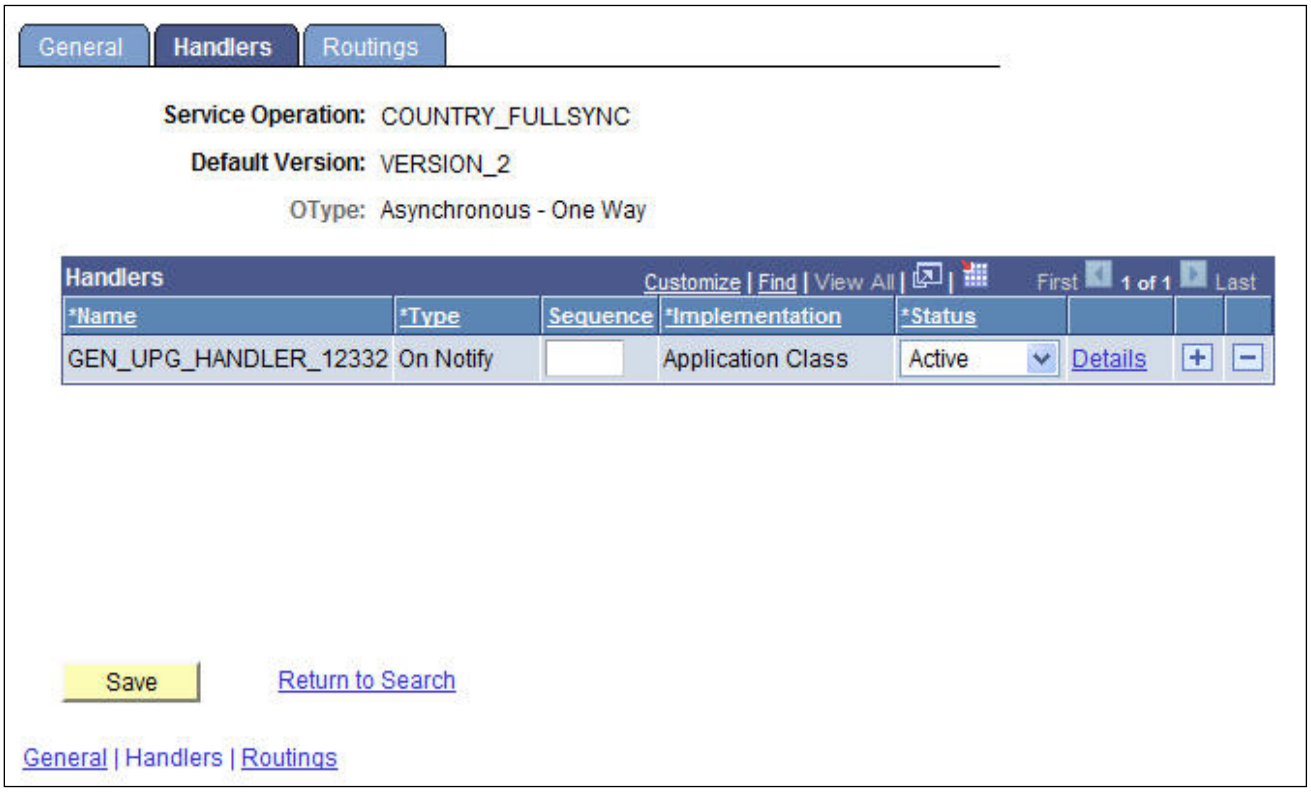
i. Set Path = “:”

j. Set Class ID = For example, CountryFullSync. See the *FullSync Service Operations* table (Application Package Name/ Class/ Method column) for the required value for this field.

k. Set Method = OnNotify

l. Click **OK** to return to the Handlers setup page.

m. Click **Save** button at the bottom of the Handlers page to save your changes.



Service Handlers page

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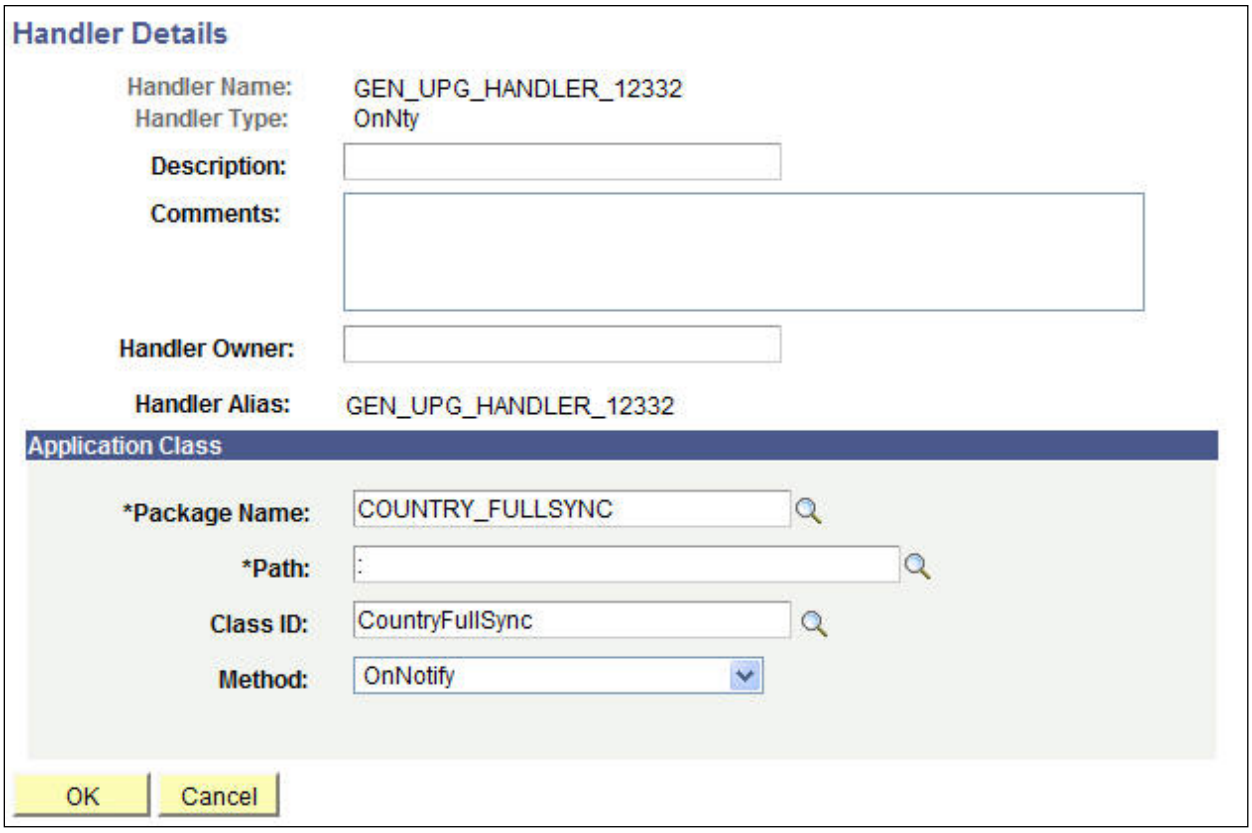

Handler Details page

4. Activate Message Queue.

a. Navigate to PeopleTools, Integration Broker, Service Operations Monitor, Administration, Queue Status.

b. Scroll down the page until you find the relevant Queue Name (from the Service Operation setup page noted earlier).

c. Review the queue **Status** and activate the queue by clicking the **Run** button if needed.

Executing the Full Data Publish Utility

Run the Full Data Publish process to synchronize the data between your HCM and CS systems.

1. Define Full Data Publish Rules

a. Navigate to Enterprise Components, Integration Definitions, Full Data Publish Rules.

b. Enter the Message Name of the Service Operation

c. Enter a Publish Rule ID, a Description, and set the Status field to *Active*.

d. Check the **Create Message Header** and **Create Message Trailer** check boxes.

e. Save the page.

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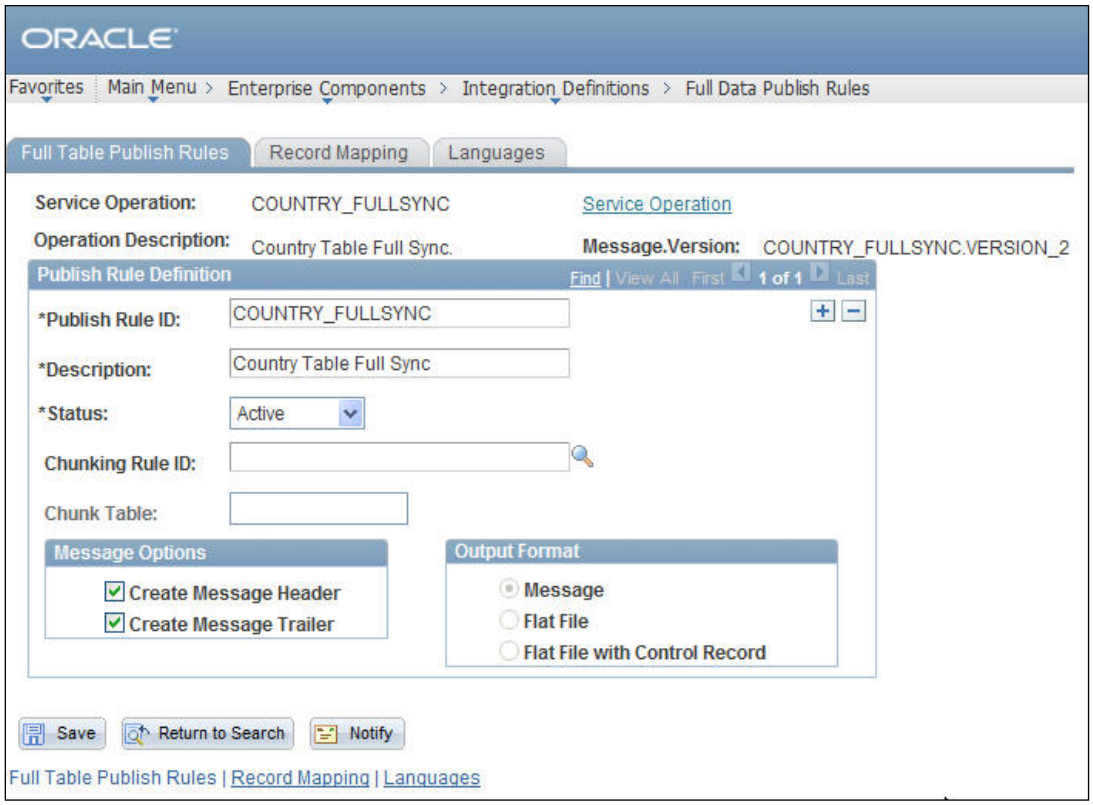

Full Table Publish Rules page

2. Execute the Full Data Publish Process.

   a. Navigate to Enterprise Components, Integration Definitions, Initiate Processes.

   b. Create a new Run Control ID as shown below.

   c. Enter a Request ID.

   d. Select **Always** for the Process Frequency.

   e. Enter the Message Name from the Full Table Publish Rule created earlier (example: COUNTRY_FULLSYNC).

   f. Save the page and click the **Run** button.

   g. Select the **Full Table Data Publish** process from the Process Scheduler Request page.

   h. Verify the process ran successfully.

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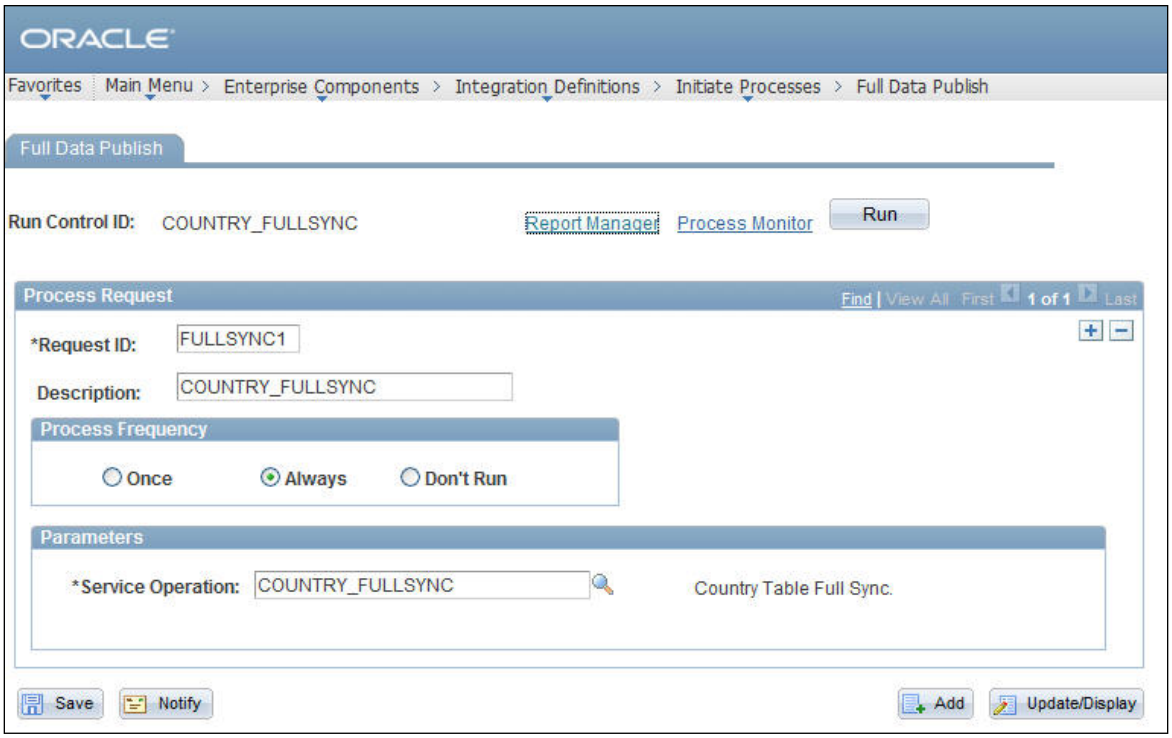
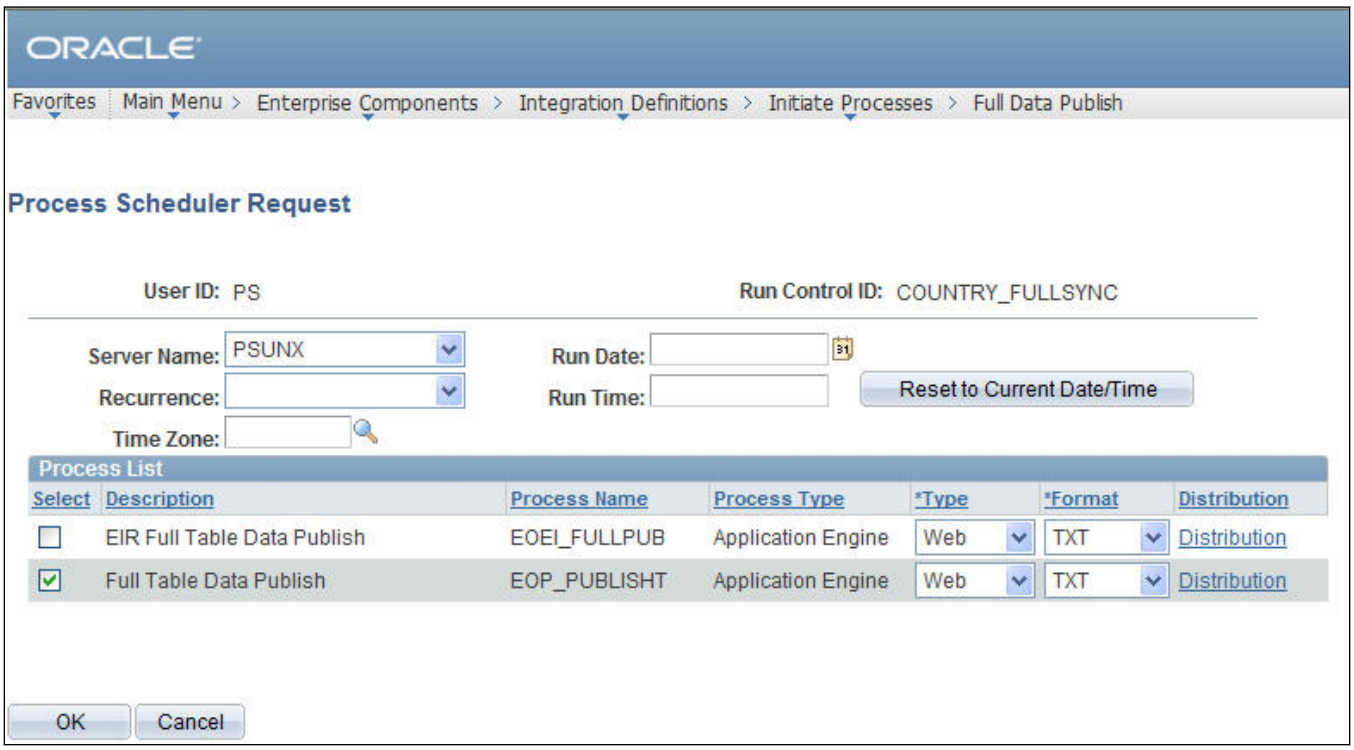


Full Data Publish page



Process Scheduler Request page

3. Navigate to PeopleTools, Integration Broker, Service Operations Monitor, Monitoring, Aynchronous Services to review the status of the Full Sync messages created by the Full Data Publish process.

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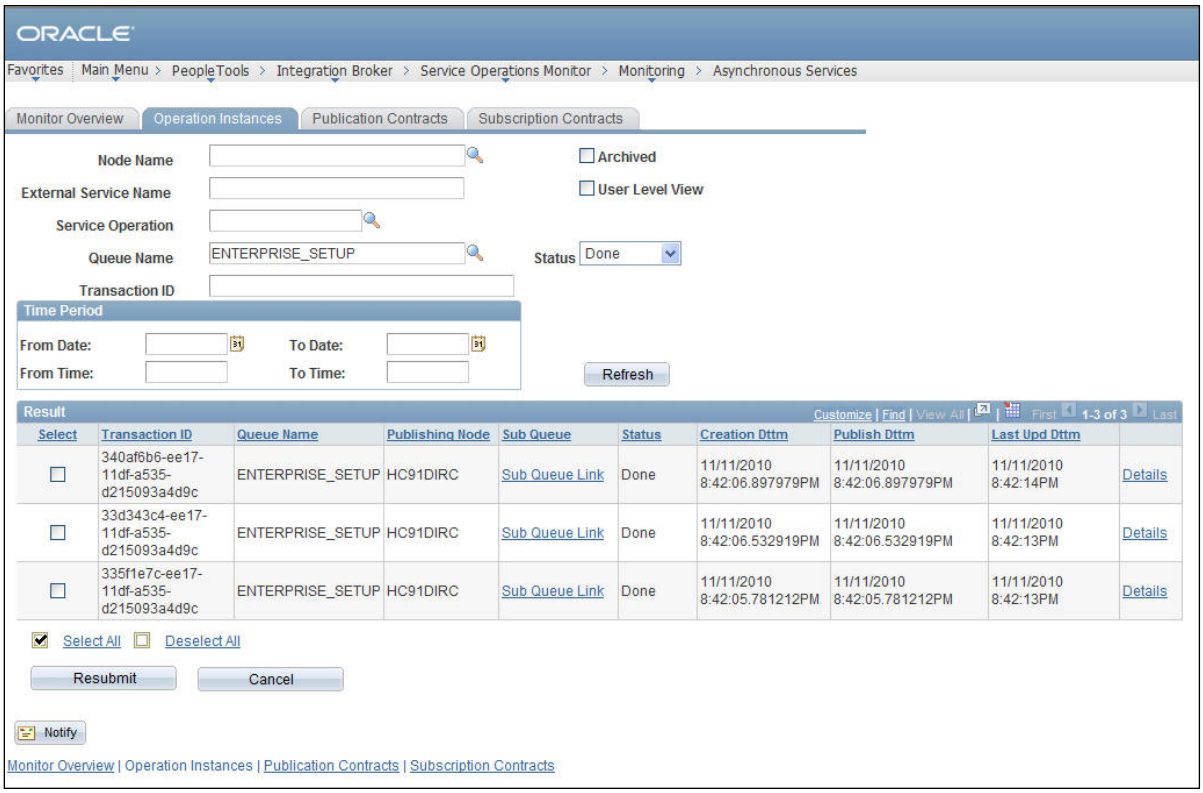

Asynchronous Service Operations Monitor page

Setup Data Loading Sequence

Bundle 32

New content

Minimum setup information must be available and loaded from your HCM system to your CS 9.0 system for implementation. This should be completed before any transactional data syncs are performed. The values defined in these setup tables are key to person bio-demo data integrity. Oracle recommends that your HCM instance be the system of record for your setup table data.

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The table below lists the available service operations and applicable tables. These should loaded in the order specified.

Integration Description	Integration Name	Table(s)
Country Codes	COUNTRY_FULLSYNC	COUNTRY_TBL
Currency Codes	CURRENCY_FULLSYNC	CURRENCY_CD_TBL
State/Province Codes	STATE_FULLSYNC	STATE_TBL
SetIDs	SETID_INITIALIZE	SETID_TBL
Tableset Controls	TBLSET_CONTROL_INITIALIZE	SET_CNTRL_TBL SET_CNTRL_GROUP SET_CNTRL_REC
Regulatory Regions	REGULATORY_REGION_FULLSYNC	REG_REGION_TBL
HR Business Units	BUS_UNIT_HR_FULLSYNC	BUS_UNIT_TBL_HR
Company Codes	COMPANY_FULLSYNC	COMPANY_TBL
Location Codes	LOCATION_FULLSYNC	LOCATION_TBL
Department Codes	DEPT_FULLSYNC	DEPT_TBL
Job Codes	JOBCODE_FULLSYNC	JOBCODE_TBL
Holiday Date Schedules	HOLIDAY_DATE_FULLSYNC	HOLIDAY_TBL HOLIDAY_DATE
National ID Types	NID_TYPE_FULLSYNC	NID_TYPE_TBL
Name Types	NAME_TYPE_FULLSYNC	NAME_TYPE_TBL
Name Prefixes	NAME_PREFIX_SUFFIX_FULLSYNC1	NAME_PREFIX_TBL
Name Suffixes	NAME_PREFIX_SUFFIX_FULLSYNC2	NAME_SUFFIX_TBL
Name Royal Prefixes	NAME_PREFIX_SUFFIX_FULLSYNC3	NM_ROYPREF_TBL
Name Royal Suffixes	NAME_PREFIX_SUFFIX_FULLSYNC4	NM_ROYSUFF_TBL
Name Titles	TITLE_FULLSYNC	TITLE_TBL
Address Types	ADDRESS_TYPE_FULLSYNC	ADDRESS_TYP_TBL
Person of Interest Types	POI_TYPE_TBL_FULLSYNC	POI_TYPE_TBL
Ethnic Group Codes	ETHNIC_GRP_FULLSYNC	ETHNIC_GROUP_TBL
US Standard Occupational Codes (USA)	US_SOC_FULLSYNC	US_SOC_TBL
Supporting Documents (Visa/Permits)	SUPPORT_DOC_FULLSYNC	SUPPORT_DOC_TBL
Visa Permit Types	VISA_PERMIT_FULLSYNC	VISA_PERMIT_TBL, VISA_PERMIT_SUP
Major Codes	COMPETENCY_FULLSYNC3	MAJOR_TBL

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Service Operations and Handlers

The following table identifies the FullSync and Sync Service Operations, and subscription handlers that you should use to configure your CS – HCM setup data integrations. Activate and configure all integrations that you have identified according to your business requirements and implementation plans.

Service Operation	Description	Queue	Subscription Handler App Pkg
ADDRESS_TYPE_FULLSYNC	Address Type Table	PERSON_SETUP	AddressTypeFullSync (ADDRESS_TYPE_FULLSYNC/AddressTypeFullSync/OnNotify)
ADDRESS_TYPE_SYNC	Address Type Table	PERSON_SETUP	AddressTypeSync (ADDRESS_TYPE_SYNC/AddressTypeSync/OnNotify)
BUS_UNIT_HR_FULLSYNC	HR Business Unit Table	HR_SETUP	BusUnitHRFullSync (BUS_UNIT_HR_FULLSYNC/BusUnitHRFullSync/OnNotify)
BUS_UNIT_HR_SYNC	HR Business Unit Table	HR_SETUP	BusUnitHRSync (BUS_UNIT_HR_SYNC/BusUnitHRSync/OnNotify)
COMPANY_FULLSYNC	Company Codes	PERSON_SETUP	CompanyFullSync (COMPANY_FULLSYNC/CompanyFullSync/OnNotify)
COMPANY_SYNC	Company Codes	PERSON_SETUP	CompanySync (COMPANY_SYNC/CompanySync/OnNotify)
COMPETENCY_FULLSYNC3	College Major Subject Codes	COMPETENCY	CompetencyFullSync3 (COMPETENCY_FULLSYNC3/CompetencyFullSync3/OnNotify)
COMPETENCY_SYNC3	College Major Subject Codes	COMPETENCY	CompetencySync3 (COMPETENCY_SYNC3/CompetencySync3/OnNotify)
COUNTRY_FULLSYNC	Countries	ENTERPRISE_SETUP	GEN_UPG_HANDLER_12332 (COUNTRY_FULLSYNC/CountryFullSync/OnNotify)
COUNTRY_SYNC	Countries	ENTERPRISE_SETUP	CountrySync COUNTRY_SYNC/CountrySync/OnNotify
CURRENCY_FULLSYNC	Currency Codes	ENTERPRISE_SETUP	CurrencyFullSync CURRENCY_FULLSYNC/CurrencyFullSync/OnNotify
CURRENCY_SYNC	Currency Codes	ENTERPRISE_SETUP	CurrencySync CURRENCY_SYNC/CurrencySync/OnNotify
DEPT_FULLSYNC	Departments	ENTERPRISE_SETUP	DeptFullSync (DEPT_FULLSYNC/DeptFullSyncNoCI/OnNotify)
aDEPT_SYNC	Departments	ENTERPRISE_SETUP	DeptSync DEPT_SYNC/DeptSync/OnNotify
ETHNIC_GRP_FULLSYNC	Ethnic Group Table	TAM_INTEGRATION	EthnicGrpFullSync ETHNIC_GRP_FULLSYNC/EthnicGrpFullSync/OnNotify
ETHNIC_GRP_SYNC	Ethnic Group Table	TAM_INTEGRATION	EthnicGrpSync ETHNIC_GRP_SYNC/EthnicGrpSync/OnNotify
HOLIDAY_DATE_FULLSYNC	Holiday Date Schedules	PERSON_SETUP	HolidayDateFullSync HOLIDAY_DATE_FULLSYNC/HolidayDateFullSync/OnNotify
HOLIDAY_DATE_SYNC	Holiday Date Schedules	PERSON_SETUP	HolidayDateSync HOLIDAY_DATE_SYNC/HolidayDateSync/OnNotify
JOBCODE_FULLSYNC	Job Codes	PERSON_SETUP	JobcodeFullSync JOBCODE_FULLSYNC/JobcodeFullSync/OnNotify
JOBCODE_SYNC	Job Codes	PERSON_SETUP	JobcodeSync JOBCODE_SYNC/JobcodeSync/OnNotify

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Service Operation	Description	Queue	Subscription Handler App Pkg
LOCATION_FULLSYNC	Company Site Locations	ENTERPRISE_SETUP	LocationFullSync (LOCATION_FULLSYNC/LocationFullSync/OnNotify)
LOCATION_SYNC	Company Site Locations	ENTERPRISE_SETUP	LocationSync (LOCATION_SYNC/LocationSync/OnNotify)
NAME_PREFIX_SUFFIX_FULLSYNC1	Name Prefixes	NAME_PREFIX_SUFFIX_TABLES	NamePrefixSuffixFullSync1 NAME_PREFIX_SUFFIX_FULLSYNC1/NamePrefixSuffixFullSync1/OnNotify
NAME_PREFIX_SUFFIX_FULLSYNC2	Name SuffixTable	NAME_PREFIX_SUFFIX_TABLES	NamePrefixSuffixFullSync2 NAME_PREFIX_SUFFIX_FULLSYNC2/NamePrefixSuffixFullSync2/OnNotify
NAME_PREFIX_SUFFIX_FULLSYNC3	Name Royal Pref Table	NAME_PREFIX_SUFFIX_TABLES	NamePrefixSuffixFullSync3 NAME_PREFIX_SUFFIX_FULLSYNC3/NamePrefixSuffixFullSync3/OnNotify
NAME_PREFIX_SUFFIX_FULLSYNC4	Name Royal Suff Table	NAME_PREFIX_SUFFIX_TABLES	NamePrefixSuffixFullSync4 NAME_PREFIX_SUFFIX_FULLSYNC4/NamePrefixSuffixFullSync4/OnNotify
NAME_PREFIX_SUFFIX_SYNC1	Name Prefixes	NAME_PREFIX_SUFFIX_TABLES	NamePrefixSuffixSync1 NAME_PREFIX_SUFFIX_SYNC1/NamePrefixSuffixSync1/OnNotify
NAME_PREFIX_SUFFIX_SYNC2	Name SuffixTable	NAME_PREFIX_SUFFIX_TABLES	NamePrefixSuffixSync2 NAME_PREFIX_SUFFIX_SYNC2/NamePrefixSuffixSync2/OnNotify
NAME_PREFIX_SUFFIX_SYNC3	Name Royal Pref Table	NAME_PREFIX_SUFFIX_TABLES	NamePrefixSuffixSync3 NAME_PREFIX_SUFFIX_SYNC3/NamePrefixSuffixSync3/OnNotify
NAME_PREFIX_SUFFIX_SYNC4	Name Royal Suff Table	NAME_PREFIX_SUFFIX_TABLES	NamePrefixSuffixSync4 NAME_PREFIX_SUFFIX_SYNC4/NamePrefixSuffixSync4/OnNotify
NAME_TYPE_FULLSYNC	Name Type Table	PERSON_SETUP	NameTypeFullSync NAME_TYPE_FULLSYNC/NameTypeFullSync/OnNotify
NAME_TYPE_SYNC	Name Type Table	PERSON_SETUP	NameTypeSync NAME_TYPE_SYNC/NameTypeSync/OnNotify
NID_TYPE_FULLSYNC	National ID Type table	PERSON_SETUP	NidTypeFullSync NID_TYPE_FULLSYNC/NidTypeFullSync/OnNotify
NID_TYPE_SYNC	National ID Type table	PERSON_SETUP	NidTypeSync NID_TYPE_SYNC/NidTypeSync/OnNotify
OPR_DEF_FULLSYNC	Operator Defaults Table - HR	TAM_INTEGRATION	OprDefFullSync OPR_DEF_FULLSYNC/OprDefFullSync/OnNotify
OPR_DEF_SYNC	Operator Defaults Table - HR	TAM_INTEGRATION	OprDefSync OPR_DEF_SYNC/OprDefSync/OnNotify
POI_TYPE_TBL_FULLSYNC	POI Type Table	PERSON_SETUP	POITypeTBLFullSync POI_TYPE_TBL_FULLSYNC/POITypeTblFullSync/OnNotify
POI_TYPE_TBL_SYNC	POI Type Table	PERSON_SETUP	POITypeTBLSync POI_TYPE_TBL_SYNC/POITypeTblSync/OnNotify
REGULATORY_REGION_FULLSYNC	Regulatory Region	PERSON_SETUP	RegRegionFullSync REG_REGION_FULLSYNC/RegRegionFullSync/OnNotify
REGULATORY_REGION_SYNC	Regulatory Region	PERSON_SETUP	RegRegionSync REG_REGION_SYNC/RegRegionSync/OnNotify
SETID_INITIALIZE	SetIDs	TBLSET_CONTROL	SetidInitialize (SETID_INITIALIZE/SetidInitialize/OnNotify)

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Service Operation	Description	Queue	Subscription Handler App Pkg
STATE_FULLSYNC	State Codes	ENTERPRISE_SETUP	StateFullSync STATE_FULLSYNC/StateFullSync/OnNotify
STATE_SYNC	State Codes	ENTERPRISE_SETUP	StateSync STATE_SYNC/StateSync/OnNotify
SUPPORT_DOC_FULLSYNC	Visa Supporting Documents	TAM_INTEGRATION	SupportDocFullSync SUPPORT_DOC_FULLSYNC/SupportDocFullSync/OnNotify
SUPPORT_DOC_SYNC	Visa Supporting Documents	TAM_INTEGRATION	SupportDocSync SUPPORT_DOC_SYNC/SupportDocSync/OnNotify
TBLSET_CONTROL_INITIALIZE	TableSet Control Records	TBLSET_CONTROL	TblsetControlInitialize TBLSET_CONTROL_INITIALIZE/TblsetControlInitiatlize/OnNotify
TITLE_FULLSYNC	Title Table	PERSON_SETUP	TitleFullSync TITLE_FULLSYNC/TitleFullSync/OnNotify
TITLE_SYNC	Title Table	PERSON_SETUP	TitleSync TITLE_SYNC/TitleSync/OnNotify
US_SOC_FULLSYNC	US Standard Occupational Codes	PERSON_SETUP	USSocFullSync US_SOC_FULLSYNC/USSocFullSync/OnNotify
US_SOC_SYNC	US Standard Occupational Codes	PERSON_SETUP	USSocSync US_SOC_SYNC/USSocSync/OnNotify
VISA_PERMIT_FULLSYNC	Visa Permit Types	VISA_PERMIT	VisaPermitFullSync VISA_PERMIT_FULLSYNC/VisaPermitFullSync/OnNotify
VISA_PERMIT_SYNC	Visa Permit Types	VISA_PERMIT	VisaPermitSync VISA_PERMIT_SYNC/VisaPermitSync/OnNotify

See Also

PeopleTools PeopleBook: Integration Broker Testing Utilities and Tools
Implementing CS Integration with the Higher Education Constituent Hub on My Oracle Support, ID 751540.1.
Implementing Portal Navigation aggregation for CS and HCM Integration on My Oracle Support, ID 751540.1.

Delivered EIPs

The following table lists delivered EIPs that support CS-to-HCM integration.

EIP Name	Description
ADDRESS_TYPE_FULLSYNC	Address Type Table
ADDRESS_TYPE_SYNC	Address Type Table
BUS_UNIT_HR_FULLSYNC	HR Business Unit Table
BUS_UNIT_HR_SYNC	HR Business Unit Table
COMPANY_FULLSYNC	Company Codes
COMPANY_SYNC	Company Codes
COMPETENCY_FULLSYNC3	College Major Subject Codes
COMPETENCY_SYNC3	College Major Subject Codes
COUNTRY_FULLSYNC	Countries
COUNTRY_SYNC	Countries
CURRENCY_FULLSYNC	Currency Codes

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CURRENCY_SYNC	Currency Codes
DEPT_FULLSYNC	Departments
DEPT_SYNC	Departments
ETHNIC_GRP_FULLSYNC	Ethnic Group Table
ETHNIC_GRP_SYNC	Ethnic Group Table
HOLIDAY_DATE_FULLSYNC	Holiday Date Schedules
HOLIDAY_DATE_SYNC	Holiday Date Schedules
JOBCODE_FULLSYNC	Job Codes
JOBCODE_SYNC	Job Codes
LOCATION_FULLSYNC	Company Site Locations
LOCATION_SYNC	Company Site Locations
NAME_PREFIX_SUFFIX_FULLSYNC1	Name Prefixes
NAME_PREFIX_SUFFIX_FULLSYNC2	Name Suffix Table
NAME_PREFIX_SUFFIX_FULLSYNC3	Name Royal Pref Table
NAME_PREFIX_SUFFIX_FULLSYNC4	Name Royal Suff Table
NAME_PREFIX_SUFFIX_SYNC1	Name Prefixes
NAME_PREFIX_SUFFIX_SYNC2	Name Suffix Table
NAME_PREFIX_SUFFIX_SYNC3	Name Royal Pref Table
NAME_PREFIX_SUFFIX_SYNC4	Name Royal Suff Table
NAME_TYPE_FULLSYNC	Name Type Table
NAME_TYPE_SYNC	Name Type Table
NID_TYPE_FULLSYNC	National ID Type Table
NID_TYPE_SYNC	National ID Type Table
OPR_DEF_FULLSYNC	Operator Defaults Table – HR
OPR_DEF_SYNC	Operator Defaults Table – HR
PERS_POI_FULLSYNC	Dflt Transaction Tbl for POIs
PERS_POI_SYNC	Dflt Transaction Tbl for POIs
PERSON_BASIC_FULLSYNC	Person
PERSON_BASIC_SYNC	Person
PERSON_DISABILITY_FULLSYNC	Disability
PERSON_DISABILITY_SYNC	Disability
PERSON_DIVERSITY_FULLSYNC	Diversity Data
PERSON_DIVERSITY_SYNC	Diversity Data
PERSON_VISA_CITIZEN_FULLSYNC1	EE/Dependent Citizenship
PERSON_VISA_CITIZEN_FULLSYNC2	EE/Dependent Visa Support Docs
PERSON_VISA_CITIZEN_SYNC	EE/Dependent Citizenship
POI_TYPE_TBL_FULLSYNC	POI Type Table
POI_TYPE_TBL_SYNC	POI Type Table
REGULATORY_REGION_FULLSYNC	Regulatory Region
REGULATORY_REGION_SYNC	Regulatory Region
SETID_INITIALIZE	SetIDs
STATE_FULLSYNC	State Codes/Names w/in Country
STATE_SYNC	State Codes/Names w/in Country

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SUPPORT_DOC_FULLSYNC	Visa Supporting Documents
SUPPORT_DOC_SYNC	Visa Supporting Documents
TBLSET_CONTROL_INITIALIZE	TableSet Control Records
TITLE_FULLSYNC	Title Table
TITLE_SYNC	Title Table
US_SOC_FULLSYNC	U.S. Standard Occupational Codes
US_SOC_SYNC	U.S. Standard Occupational Codes
USER_PROFILE	User Profiles
VISA_PERMIT_FULLSYNC	Visa Supporting Docs Needed
VISA_PERMIT_SYNC	Visa Supporting Docs Needed
WORKFORCE_FULLSYNC	Job and Person Org Assignments
WORKFORCE_SYNC	Job and Person Org Assignments

Integrating Using the Higher Education Constituent Hub

This section provides an overview of HECH integration and discusses how to integrate CS data to HCM using the HECH Connector.

Understanding HECH Integration

The HECH is a separately licensed product that manages bidirectional person data messaging and storage at the enterprise level, using broad data governance and data policy rules. When implemented, HECH becomes the single point of truth for person bio-demo data. HECH synchronizes this master data and transfers changes to all systems registered to it, by applying systemwide data validation policies set by your institution. The CS instance then becomes open to inbound information from other systems on campus.

Important! When using the HECH to integrate multiple systems, data is mastered in the hub itself but is actually manipulated and maintained in its “spoke” systems (such as CS). Messaging between the systems and the HECH is asynchronous. Only high-level data stewards can update or access person data within the HECH, for maintenance or troubleshooting purposes.

Oracle delivers the HECH Connector, a utility that assists with HECH integration by providing transformations and data mappings between CS and HECH, using Integration Broker. The HECH Connector contains Higher Ed Extensions for bio-demo data, affiliations, and External Search/Match. The *Implementing CS Integration with the Higher Education Constituent Hub* guide contains more information about the HECH, HECH Connector, and how to use these tools to manage bidirectional person data messaging.

See Also

Implementing CS Integration with the Higher Education Constituent Hub on My Oracle Support, ID 751540.1.

[PeopleSoft Enterprise Campus Community 9.0 Fundamentals PeopleBook - Update 1]Setting Up External Search/Match

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Integrating CS Data to HCM Using the HECH Connector

The HECH Connector enables CS to integrate core person data to a separated HCM instance, using Integration Broker messaging to communicate with the HECH. The HECH Connector integrates the following data:

- EmplID
- Name
- Address
- Phone
- Email address
- National ID
- VA benefit
- Marital status
- Education level
- Place of Death/Death Certificate Number
- Affiliations (outbound to HECH only)

See Also

[PeopleSoft Enterprise Campus Community 9.0 Fundamentals PeopleBook - Update 1]Using Constituent Web Services

Monitoring Integrations Using the Integrity Utility

This section provides an overview of the Integration Integrity Utility and discusses how to:

- Get started with the Utility.
- Configure the Utility.

Understanding the Integration Integrity Utility

The Integration Integrity Utility (the Utility) provides configurable end-user tools to help monitor and maintain high quality data in separate PeopleSoft CS and PeopleSoft HCM databases. As with most integration, unplanned scenarios can sometimes leave data out-of-sync. The Utility provides methods to detect, report, and resynchronize data where necessary.

Data Integration Assumptions and Practices

Using the Integration Integrity Utility to regularly monitor data will provide assurance that your data is being synchronized properly between separate PeopleSoft CS and PeopleSoft HCM databases.

A valuable feature of the Utility is the ability to re-sync data if discrepancies are found, however, it is important to remember some general assumptions and guidelines when using this Utility:

- Oracle delivered integration design models for split CS and HCM databases (Owner/Subscriber, Subscriber Only) assume that shared data is replicated exactly between both databases.
- The Utility is not designed to replace standard Application Messaging. Errors that may occur in Integration Broker Queue processing should be properly investigated and the message transaction resubmitted for proper handling.
- If data discrepancies appear regularly on comparison reports, there may be a systemic problem that

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should be investigated, and corrected.

- Data discrepancies may be the result of a variety of root causes. Investigation into the issue is critical.
- Data comparisons should be run during periods of low activity, and when transaction changes are not expected to occur frequently.

Pages Used With the Utility

Page Name	Definition Name	Navigation	Usage
Comparison Methods	SCC_DISCREP_METHOD	Set Up SACR, System Administration, Utilities, HCM Integration, Comparison Methods	Maintain the list of available methods for comparing table data between two different databases.
Resolution Methods	SCC_DISCREP_APPMTH	Set Up SACR, System Administration, Utilities, HCM Integration, Resolution Methods	Maintain the list of methods used to apply winners to resolve data discrepancies.
Data Sources	SCC_DISCREPDSRC	Set Up SACR, System Administration, Utilities, HCM Integration, Data Sources	Provide connection information for an external data source.
Database Link Maps	SCC_DISCREP_LNK	Set Up SACR, System Administration, Utilities, HCM Integration, Database Link Maps	Define mappings from a record name to a database link record name.
Record Maps	SCC_DISCREP_MAP	Set Up SACR, System Administration, Utilities, HCM Integration, Record Maps	Define a view used to compare data for the same table on two different databases. Views may be used instead of the base table when only certain columns or rows are desired for comparison.
Winner Rules	SCC_DISCREP_RULE	Set Up SACR, System Administration, Utilities, HCM Integration, Winner Rules	Maintain rule definitions for determining how to resolve data discrepancies between the same table on two different databases.
CS Permission Maps	SCC_PERMISN_MAP	Set Up SACR, System Administration, Utilities, HCM Integration, CS Permission Maps	Set comparison and discrepancy resolution security by mapping record names to permission lists in CS.
HCM Permission Maps	HCI_PERMISN_MAP	Set Up HRMS, Common Definitions, CS Integration, HCM Permission Maps	Set comparison and discrepancy resolution security by mapping record names to permission lists in HCM.
Run Discrepancy Comparison	SCC_DISCREPRCTL	Set Up SACR, System Administration, Utilities, HCM Integration, Run Discrepancy Comparison	Run the comparison process to determine data discrepancies in the specified tables between two databases.

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Integration Discrepancies	SCC_INTGR_DSCRPNCY	Set Up SACR, System Administration, Utilities, HCM Integration, Integration Discrepancies	Display data discrepancies found in the same table on two different databases and specify the winner for resolution.
Discrepancy Details	SCC_INTGR_DSCRFLDS	Click the Show Fields link for any row on the Integration Discrepancies page.	Show data discrepancy details for a selected row.
Resolve Discrepancies	SCC_DISCREP_RUNRUL	Set Up SACR, System Administration, Utilities, HCM Integration, Resolve Discrepancies	Run the process to apply the winner rule to all discrepancy rows in the specified table or resolve discrepancies.
Resolution Log	SCC_RESOLVE_LOG	Set Up SACR, System Administration, Utilities, HCM Integration, Resolution Log	View a log of transactions that have resolved data discrepancies.
Purge Resolution Log	SCC_RSLVLOGPRUNCTL	Set Up SACR, System Administration, Utilities, HCM Integration, Purge Resolution Log	Run the process to delete data discrepancy resolved transaction logs.

Getting Started With the Utility

Before setting up and running the Utility, you will want to analyze the data that is kept in sync between your PeopleSoft CS and PeopleSoft HCM databases. This information will be needed for configuring the Utility.

Here are some points to consider regarding this analysis:

- Oracle delivered integration design models (Owner/Subscriber, Subscriber Only) assume that shared data is replicated exactly between both databases. (Note: some data fields, such as audit date/time fields, may have slightly different values in each database due to the nature of Application Messaging).
- Is there any custom data filtering as part of your integration design? For tables where the data is not synchronized fully, use of a view will be needed to achieve accurate comparison results. A view allows the Utility to compare on a subset of fields between the databases, or supports the use of custom logic defined in the view SQL
- The list of tables that are synchronized will differ at every institution, and may include customizations. Your resulting list will become the scope of tables that will be compared between the databases.
- There are several delivered methods for performing data comparison and resolution. Which you choose to use will depend on your data and database environments. You may also develop and add other comparison or resolution methods.

Related Language tables must be separately compared and resolved.

Audit tables and fields should not be compared.

The compare process reports data discrepancies by table, and it does not enforce parent/child relationship. Please note the following guidance when using the Resolution process to resync data:

- Add missing parent record rows before adding any children data rows.
- Delete child data rows before deleting a parent data row.

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Identify Synchronized Tables

Identify the list of tables where data is synchronized between your PeopleSoft CS and PeopleSoft HCM databases; be sure to include setup tables and all tables where manual data entry in both databases occurs.

The following list of synchronized tables is supported by delivered integrations. Not all tables may be populated in your CS database, or are data that your institution keeps in sync. These tables form part of the message structure definition and therefore are included in this list.

Bundle 32
Content incorporated from existing appendixes

Delivered Base Tables

This list is also populated as setup data on the CS Permission Maps page.

Name	Description
ACCOM_DIAGNOSIS	EE Accommodation Diagnosis
ACCOM_JOB_TASK	EE Accommodation Job Tasks
ACCOM_OPTION	EE Accommodation Options
ACCOM_OP_LNG	EE Accommodation Options
ACCOM_REQUEST	EE Accommodation Requests
ADDRESSES	Address Type
ADDRESS_TYP_LNG	Address Type Table (rel.Lang)
ADDRESS_TYP_TBL	Address Type Table
BEN_PROG_PARTIC	EE Benefit Programs
BUS_UNIT_HR_LNG	Rellang HR Business Unit
BUS_UNIT_TBL_HR	HR Business Unit Table
CAN_JOBCODE_CU	Canadian WCB Jobcode to CU
CITIZENSHIP	EE/Dependent Citizenship
CITIZEN_PSSPRT	EE/Dependent Passport Data
CITIZEN_STS_LNG	Citizen Status Language Table
CITIZEN_STS_TBL	Citizen Status Table
CIT_PSSPRT_LANG	EE/Dependent Passport Data
COMPANY_TBL	Company Codes
COMPANY_TBL_ITA	Company Table – ITA
COMPENSATION	EE Compensation Data
COMPNY_TBL_LANG	Related Lang-Company Tbl

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Name	Description
COMP_PHONE_TBL	Company Phone Table
COUNTRYTBL_LANG	Country Related Language
COUNTRY_TBL	Countries
CURRCD_TBL_LANG	Currency Related Language
CURRENCY_CD_TBL	Currency Codes
DEPT_TBL	Departments
DEPT_TBL_LANG	Related Lang-Department Tbl
DISABILITY	Disability
DISABILITY_BRA	Disability Brazil
DISABILITY_CHE	Disability Table - CHE
DISABILITY_ESP	Disability Table - ESP
DISABILITY_FRA	Disability
DISABILITY_GER	GER Disabled EE info
DISABILITY_NLD	Disability Netherlands
DISABILITY_NZL	NZL Employee Disability Data
DIVERSITY	Diversity Data
DIVERS_ETHNIC	Ethnic Diversity
DIVERS_RELIGION	Religion Diversity - Asia Pac
EMAIL_ADDRESSES	Email Addresses
EMERGENCY_CNTCT	EE Emergency Contacts
EMERGENCY_PHONE	EE Emergency Cntct-Phone Nbr
EO_ADDRFMT_LANG	Address fields
EO_ADDR_FMT_TBL	Address fields
ETHNIC_GRP_LANG	Ethnic Group -Lang
ETHNIC_GRP_TBL	Ethnic Group Table
HOLIDAY_DATE	Holiday Dates
HOLIDAY_DTE_LNG	Holiday Dates RelLang
HOLIDAY_LANG	Holiday Table ID RelLang
HOLIDAY_TBL	Holiday Table ID
HP_EMPLT_TEACH	
HR_EE_SNR_DATES	Job Labor Seniority Dates
JOB	EE Job History
JOBCD_COMP_RATE	Job Code Comp Rate Table
JOBCD_TRN_PROG	Job Codes
JOBCODE_LANG	Related Lang-Job Code Tbl
JOBCODE_TBL	Job Codes
JOB_AUS	Job Extension for AU
JOB_EARNS_DIST	EE Job Earnings Distribution
JOB_IND	Job table for India
JOB_JR	Job Junior

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Name	Description
JOB_MIL	Military Related Job Fields
JOB_USF	Job Extension for USF
LOCATION_LANG	Related Lang-Location Tbl
LOCATION_TBL	Company Site Locations
MAJOR_TBL	College Major Subject Codes
MAJOR_TBL_LANG	Related Lang-Major Tbl
NAMES	Person Names
NAME_PREFIX_LNG	Related Lang - Name Prefix Tbl
NAME_PREFIX_TBL	Name Prefixes
NAME_SUFFIX_LNG	Related Lang - Name Suffix Tbl
NAME_SUFFIX_TBL	Name Suffix Table
NAME_TYPE_VW	Employee Name Types
NATIONALITY_GER	GER - Nationality record
NID_TYPE_LANG	Related Lng Tbl - NID_TYPE_TBL
NID_TYPE_TBL	National ID Type table
NM_ROYPREF_LNG	Related Lang for Roy Pref
NM_ROYPREF_TBL	Name Royal Pref Table
NM_ROYSUFF_LNG	Related Lang for Royal Suff
NM_ROYSUFF_TBL	Name Royal Suff Table
OPR_DEF_TBL_HR	Operator Defaults Table – HR
PERSON	PERSON record
PERSONAL_PHONE	Personal Data - Phone Numbers
PERSON_BRA	PERSON BRAZIL
PERSON_FRA	Person Subrecord – FRA
PERSON_SA	
PERS_DATA_BRA	Personal Data Effdt
PERS_DATA_CAN	Extension of PERSON for CAN
PERS_DATA_CHE	Extension of PERSON for CHE
PERS_DATA_DEU	Effdt Ext of PERSON for DEU
PERS_DATA_EFFDT	Effective Dated Personal Data
PERS_DATA_ESP	Extension of PERSON for ESP
PERS_DATA_FPS	Extension of PERSON for FPS
PERS_DATA_FRA	Extension of PERSON for FRA
PERS_DATA_IND	Personal Data – India
PERS_DATA_ITA	Extension of PERSON for ITA
PERS_DATA_JPN	Extension of PERSON for JPN
PERS_DATA_MEX	Personal Data Effdt Mexico
PERS_DATA_USA	Extension of PERSON for USA
PERS_DATA_USF	Ext of PERS_DATA_EFFDT for USF
PERS_HUKOU_CHN	PERSON CHINA

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Name	Description
PERS_NID	PERS_NID Record
PERS_REGIST_BEL	Empl Registration Number - BEL
PERS_SMOKER	PERSON Smoker History
PERS_WRKLIF_CHN	PERSON WORK LIFE INFO CHINA
PERS_WRKLV_CHN	Working & Living Permit
PER_ORG_ASGN	Person Org Assignments
PER_ORG_ASG_BEL	PER_ORG_ASG - Exts for Belgium
PER_ORG_ASG_BRA	PER_ORG_ASG Ext for Brazil
PER_ORG_ASG_FA	PER_ORG_ASG_FA
PER_ORG_ASG_HP	Per Org Asgn for E&G
PER_ORG_ASG_JPN	PER_ORG_ASGN Ext for JPN
PER_ORG_ASG_LNG	Rel Lng for PER_ORG_ASGN
PER_ORG_ASG_MIL	Person Assignment - Military
PER_ORG_ASG_NLD	PER_ORG- Exts for Netherlands
PER_ORG_INST	Person Org Instance
PER_POI_SCRTY	Per Poi Security
PER_POI_SCR_DT	Per Poi Security
PER_POI_TRANS	Dflt Transaction Tbl for POIs
PER_POI_TRN_LNG	Lng Tbl for PER_POI_TRANS
PER_POI_TYPE	Person POI Types
PLACE_ORIG_CHE	Employee Place of Origin
POI_TYPE_LNG	POI Type Language
POI_TYPE_TBL	POI Type Table
REG_REGION_LANG	Regulatory Region
REG_REGION_TBL	Regulatory Region
SETID_LANG	TableSet IDs
SETID_TBL	TableSet IDs
SET_CNTRL_GROUP	TableSet Record Groups
SET_CNTRL_REC	TableSet Record Detail
SET_CNTRL_TBL	TableSet Controls
STATE_TBL	State Codes/Names w/in Country
STATE_TBL_LANG	State Names Related Language
SUPPORT_DOC_TBL	Visa Supporting Documents
SUPPRT_DOC_LANG	Related Lang-Visa Support Docs
TITLE_TBL	Title Table
TITLE_TBL_LNG	Rellang Title Table
US_SOC_TBL	US Standard Occupational Codes
US_SOC_TBL_LNG	US Standard Occupational Codes
VISA_PERMIT_SUP	Visa Supporting Docs Needed
VISA_PERMIT_TBL	Visa Requirements by Country
VISA_PERMT_LANG	Related Lang-Visa Requirements

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Name	Description
VISA_PMT_DATA	EE/Dependent Visa Data
VISA_PMT_DA_LNG	EE/Dependent Visa Data
VISA_PMT_SUPPRT	EE/Depndnt Visa Support Docs

Determine Views Needed for Record Maps

The Utility generally performs data comparison using base tables. In some cases, using views, instead of base tables, provides the ability to filter the data compare between the two databases. This is useful in cases where: the Last Updated Date/Time field values may differ and should be excluded from the compare; record definitions are different between the databases; or data rows may not be identical – by design – between the databases, such as for filtered populations.

The following views are delivered and can be used for setting Record Maps. These views have certain fields excluded to increase accurate data comparison – such as drop out hits on LASTUPDDTTM values.

- Some of these views are existing HCR interface views, and are used elsewhere in Campus Solutions.
- New views created for this purpose are named HCI_%.

Bundle 32
Content incorporated from existing appendixes

Base Table and View Names

The following list of base tables and views are referenced in delivered message definitions used with CS-to-HCM integrations.

Base Table Name	View Name
ADDRESSES	HCR_PER_ADDR_I
NAMES	HCR_PER_NAME_I
CURRENCY_CD_TBL	HCI_CRNCY_CD_VW
CURRCD_TBL_LANG	HCI_CRNCY_CD_VL
DEPT_TBL	HCI_DEPT_VW
DEPT_TBL_LANG	HCI_DEPT_VWLANG
JOB	HCI_JOB_VW
JOBCODE_TBL	HCI_JOBCODE_VW
JOBCODE_LANG	HCI_JOBCODE_VWL
JOB_JR	HCI_JOB_JR_VW
JOB_MIL	HCI_JOB_MIL_VW
PERSON	HCR_PERSON_I
PERS_DATA_BRA	HCI_PDATA_BRAVW
PERS_DATA_EFFDT	HCR_PER_PDE_I
PERS_NID	HCR_PER_NID_I
PER_ORG_ASGN	HCI_PERORGASGNV
PER_ORG_ASG_LNG	HCI_PERORGASGNL
PER_ORG_INST	HCI_PERORGINSVW
PER_POI_SCRTY	HCI_PERPOISECVW
PER_POI_TYPE	HCI_PERPOITYPVW

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Configuring the Utility

To configure the Utility for data comparison and resolution:

1. Configure the system.
   - Set the “Add to CLASSPATH” Variable (optional, only if using Java JDBC methods).
   - Create Database Link on database server (optional, only if using Database Link method).
2. Determine Comparison methods (required).
3. Determine Resolution methods (required).
4. Define Data Source (optional, only if using Java JDBC methods).
5. Define Database Link Map (optional, only if using Database Link methods).
6. Set Record Maps (optional, depends on tables).
7. Define Winner Rules (required).
8. Determine Permission Maps (required).
9. Configure the HCI_RECORD service operations (optional, only if using Synchronous Message resolution method).

System Configuration: Set the “Add to CLASSPATH” Variable

This procedure is required only if using Java JDBC methods.

This procedure is performed only on the CS 9.0 environment; it does not need to be performed on the HCM environment.

This procedure should be done on both Application Server and Process Server domains.

The Add to CLASSPATH environment variable parameter enables the Java Virtual Machine (JVM) and other Java applications where to find the Java class libraries, including any user-defined class libraries. Because PeopleTools automatically generates CLASSPATH entries for core, delivered class libraries, setting this variable specifies additional class libraries that the PeopleSoft software needs to access.

To use this parameter, you need to uncomment it in the configuration files for Application Server and Process Server.

- Use PSADMIN to access the configuration file in the Application Server and Process Server.
- Uncomment the “Add to CLASSPATH” variable.
- Add the appropriate database platform JAR files to the “Add to CLASSPATH” variable as follows

Database Platform	JAR Files
DB2	db2jcc_license_cisuz.jar db2jcc4.jar sqlj4.zip
Microsoft SQL Server	sqljdbc4.jar
Oracle	ojdbc6.jar

Note. For DB2 platforms it is also necessary to modify the ’Add to PATH’ variable and append <db2sqllib>\bin;<db2sqllib>\function. Consult your database platform documentation for further details.

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System Configuration: Create Database Link

This procedure is required only if using the Database Link comparison method.

Create the database link on the CS instance database server.

The database link does not need to be created on the HCM instance.

Database links are platform dependent and must be created on the database server. Consult your specific database platform documentation and database administrator for more information and the proper syntax for creating database links on your environments.

The following is a sample command for creating a database link on the Oracle database:

```
CREATE DATABASE LINK HRDBLINK CONNECT TO <sqluid> IDENTIFIED
BY <sqlpass> USING '<dbname>';
```

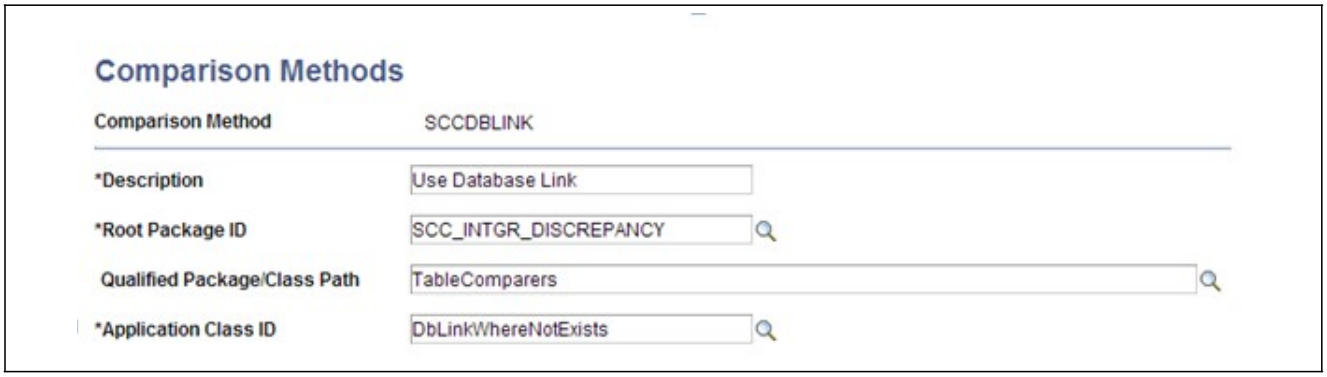
See *PeopleTools PeopleBooks: System and Server Administration*, "Setting Application Server Domain Parameters"

Configuring Comparison Methods

There are three delivered methods for performing data comparison:

Method	Description
SCCDBLINK	Use Database Link
SCCJDBC	Use Java JDBC
Full Sync Method	Full Data Publish asynchronous message process **Note.** There is no Comparison Methods setup data for the Full Sync method as it leverages the Full Data Publish message subscription process.

Access the Comparison Methods page (Set Up SACR, System Administration, Utilities, HCM Integration, Comparison Methods).



Comparison Methods page

Description The description for the comparison method.

Root Package ID The application package used for the comparison method.

Qualified Package\Class Path The class path being used.

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Application Class ID The application class ID being used.

The following table details the required configuration components for each comparison method.

Comparison Method	Data Source	Database Link on Server	Database Link Map	Record Maps	Permission Maps	Service Operation
SCCDBLINK - Database Link		X	X	X	X	
SCCJDBC - Java JDBC	X			X	X	
Full Sync				X	X	X

Java JDBC

The Java JDBC method uses a Java class to read from the HCM database, and the data is then compared inside the SCC_DISCREP2 batch process with data discrepancies logged to the Integration Discrepancies table. The Java objects required for using this method were delivered with the CS 9.0 Bundle #29 package.

This method generally performs slower than the database link method, but does not require the maintenance that a database link may. Consider using this method if a database link is not suitable for your environment.

To use the delivered Java JDBC method, the following steps are required:

1. The “Add to CLASSPATH” system configuration detailed in the preceding step must be complete.
2. A Data Source definition for the foreign HCM database must be defined.
3. Record Maps and Permission Maps must be defined as appropriate for the tables that will be compared.

Database Link

The Database Link method uses a database link to join the HCM table to its sibling CS table, with the data comparison done on the database server. Results are returned to the SCC_DISCREP2 batch process with data discrepancies logged to the Integration Discrepancies table.

This method generally performs the fastest, but does not run on all platforms.

To use the delivered Database Link method, the following steps are required:

1. A database link to the HCM database must be created on the database server for the CS 9.0 instance.
2. A Database Link Map must be defined for every table that will be compared.
3. Record Maps and Permission Maps must be defined appropriately for the tables that will be compared.

Full Sync

The Full Sync method leverages the delivered Full Data Publish messages which are published from the HCM instance and a special subscription handler in the CS instance is used to read and perform the data compare.

The Full Sync method is better suited for smaller volume tables as it generally runs slower than the other methods, but it will run on any platform. Use this method if you cannot use the others.

Important! Do NOT activate the standard Full Sync subscription handlers when using this method, as this can impact data in the production tables. The SCC_INTGR_DISCREPENCY handler code delivered for performing this comparison does not update data in the base tables.

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Configuring and running the FULLSYNC compare method

Bundle 32
Content incorporated from existing appendixes

This section discusses how to:

- Configure the FULLSYNC service operations on both CS and HCM databases.
- Define the Full Data Publish Rule for selected FULLSYNC on the HCM database.
- Run the Full Data Publish process for selected FULLSYNC service operations on the HCM database.
- Review results in the CS database.

Configuring the FULLSYNC Service Operations

To set up service operation on the HCM instance:

1. Access PeopleTools, Integration Broker, Integration Setup, Service Operations.
2. Activate the selected FULLSYNC service operation on for the message that contains the tables you will compare.
3. Grant appropriate service operation security.
4. No Handlers are required.
5. Configure the routing to the Campus Solutions 9.0 database, using proper transformations if required for the message being used.

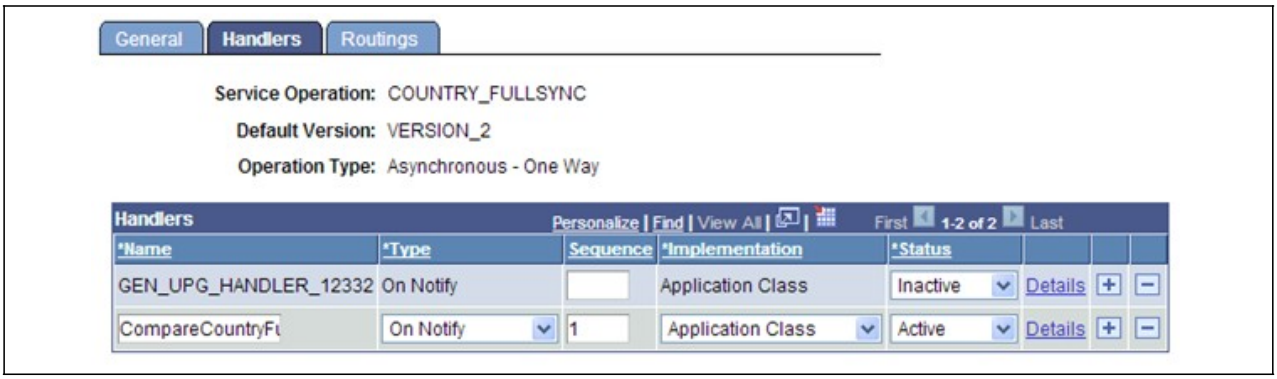
To set up service operation on the CS instance:

1. Access PeopleTools, Integration Broker, Integration Setup, Service Operations.
2. Activate the selected FULLSYNC service operation on for the message that contains the tables you will compare.
3. Grant appropriate service operation security.
4. On the Handlers tab, configure the Full Sync Compare subscription handler as follows:

Important! Inactivate the FULLSYNC data handler for this procedure as this can impact production data. After the Full Sync data compare is completed, reset your handler settings as desired.

---

   a. On the Service Operation Handler tab, insert a row in the Handlers grid: 1) Define a Name for the handler, 2) Type = OnNotify, 3) Implementation = Application Class, and 4) Status = Active.



Example of Handlers page field values

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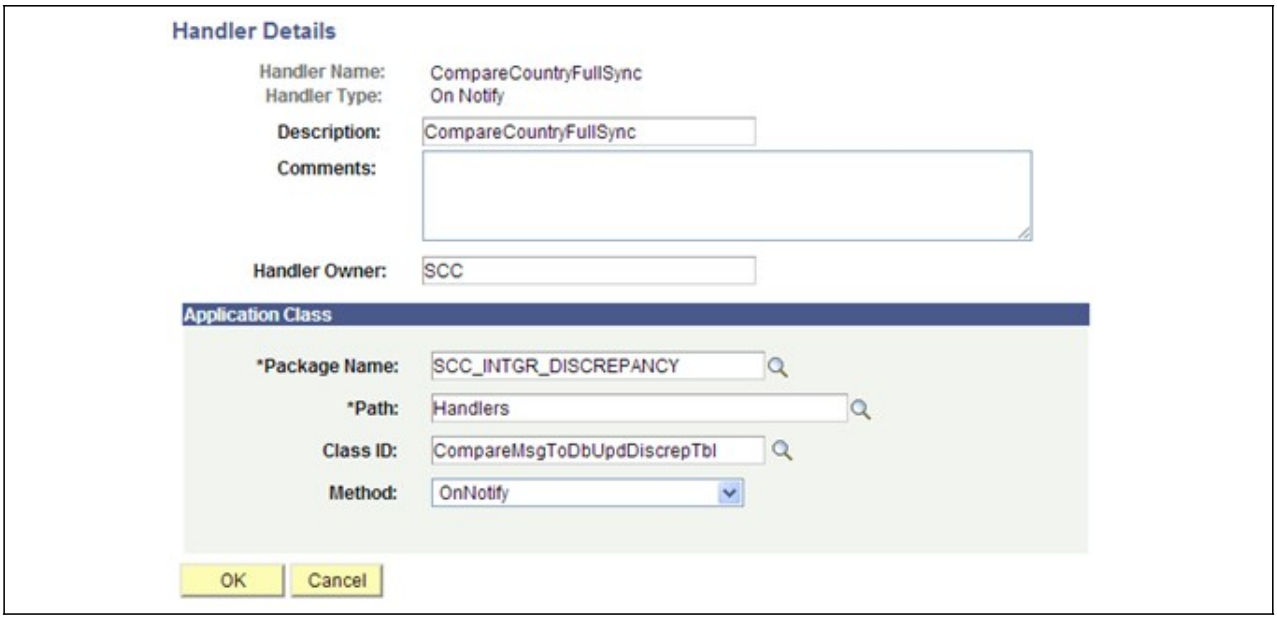
b. Click the Details link: 1) Enter Description, 2) Comments optional, 3) Define a Handler Owner, and 4) In the Application Class section, enter the field values shown below:



Example of Handler Details page field values for Application Class

5. Configure the inbound routing in CS database, using transformations if required for the selected FULLSYNC service operation.
6. Save the Service Operation changes.

Defining the Full Data Publish Rule

To define the full data publish rule:

1. Access Enterprise Components, Integration Definitions, Full Data Publish Rule.
2. Configure the Full Data Publish Rule for the selected FULLSYNC service operation.

Running the Full Data Publish Process

To run on the HCM instance:

1. Access Enterprise Components, Integration Definitions, Initiate Processes, Full Data Publish.
2. On the run control, set the process request parameters and select the desired Service Operation.
3. Run the process.

Reviewing Integration Discrepancy Results

To run on the CS instance:

1. Confirm successful FULLSYNC message transaction subscription in Integration Broker Monitor.
2. Review the results on the Integration Discrepancies pages.

See ”Integrating Campus Solutions with Human Capital Management,” Integrating Using the Integrity Utility.

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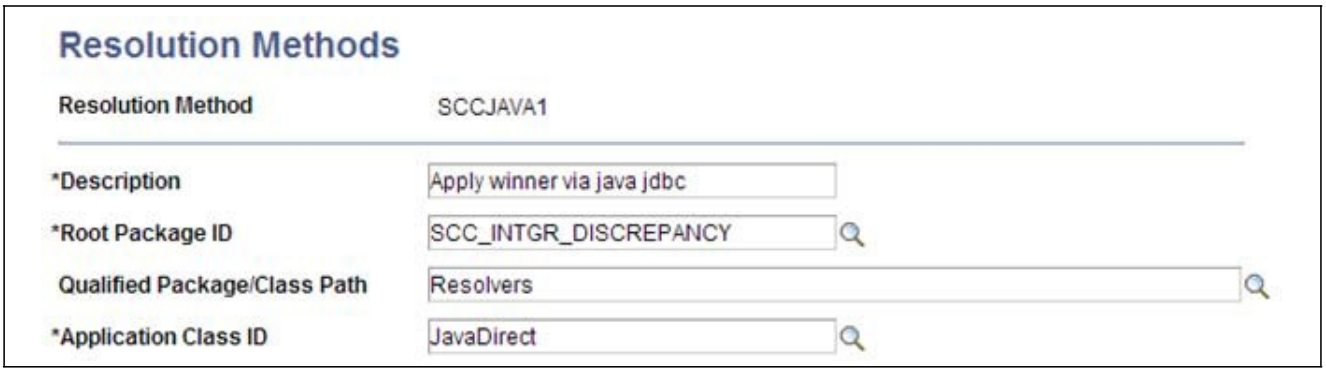
Configuring Resolution Methods

The resolution method is the way the Utility can resync data between the databases. Either method is invoked by the Resolve Discrepancies process (Application Engine SCC_DISCREP3). There are two delivered

Resolution methods which can be used to re-sync data discrepancies:

Method	Description
SCCJAVA1	Apply winner via java jdbc
SCCSYNCMSG1	Apply winner via Synchronous Message

Access the Resolution Methods page (Set Up SACR, System Administration, Utilities, HCM Integration, Resolution Methods).



Resolution Methods page

Description The description for the resolution method.

Root Package ID The application package used for the resolution method.

Qualified Package\Class Path The class path being used.

Application Class ID The application class ID being used.

Either resolution method may be used independent of what method was used for the data compare.

The following table details the required configurations for each delivered resolution method. The procedures for each are detailed in subsequent sections of this document.

Resolution Method	Data Source	Record Maps	Permission Maps	Winner Rules	Service Operation
SCCJAVA1 Java JDBC	X	X	X	X	
SCCSYNCMSG1 Synchronous Message		X	X	X	X

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Defining Data Sources

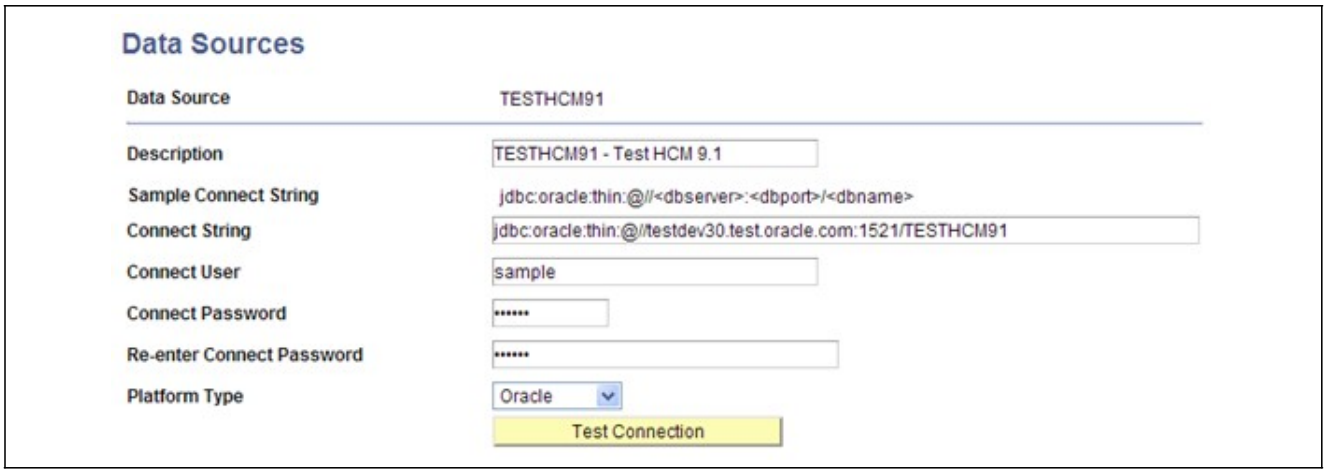
In order to use the Java JDBC methods, a data source for the HCM database must be defined.

It is not necessary to define a data source for the CS database instance.

Important! Define the data source name to match the Node name of the HCM database.

The sample connect string is platform specific. Select the appropriate the Platform Type dropdown to see examples of the connect string relevant for the matching database platform.

Access the Data Sources page (Set Up SACR, System Administration, Utilities, HCM Integration, Data Sources).



Data Sources page

Description	Enter the description for the data source.
Sample Connect String	The displayed text will change based on the Platform Type selected below.
Connect String	Enter the connect string, following the correct platform parameters.
Connect User	Enter the connect user ID.
Connect Password	Enter the password for the connect user ID.
Re-enter Connect Password	Re-enter the password for the connect user ID.
Platform Type	Supported platform types.
Test Connection	Click this button to test the connection. A successful connection will cause a “success” message to appear; an unsuccessful connection will cause a Java error message to appear.

Defining Database Link Maps

To use the Database Link comparison method (SCCDBLINK), a database link for the HCM database must exist on the CS database server, and a database link map must be defined for every table that is being compared.

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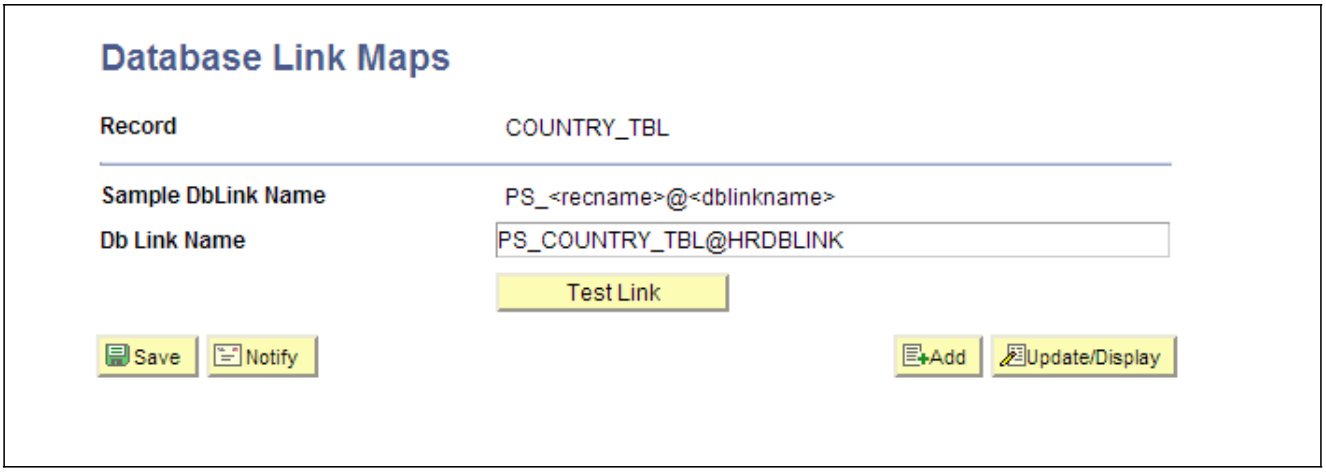
Access the Database Link Maps page (Set Up SACR, System Administration, Utilities, HCM Integration, Database Link Maps).



Database Link Maps page

Record	The table name that is being defined.
Sample Db Link Name	All database link maps should follow this example.
Db Link Name	Enter the Db Link using the proper syntax.

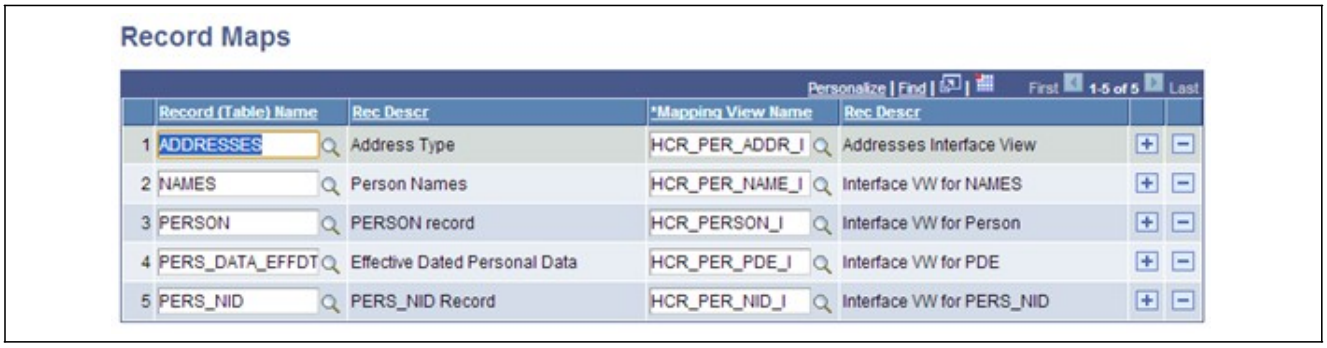
Defining Record Maps

When the Comparison process runs, the program will evaluate the Record Maps definitions and will select data using any defined Mapping View Name instead of selecting the columns from the base table definition.

Record Maps are not required. Data comparisons can be done directly between the tables, however Record Maps are necessary when you wish to omit columns or rows, or reformat columns for comparison. This allows for configuration and extensibility in several ways:

- Exclude audit fields such as LASTUPDDTTM.
- Exclude other data fields.
- Compare records between databases where record definitions are different.
- Include custom logic, such as custom selection criteria in SQL View text.

Access the Record Maps page (Set Up SACR, System Administration, Utilities, HCM Integration, Record Maps).



Record Maps page

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Record (Table) Name Enter the base SQL Table name.

Rec Descr The Record Definition description for the base SQL Table.

Mapping View Name Enter the SQL View name to be used. This must be a valid SQL View in Application Designer.

Rec Descr The Record Definition description for the SQL View.

Defining Winner Rules

Usually most data discrepancies will be due to specific reasons and should be investigated and resolved individually. For example, a broken integration transaction might be suspended in the Queue. To resolve, this transaction should be fixed and resubmitted through the Queue.

There may be circumstances when data discrepancies can be resolved in the same way. Using a winner rule can simplify the task of setting the winners on the Integration Discrepancies page (described later in this document). For example, you may set some data discrepancy winners manually, but then use a winner rule to update the rest.

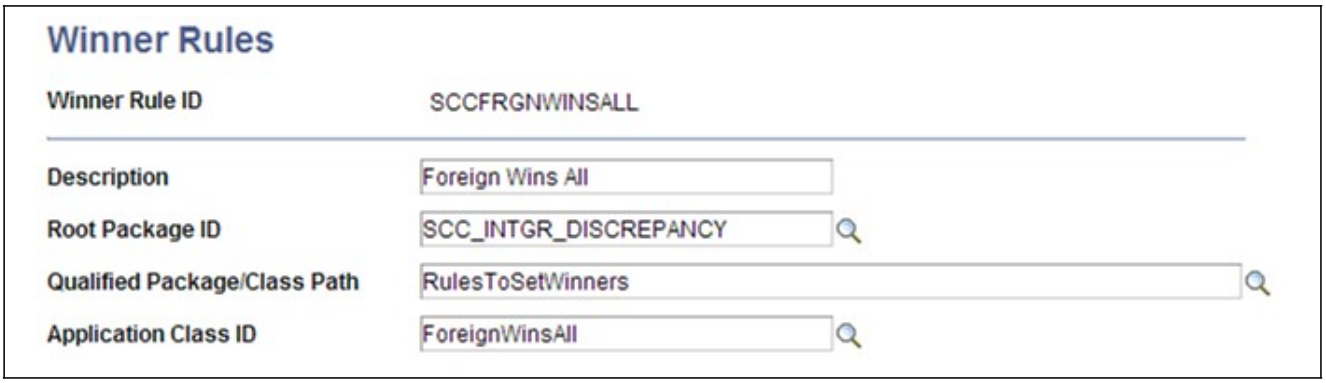
For the delivered winner rules, only those rows on the Integration Discrepancies page that are marked Undecided will be updated according to the rule that is selected.

Winner Rules are used on the Resolve Discrepancies process run control page.

There are two delivered Winner Rule ID definitions:

Method	Description
SCCFRGNWINSALL	Foreign Wins All (the designated foreign "target" database values will be used to update the local database).
SCCLOCALWINSALL	Local Wins All (the designated local "source" database values will be used to update the foreign database).

Access the Winner Rules page (Set Up SACR, System Administration, Utilities, HCM Integration, Winner Rules).



Winner Rules page

Description The description for the winner rule.

Root Package ID The application package used for the winner rule.

Qualified Package\Class Path The class path being used.

Application Class ID The application class ID being used.

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Defining Permission Maps

Permission Maps define security settings for read/write access to tables used by the Comparison and Resolution processes. Both CS and HCM environments must be configured with appropriate Permission Maps settings. Read/Write security authorization is assigned by Record name associated to a Permission List.

The compare uses the mapped view to do the comparison. The resolution process uses the base table.

Access the CS Permission Maps page (Set Up SACR, System Administration, Utilities, HCM Integration, CS Permission Maps).

CS Permission Maps

Permission Maps — Personalize | Find | First 1-288 of 288 Last

	*Record	Rec Descr	*Process Name	Description	*Authorization	*Permission List	Description
1	ACCOM_DIAGNOSIS	EE Accommodation Diagnosis	SCC_DISCREP2	Run discrepancy comparison	Read	HCDPCSSA0001	Data Permissions for IIU
2	ACCOM_DIAGNOSIS	EE Accommodation Diagnosis	SCC_DISCREP3	Set winners, apply resolutions	Write	HCDPCSSA0001	Data Permissions for IIU
3	ACCOM_JOB_TASK	EE Accommodation Job Tasks	SCC_DISCREP2	Run discrepancy comparison	Read	HCDPCSSA0001	Data Permissions for IIU
4	ACCOM_JOB_TASK	EE Accommodation Job Tasks	SCC_DISCREP3	Set winners, apply resolutions	Write	HCDPCSSA0001	Data Permissions for IIU
5	ACCOM_OPTION	EE Accommodation Options	SCC_DISCREP2	Run discrepancy comparison	Read	HCDPCSSA0001	Data Permissions for IIU
6	ACCOM_OPTION	EE Accommodation Options	SCC_DISCREP3	Set winners, apply resolutions	Write	HCDPCSSA0001	Data Permissions for IIU
7	ACCOM_OP_LNG	EE Accommodation Options	SCC_DISCREP2	Run discrepancy comparison	Read	HCDPCSSA0001	Data Permissions for IIU
8	ACCOM_OP_LNG	EE Accommodation Options	SCC_DISCREP3	Set winners, apply resolutions	Write	HCDPCSSA0001	Data Permissions for IIU
9	ACCOM_REQUEST	EE Accommodation Requests	SCC_DISCREP2	Run discrepancy comparison	Read	HCDPCSSA0001	Data Permissions for IIU
10	ACCOM_REQUEST	EE Accommodation Requests	SCC_DISCREP3	Set winners, apply resolutions	Write	HCDPCSSA0001	Data Permissions for IIU
11	ADDRESSES	Address Type	SCC_DISCREP2	Run discrepancy comparison	Read	HCDPCSSA0001	Data Permissions for IIU
12	ADDRESSES	Address Type	SCC_DISCREP3	Set winners, apply resolutions	Write	HCDPCSSA0001	Data Permissions for IIU
13	ADDRESS_TYP_LN(	Address Type Table (rel.Lang)	SCC_DISCREP2	Run discrepancy comparison	Read	HCDPCSSA0001	Data Permissions for IIU
14	ADDRESS_TYP_LN(	Address Type Table (rel.Lang)	SCC_DISCREP3	Set winners, apply resolutions	Write	HCDPCSSA0001	Data Permissions for IIU
15	ADDRESS_TYP_TBL	Address Type Table	SCC_DISCREP2	Run discrepancy comparison	Read	HCDPCSSA0001	Data Permissions for IIU
16	ADDRESS_TYP_TBL	Address Type Table	SCC_DISCREP3	Set winners, apply resolutions	Write	HCDPCSSA0001	Data Permissions for IIU

CS Permission Maps page

Record Enter the base table name.

Rec Descr The Record Definition description of the base table.

Process Name and Description The delivered SCC_DISCREP2 or SCC_DISCREP3 App Engine processes.

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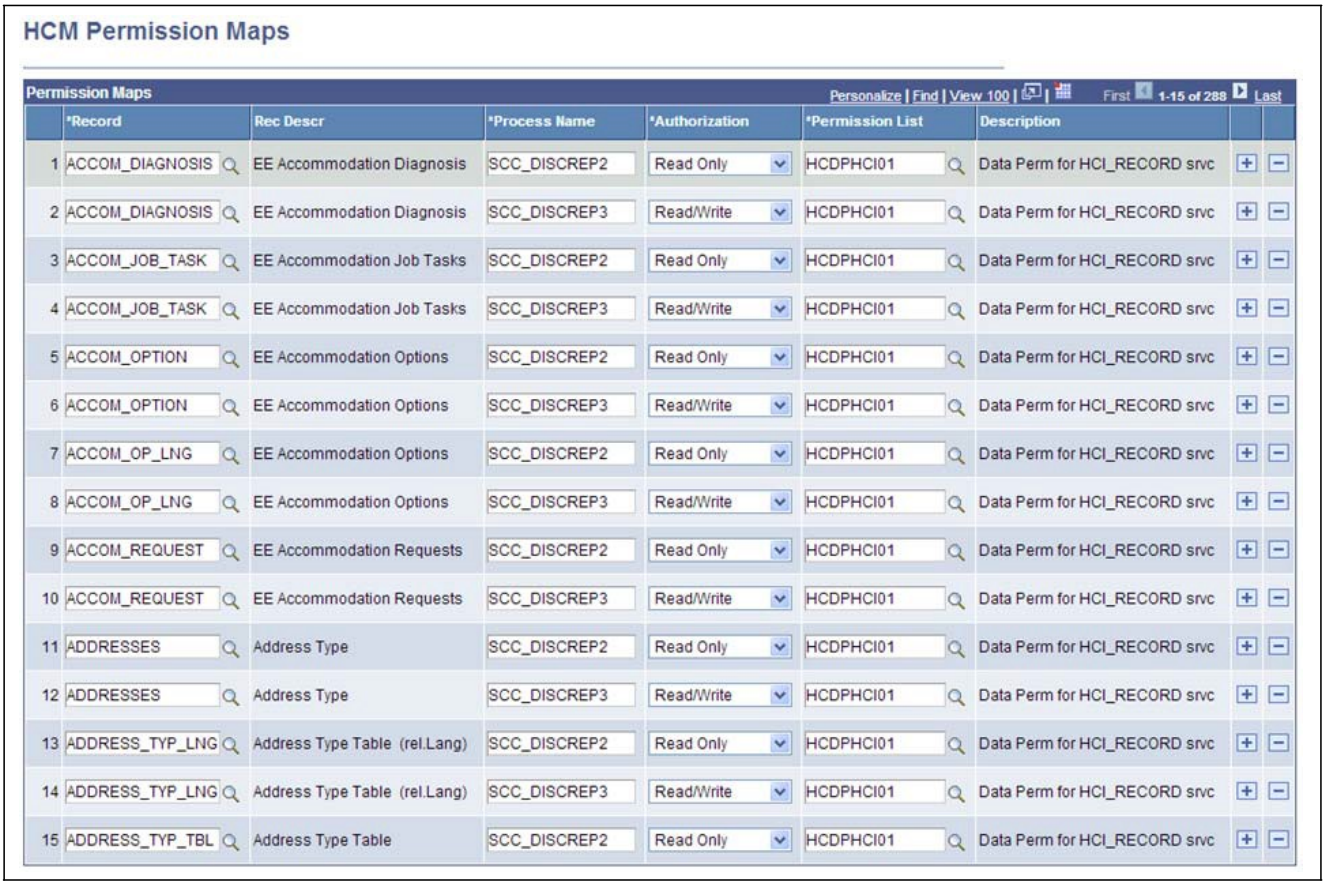
Authorization Read or Write access to the specified record.

Permission List Data Permission List that must be attached to Role to the User.

Description The permission list description.

Note. The Process Name provides an additional security attribute for the Synchronous Message method HCI_RECORD service operations to ensure the service request is being made from one of the authorized programs or components.

Access the HCM Permission Maps page (Set Up HRMS, Common Definitions, CS Integration, HCM Permission Maps).



HCM Permission Maps

Permission Maps — Personalize | Find | View 100 | First 1-15 of 288 Last

	*Record	Rec Descr	*Process Name	*Authorization	*Permission List	Description
1	ACCOM_DIAGNOSIS	EE Accommodation Diagnosis	SCC_DISCREP2	Read Only	HCDPHCI01	Data Perm for HCI_RECORD srvc
2	ACCOM_DIAGNOSIS	EE Accommodation Diagnosis	SCC_DISCREP3	Read/Write	HCDPHCI01	Data Perm for HCI_RECORD srvc
3	ACCOM_JOB_TASK	EE Accommodation Job Tasks	SCC_DISCREP2	Read Only	HCDPHCI01	Data Perm for HCI_RECORD srvc
4	ACCOM_JOB_TASK	EE Accommodation Job Tasks	SCC_DISCREP3	Read/Write	HCDPHCI01	Data Perm for HCI_RECORD srvc
5	ACCOM_OPTION	EE Accommodation Options	SCC_DISCREP2	Read Only	HCDPHCI01	Data Perm for HCI_RECORD srvc
6	ACCOM_OPTION	EE Accommodation Options	SCC_DISCREP3	Read/Write	HCDPHCI01	Data Perm for HCI_RECORD srvc
7	ACCOM_OP_LNG	EE Accommodation Options	SCC_DISCREP2	Read Only	HCDPHCI01	Data Perm for HCI_RECORD srvc
8	ACCOM_OP_LNG	EE Accommodation Options	SCC_DISCREP3	Read/Write	HCDPHCI01	Data Perm for HCI_RECORD srvc
9	ACCOM_REQUEST	EE Accommodation Requests	SCC_DISCREP2	Read Only	HCDPHCI01	Data Perm for HCI_RECORD srvc
10	ACCOM_REQUEST	EE Accommodation Requests	SCC_DISCREP3	Read/Write	HCDPHCI01	Data Perm for HCI_RECORD srvc
11	ADDRESSES	Address Type	SCC_DISCREP2	Read Only	HCDPHCI01	Data Perm for HCI_RECORD srvc
12	ADDRESSES	Address Type	SCC_DISCREP3	Read/Write	HCDPHCI01	Data Perm for HCI_RECORD srvc
13	ADDRESS_TYP_LNG	Address Type Table (rel.Lang)	SCC_DISCREP2	Read Only	HCDPHCI01	Data Perm for HCI_RECORD srvc
14	ADDRESS_TYP_LNG	Address Type Table (rel.Lang)	SCC_DISCREP3	Read/Write	HCDPHCI01	Data Perm for HCI_RECORD srvc
15	ADDRESS_TYP_TBL	Address Type Table	SCC_DISCREP2	Read Only	HCDPHCI01	Data Perm for HCI_RECORD srvc

HCM Permission Maps page

Record Enter the base table name.

Rec Descr The Record Definition description of the base table.

Process Name The delivered SCC_DISCREP2 or SCC_DISCREP3 App Engine processes.

Authorization Read or Write access to the specified record.

Permission List Data Permission List that must be attached to Role to the User.

Description The permission list description.

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Configuring the HCI_RECORD Service Operations

Bundle 32

Content incorporated from existing appendixes

The HCI_RECORD service is a synchronous request/response message which is invoked by the Synchronous Message resolution process to perform Add, Update, and Delete actions on data.

There are three service operations used by the Synchronous Message (SCCMSGSYNC1) resolution method:

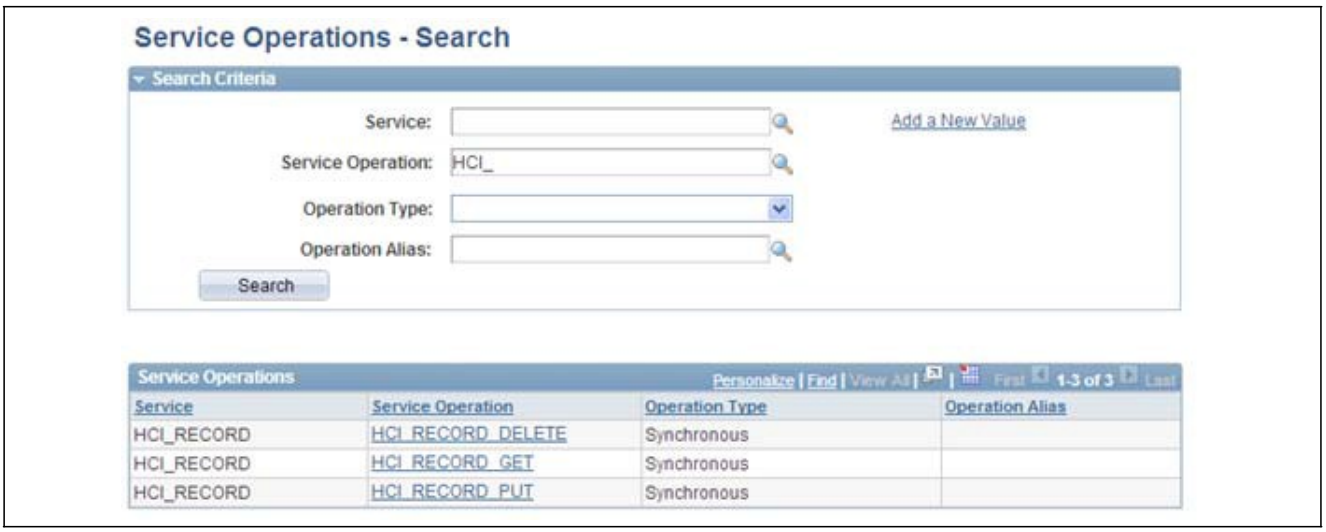
- HCI_RECORD_DELETE
- HCI_RECORD_GET
- HCI_RECORD_PUT

The HCI_RECORD service operations are used with the Synchronous Message resolution method. The following steps describe how to configure the HCI_RECORD service operations.

Note. These instructions show pages from the HCM 9.1 database, but are the same for all releases.

Configure HCI_RECORD Service Operations in HCM

Begin the procedure in the HCM database.



Example of Service Operations search page (HCM)

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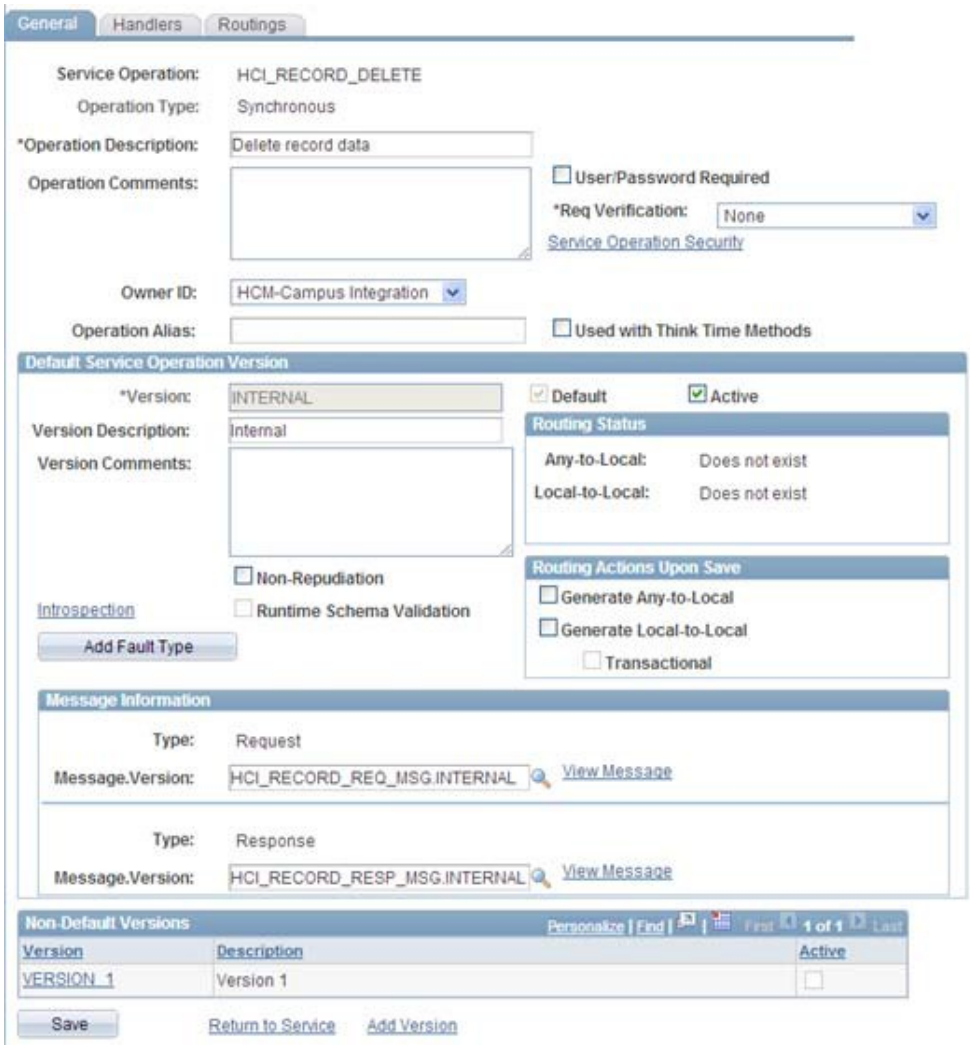
1. Open Service Operation *HCI_RECORD_DELETE*.



Example of Service Operations – General page (HCM)

2. In the Default Service Operation Version group box, select the Active check box and click Save.
3. In the Non-Default Versions group box, click the *VERSION_1* link.

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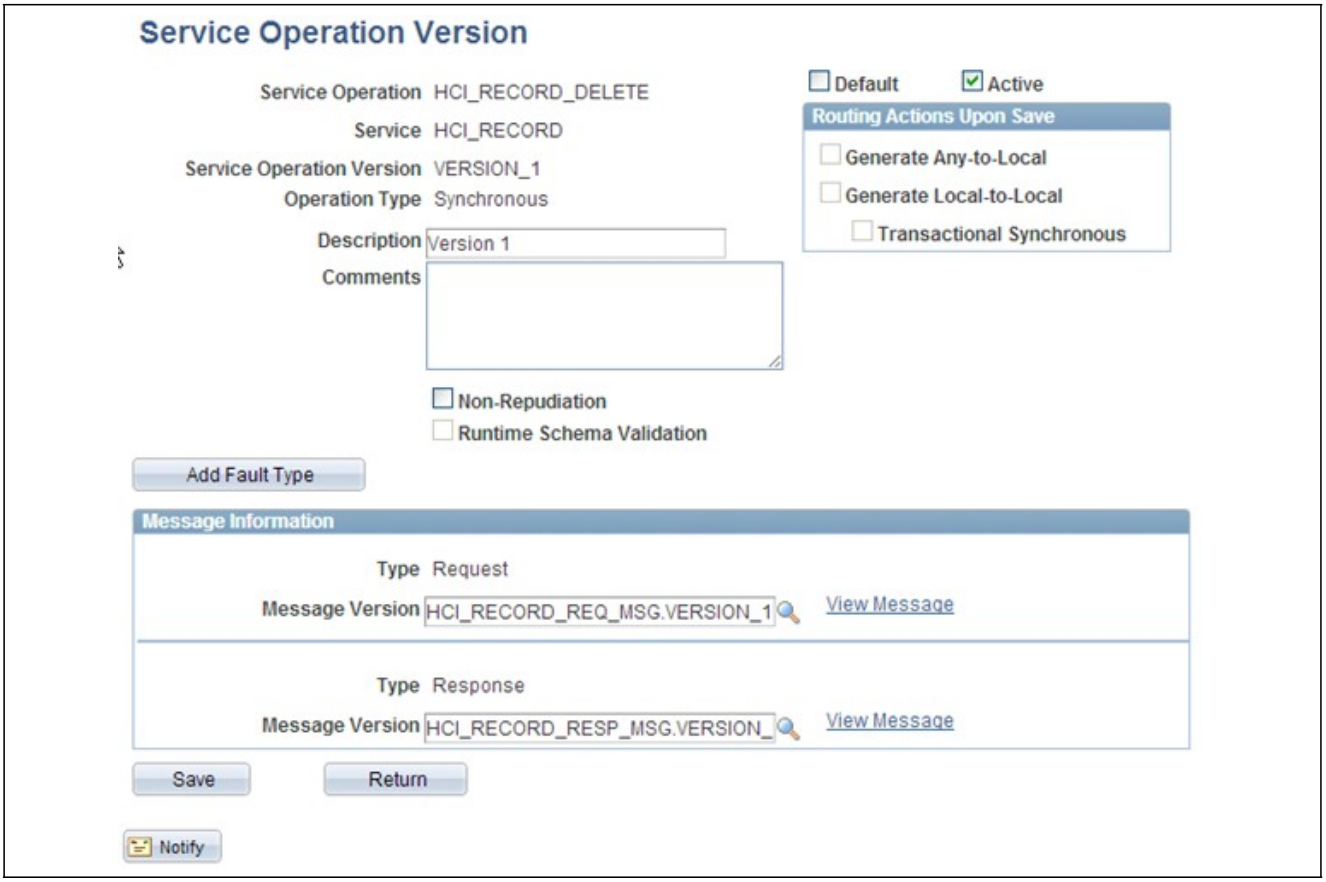

Example of Service Operation Version page (HCM)

4. Select the Active check box and click Save.
5. Click Return.
6. Back on the General page, click the Service Operation Security link and enter the appropriate permission list.

Example of Web Service Access page (HCM)

7. Click Save, then close the window.

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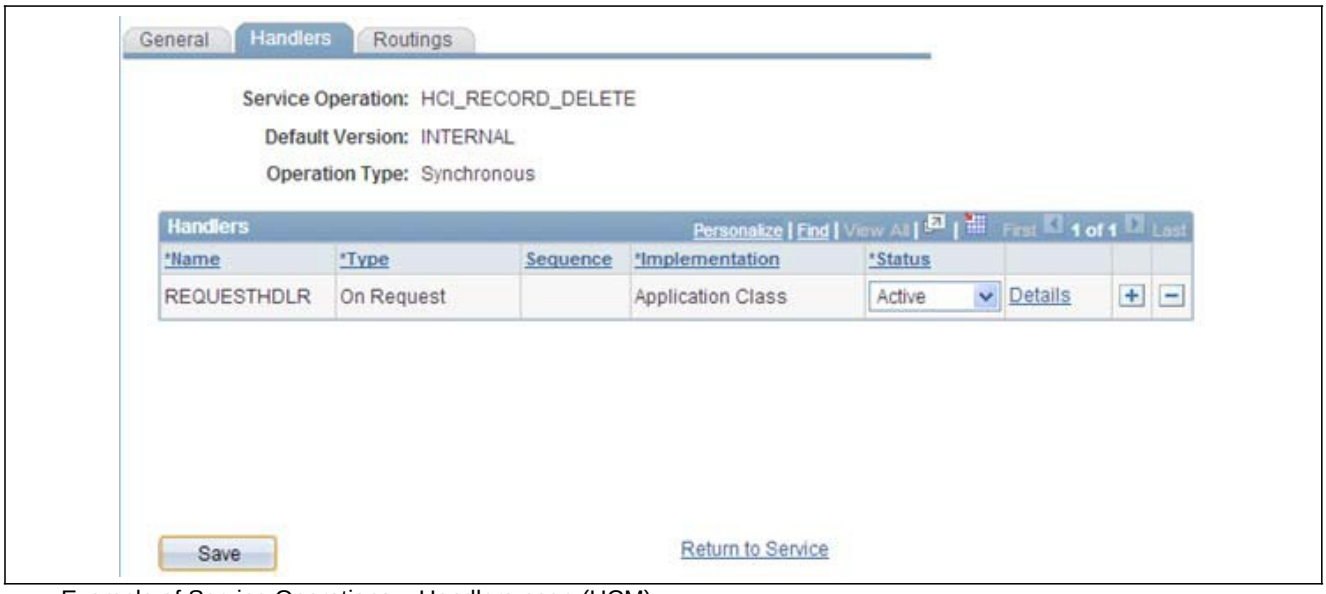
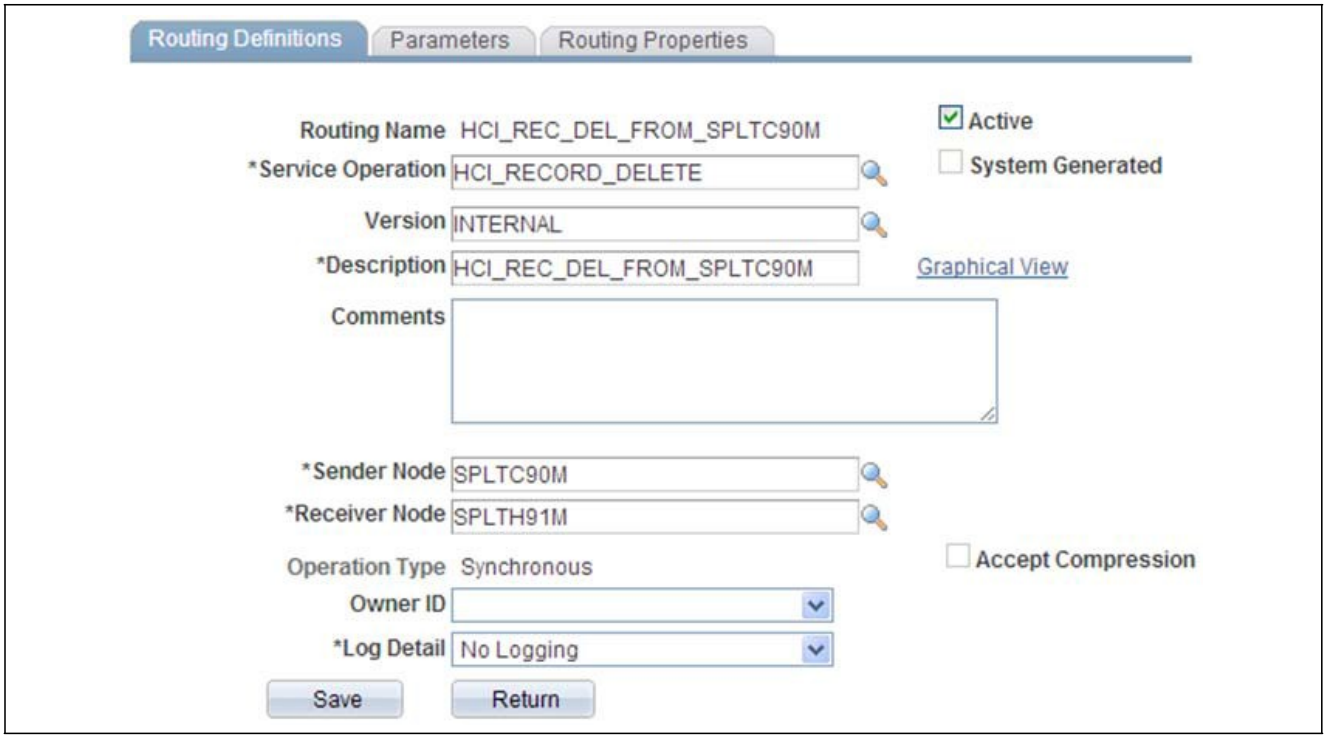
8. Select the Handlers tab to activate the On-Request Handler, as shown below.



Example of Service Operations – Handlers page (HCM)

9. Select the Routings tab to add a routing to the sender database. (In this example, the SPLTC90M database is the sender, so the routing is named HCI_REC_DEL_FROM_SPLTC90M.)



Example of Routing Definitions page (HCM)

10. Enter a Description, Sender Node, and Receiver Node.

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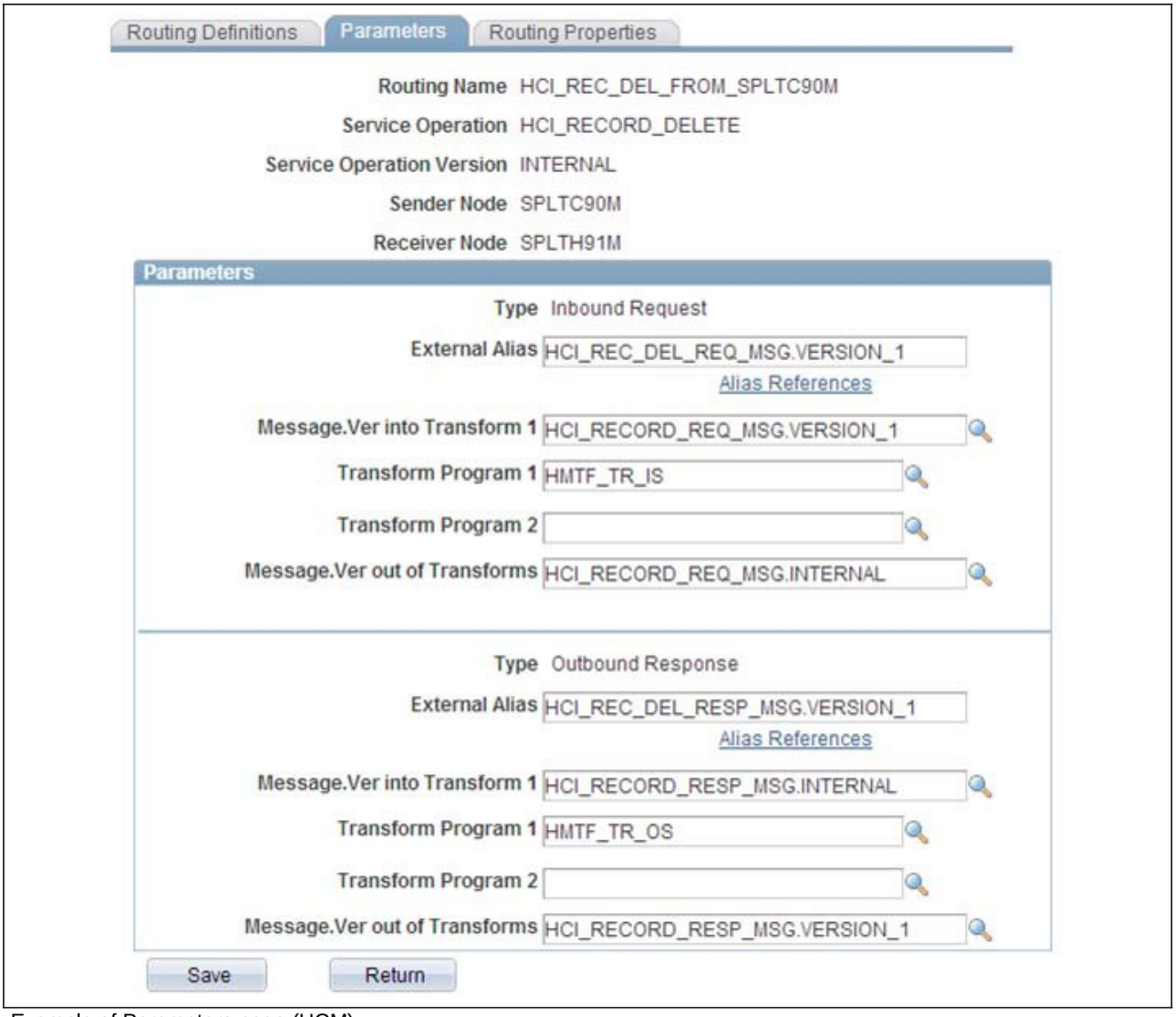
11. On the Parameters tab, enter information as shown in the screenshot below:



Example of Parameters page (HCM)

- The Inbound Request transformation program is *HMTF_TR_IS*.
- The Outbound Response transformation program is *HMTF_TR_OS*.
- The External Alias is changed to *VERSION_1* in both cases.

12. Click Save and then click Return.
13. Click Save on the Routings tab.

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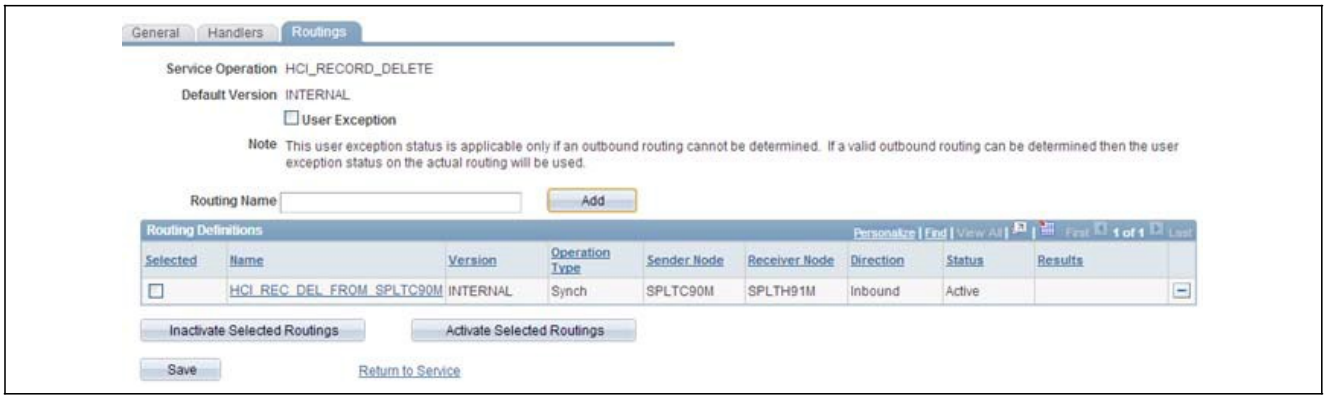

Example of Service Operations – Routings page (HCM)

Repeat the above steps in the HCM database for the following service operations:

- HCI_RECORD_GET
- HCI_RECORD_PUT

Configuring HCI_RECORD Service Operations in CS

Begin the procedure in the CS database.

The configuration steps are similar as in the HCM database, with the following exceptions:

- Do not activate the subscription handlers.
- The Routing transformations parameter settings are different.

1. Open Service Operation *HCI_RECORD_DELETE*.

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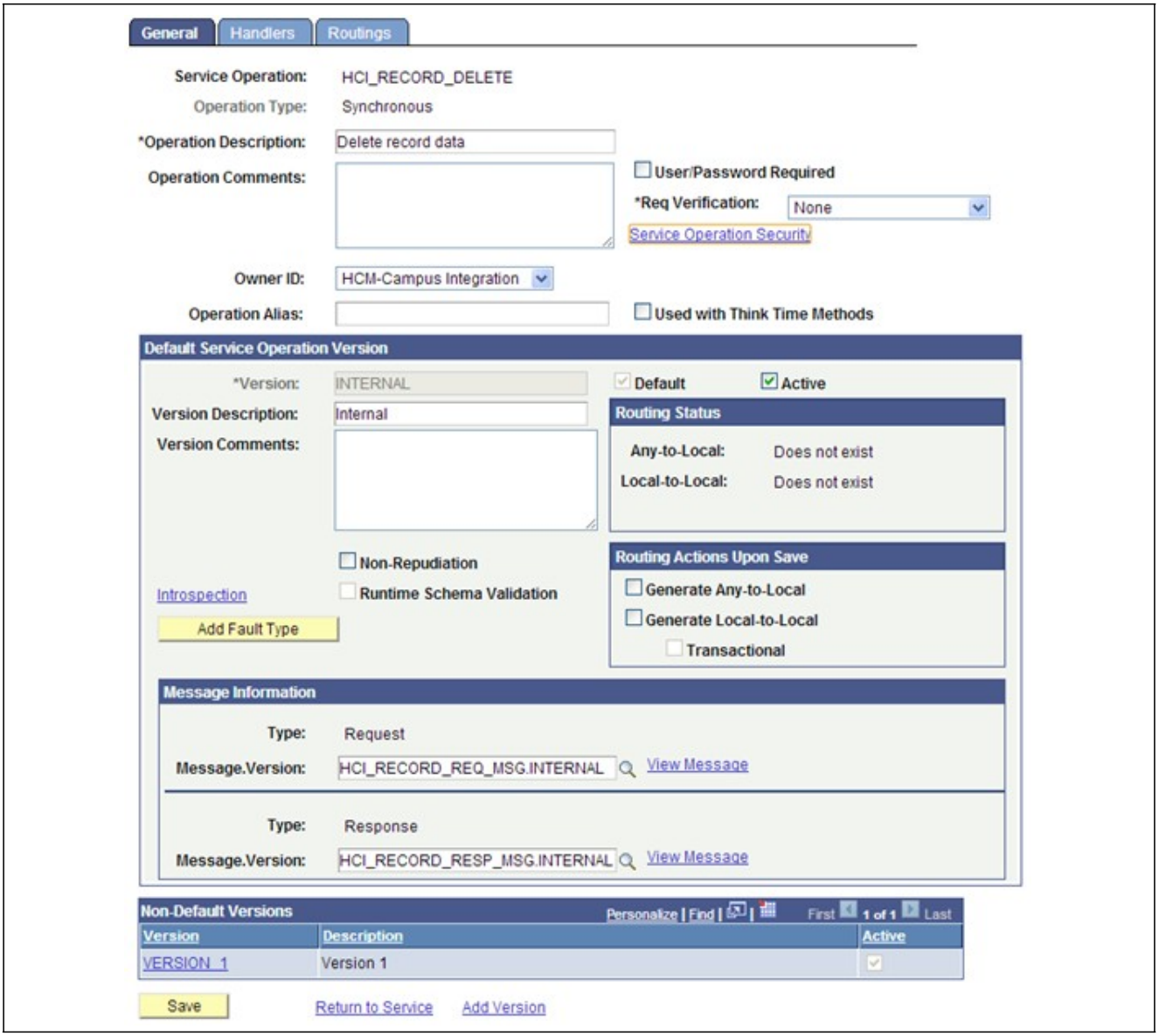

Example of General page (CS)

2. In the Default Service Operation Version group box, select the Active check box and click Save.
3. In the Non-Default Versions group box, click the *VERSION_1* link.

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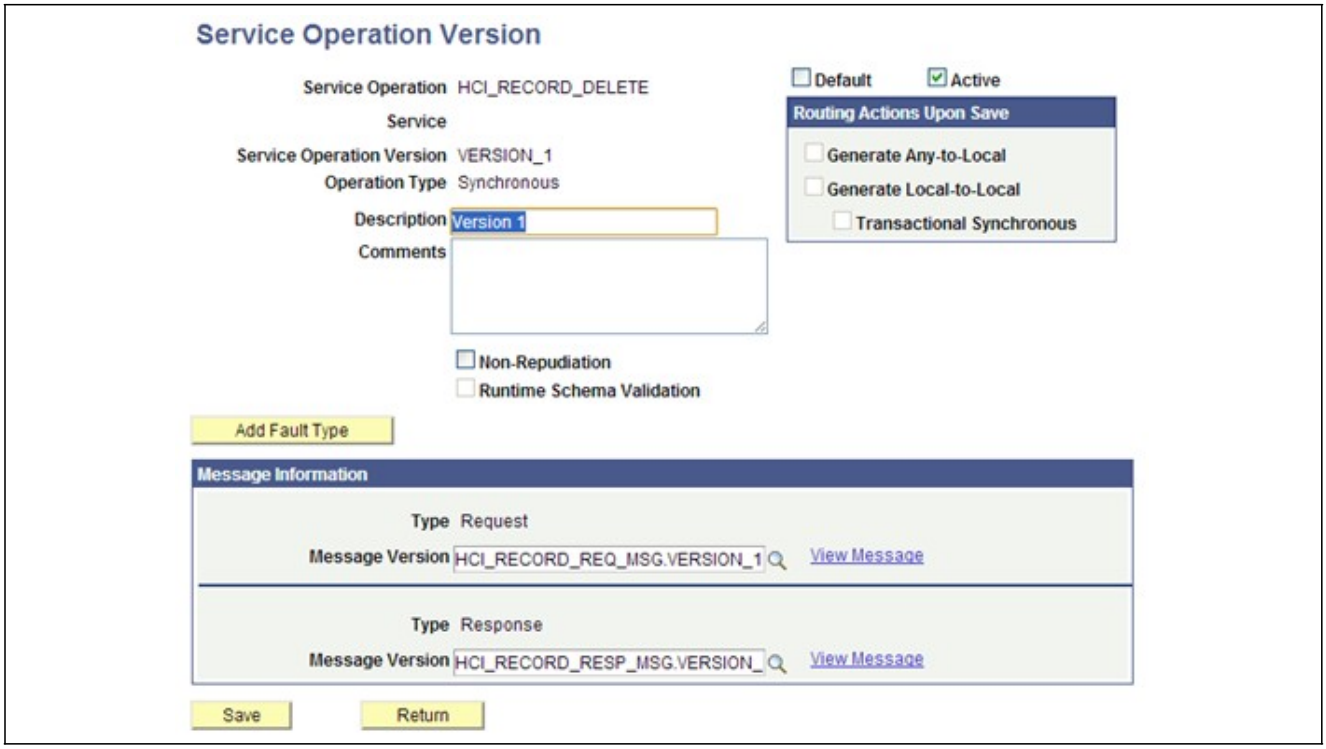
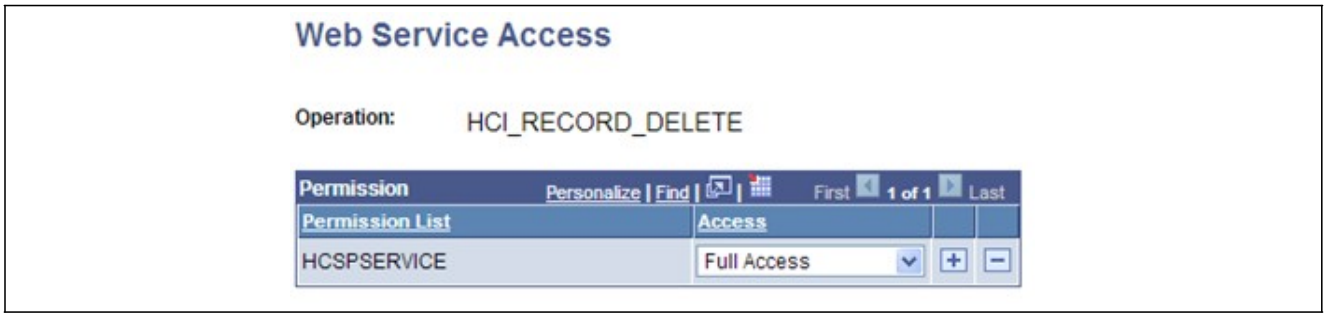


Example of Service Operation Version page (CS)

4. Select the Active check box and click Save.
5. Click Return.
6. Back on the General page, click the Service Operation Security link and enter the appropriate permission list.



Example of Web Service Access page (CS)

7. Click Save, then close the window.

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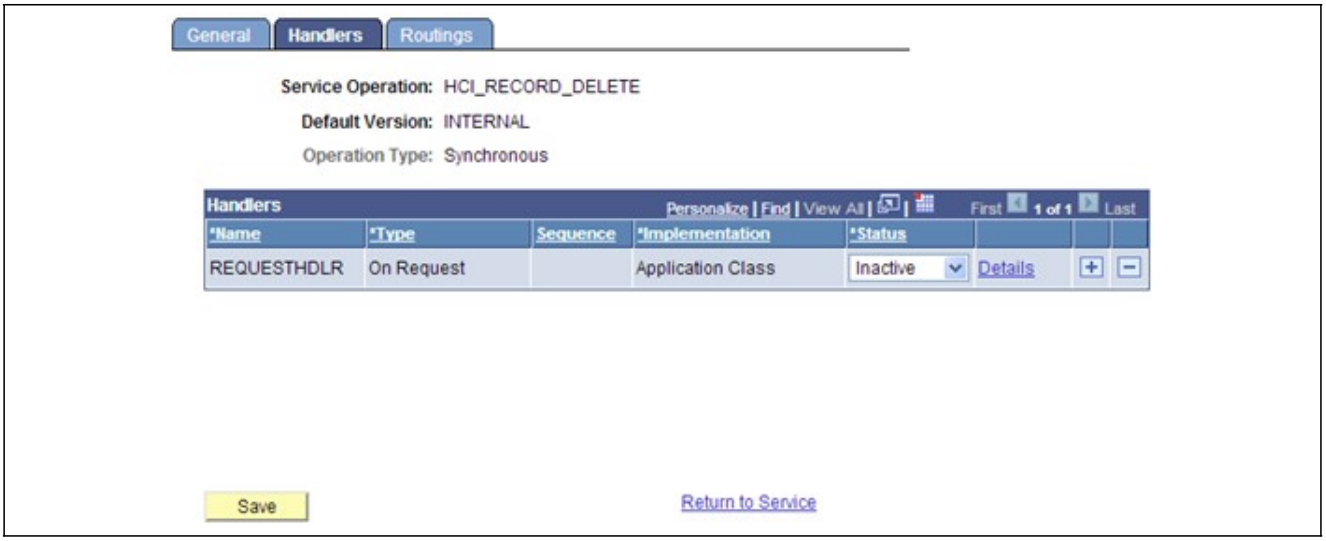
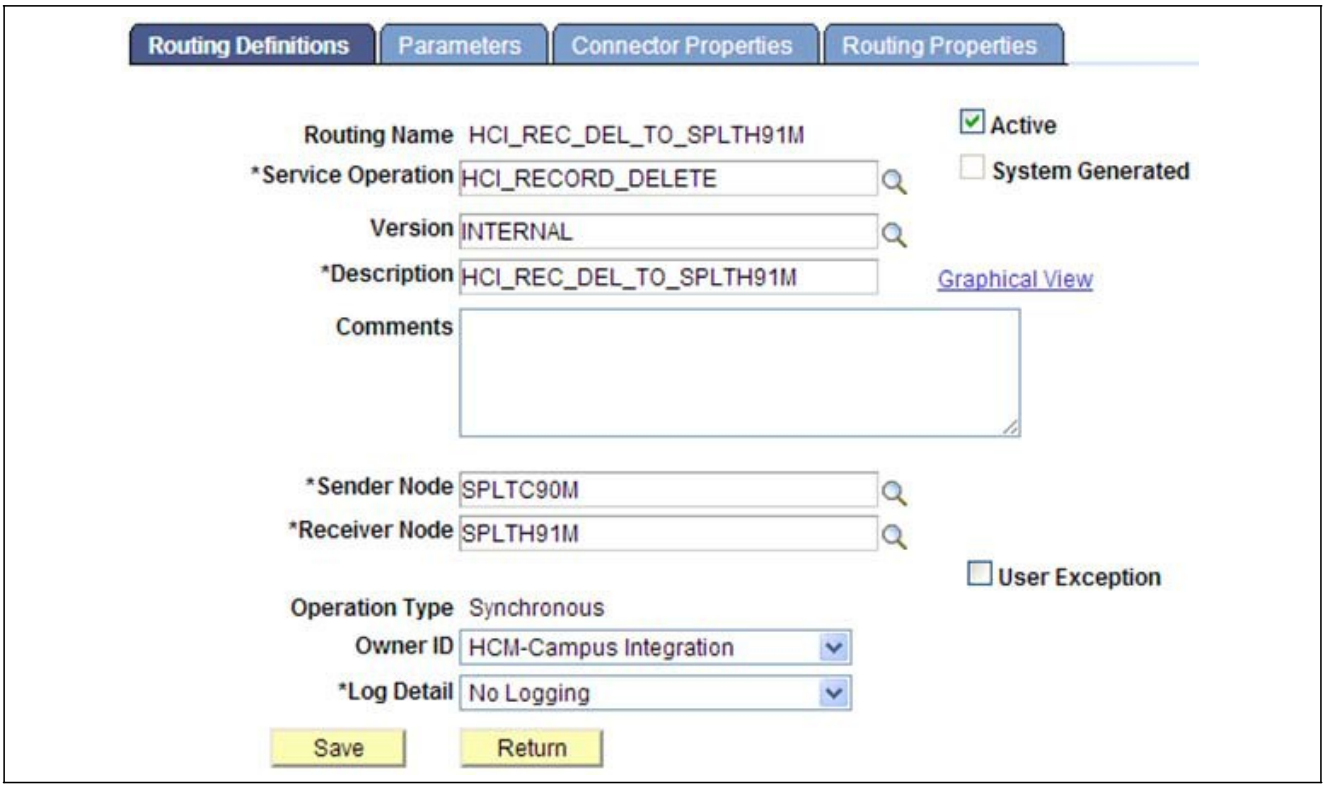
8. Select the Handlers tab to confirm that the On-Request Handler is *inactive*, as shown below.



Example of Service Operations – Handlers page (CS)

9. Select the Routings tab to add a routing to the sender database. (In this example, the SPLTC90L database is the sender, so the routing is named HCI_REC_DEL_TO_SPLTH91M.)



Example of Routing Definitions page (CS)

10. Enter a Description, Sender Node, and Receiver Node.

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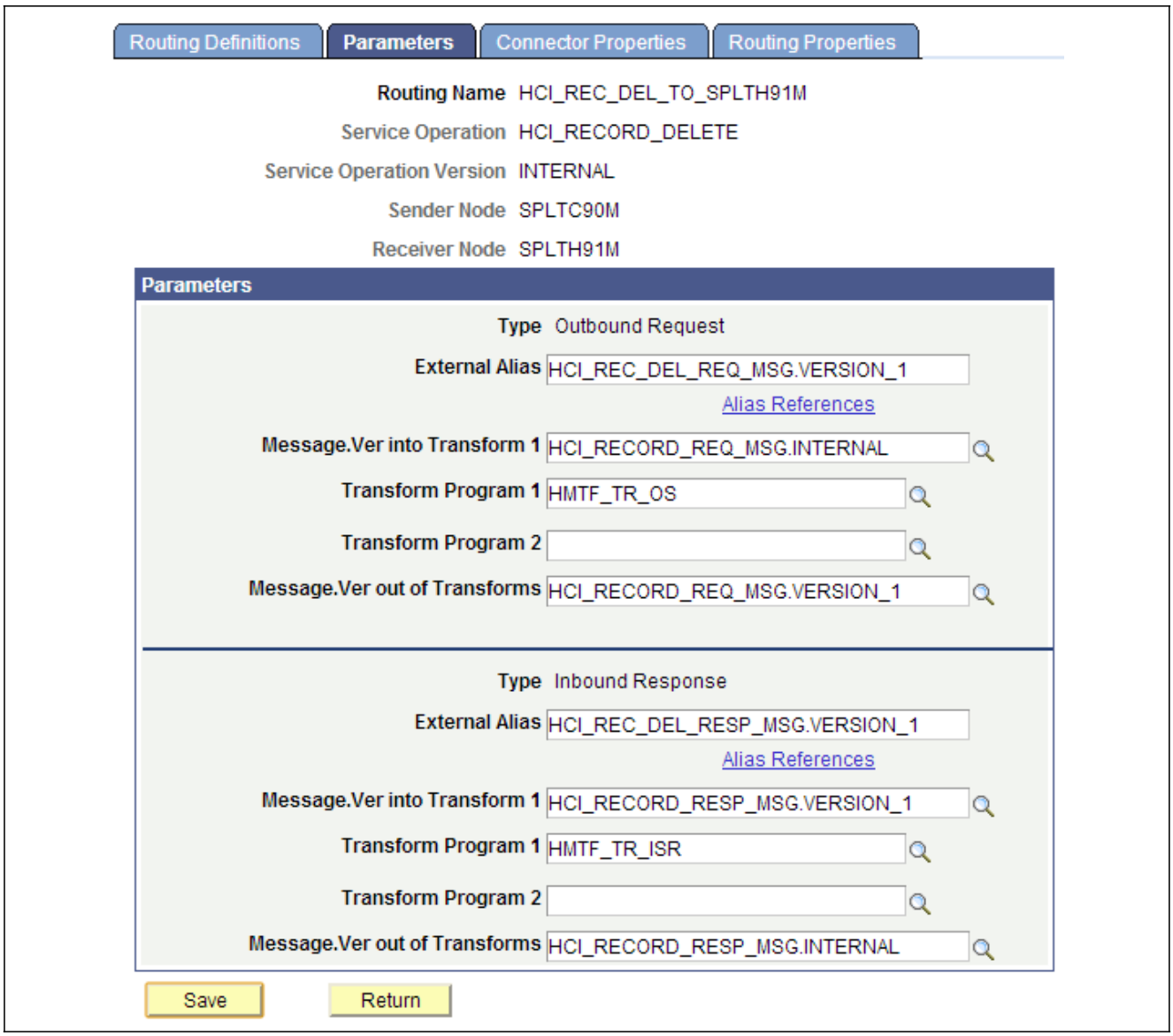
11. On the Parameters tab, enter information as shown in the screenshot below:



Example of Parameters page (CS)

- The Inbound Request transformation program is *HMTF_TR_ISR*.
- The Outbound Response transformation program is *HMTF_TR_OS*.
- The External Alias is changed to *VERSION_1* in both cases.

12. Click Save and then click Return.
13. Click Save on the Routings tab.

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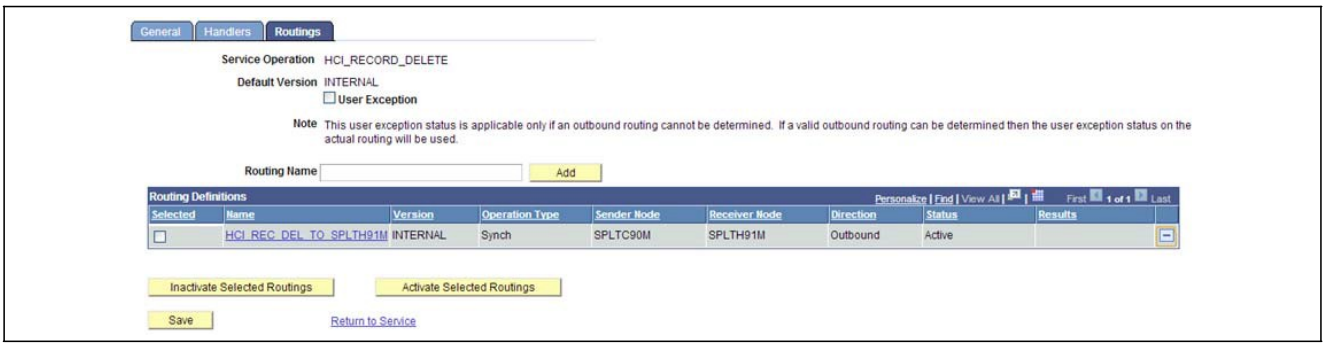

Example of Service Operations – Routings page (CS)

Repeat the above steps in the CS database for the following service operations:

- HCI_RECORD_GET
- HCI_RECORD_PUT

Warning! The HCI_RECORD service is intended for use with the Synchronous Message resolution method of the Integration Integrity Utility only. The delivered service operations can – depending on security permission settings - perform data updates to any table in the system. As such, Security Administrators should carefully review which users will have access to the pages, record and permission mappings, and process settings related to this service. Improper use may result in data compromise or corruption. The HCI_RECORD_DELETE, HCI_RECORD_GET, HCI_RECORD_PUT service operations should only be activated if the Synchronous Message Resolution method will be used.

Running Discrepancy Comparison

The Run Discrepancy Comparison page is the primary run control page where the list of tables to be compared and the methods for the data compare are set. The process initiates a compare of the data for the listed records between the databases, and logs discrepancy results in the Integration Discrepancies tables for review.

Individually add record names to the grid or populate a list of records from a message definition by using the Append Table Names from Message button.

Note. When populating the list of records from a message, choose the INTERNAL version of the message if it exists for the selected message name

---

- Run the compare process as many times as desired for any set of tables. When a process is launched, any previous data discrepancy results for the same tables are deleted and refreshed with the latest results of the compare.
- If using the Database Link method, confirm that a Database Link Map is defined for all the records you specify. The process will abort if it does not find an entry in the Database Link Map table for the specified record.
- Confirm that Permission Maps are defined for all records you specify for compare. Confirm that the user running the process has appropriate permission list defined. The process will abort if it does not find an entry in the Permission Maps table for the record name being compared.

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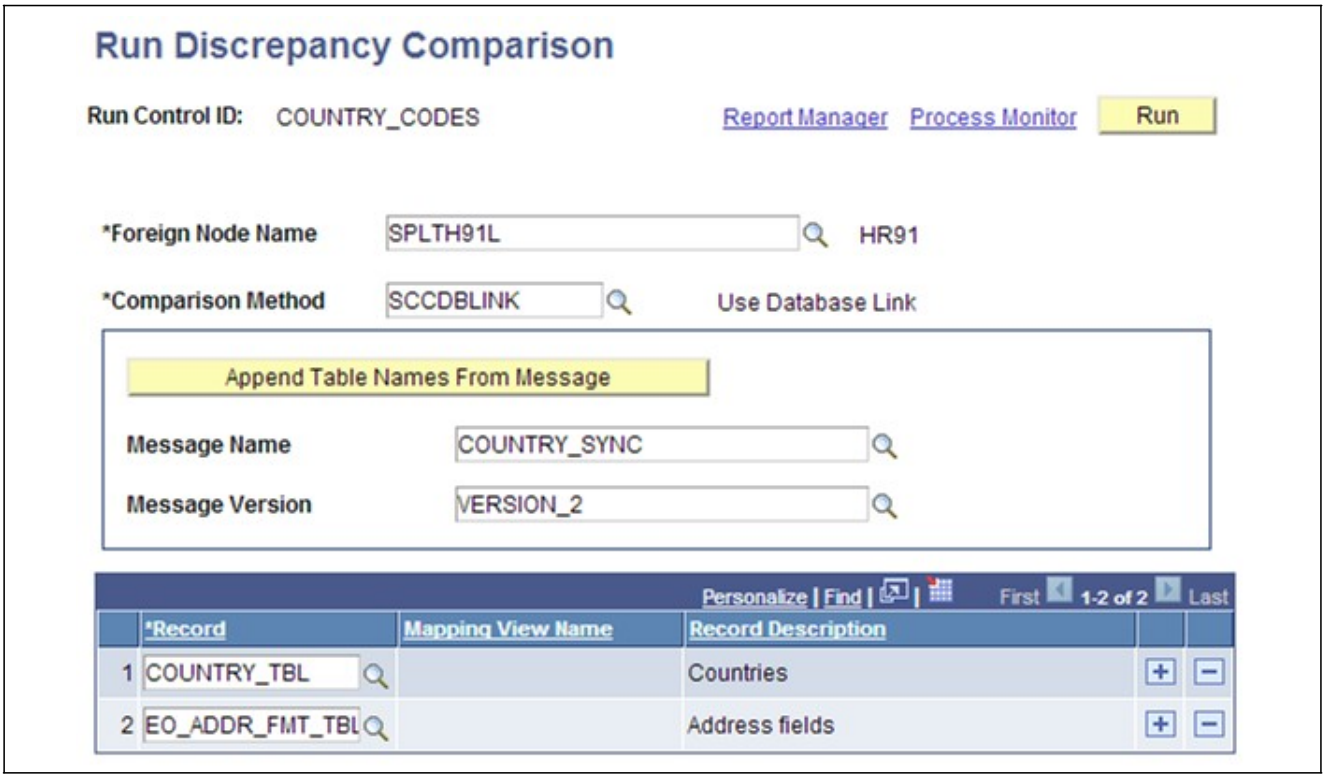
Access the Run Discrepancy Comparison page (Set Up SACR, System Administration, Utilities, HCM Integration, Run Discrepancy Comparison).



Run Discrepancy Comparison page

Foreign Node Name Enter the data source name, this must be a valid Integration Broker Node name.

Comparison Method Select the comparison method to be used. The delivered choices include SCCDBLINK and SCCJDBC.

Append Table Names from Message Press this button after the Message Name and Message Version fields are entered.

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Message Name	Select the message name for which records are being compared.
Message Version	Select the desired message version.
Record	The base table being compared.
Mapping View Name	A view defined on the Record Map for the base table.
Record Description	The description of the base table, or mapping view if defined.

Reviewing Integration Discrepancies

Once a compare is run, all data discrepancies found by the process display on the Integration Discrepancies page. The data results displayed in the Integration Discrepancies page are specific to each table name. Use the results to analyze what data is out of sync, and then investigate why this may be the case.

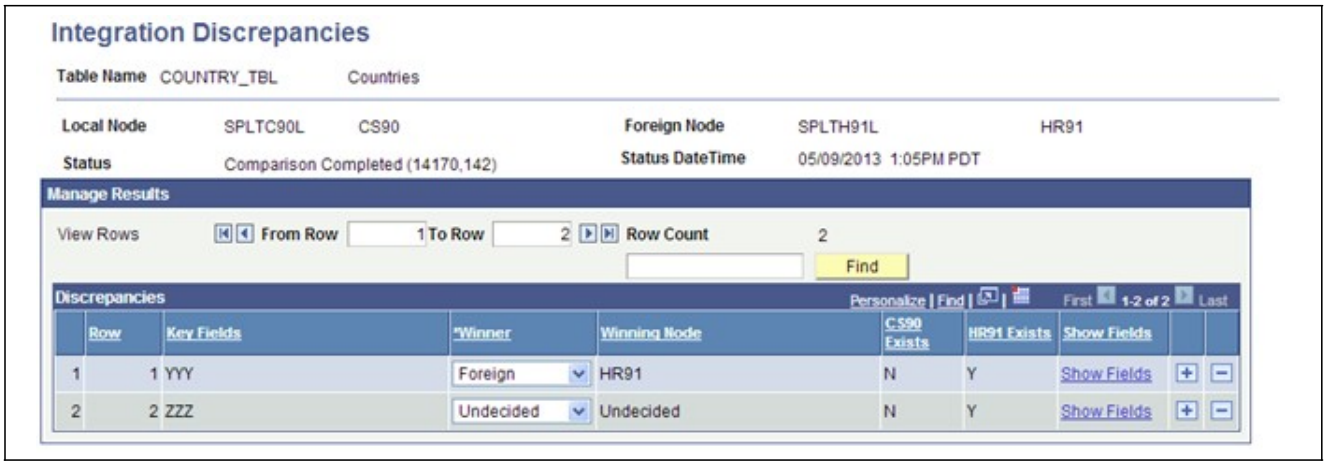
Once data discrepancies are resolved and the data is re-synced, they will no longer display on this page on subsequent compares of the table.

Data discrepancies due to errors in Integration Broker processing, should be investigated and then resubmitted for proper Integration Broker handling.

Select the Winner value for all data rows that will be re-synced using the Resolve Discrepancies process (see next section).

- *Foreign*: the row or values in the foreign node will be updated in the local node
- *Local:* the row or values in the local node will update the foreign node
- *Undecided:* nothing will change

Access the Integration Discrepancies page by selecting the appropriate record name on the search record (Set Up SACR, System Administration, Utilities, HCM Integration, Integration Discrepancies).



Integration Discrepancies page

The page displays data rows that are missing in either of the database instances and where field values are different.

View Rows	The Row Count shows the total number of data rows identified by the compare. Enter numbers in the From Row and To Row fields and then click the Find button to navigate between many rows.
Find	Enter a search value in the box and click this button to locate a value string within results.

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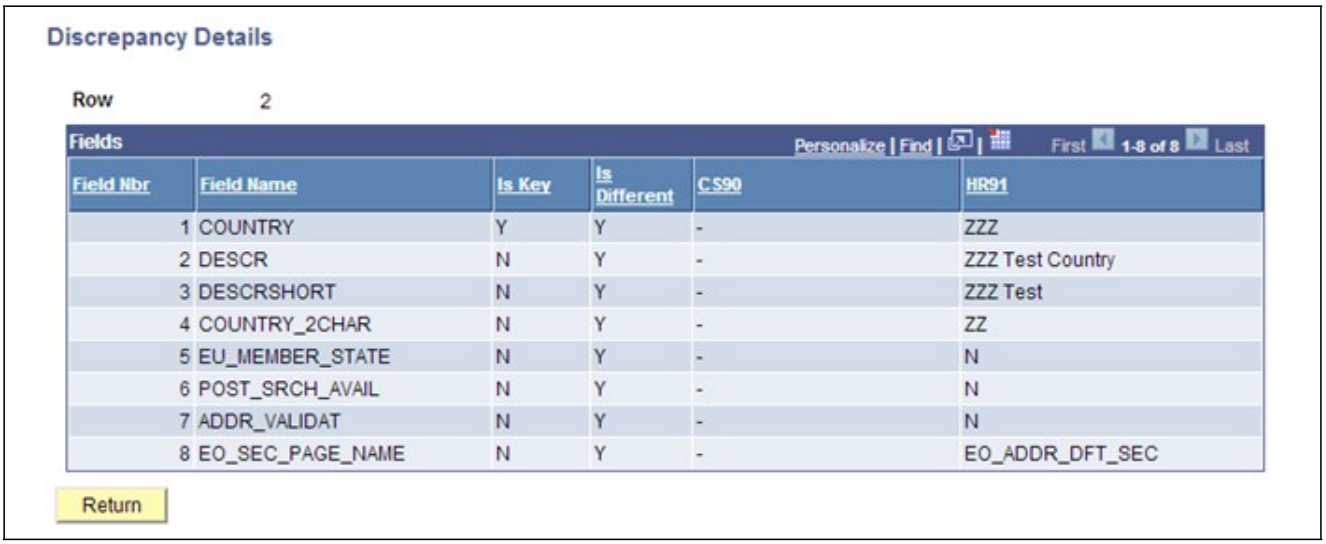
Key Fields	The key field values for the data rows on the table that was compared.
Winner	Select the value for the resolution process to follow, if desired. Options are: *Undecided*, *Foreign*, or *Local*.
Exists columns	The Local and Foreign node names appear in the column header and appear if the data row exists. Y = Yes exists in this node. N = No does not exist in this node.
Show Fields	Click the link to access the Discrepancy Details page. This page shows field value differences for the selected row.

Access the Discrepancy Details page (Click the Show Fields link for any row on the Integration Discrepancies page).



Discrepancy Details

Row 2

Fields Personalize | Find | First 1-8 of 8 Last

Field Nbr	Field Name	Is Key	Is Different	CS90	HR91
1	COUNTRY	Y	Y	-	ZZZ
2	DESCR	N	Y	-	ZZZ Test Country
3	DESCRSHORT	N	Y	-	ZZZ Test
4	COUNTRY_2CHAR	N	Y	-	ZZ
5	EU_MEMBER_STATE	N	Y	-	N
6	POST_SRCH_AVAIL	N	Y	-	N
7	ADDR_VALIDAT	N	Y	-	N
8	EO_SEC_PAGE_NAME	N	Y	-	EO_ADDR_DFT_SEC

Return

Discrepancy Details page

Resolving Integration Discrepancies

The Resolve Discrepancies page is used to run the process for each table that data discrepancies have been found, and that you determine should be updated via the resolution process. Winner dispositions are set on the Integration Discrepancies page. It is important to ensure that data rows selected to be updated by the resolution process have been thoroughly investigated and this method of re-sync is desired.

The resolution process is performed by table. Run the resolution process for all tables with data discrepancies. If there are multiple tables related to an entity, be sure all table data discrepancies are resolved.

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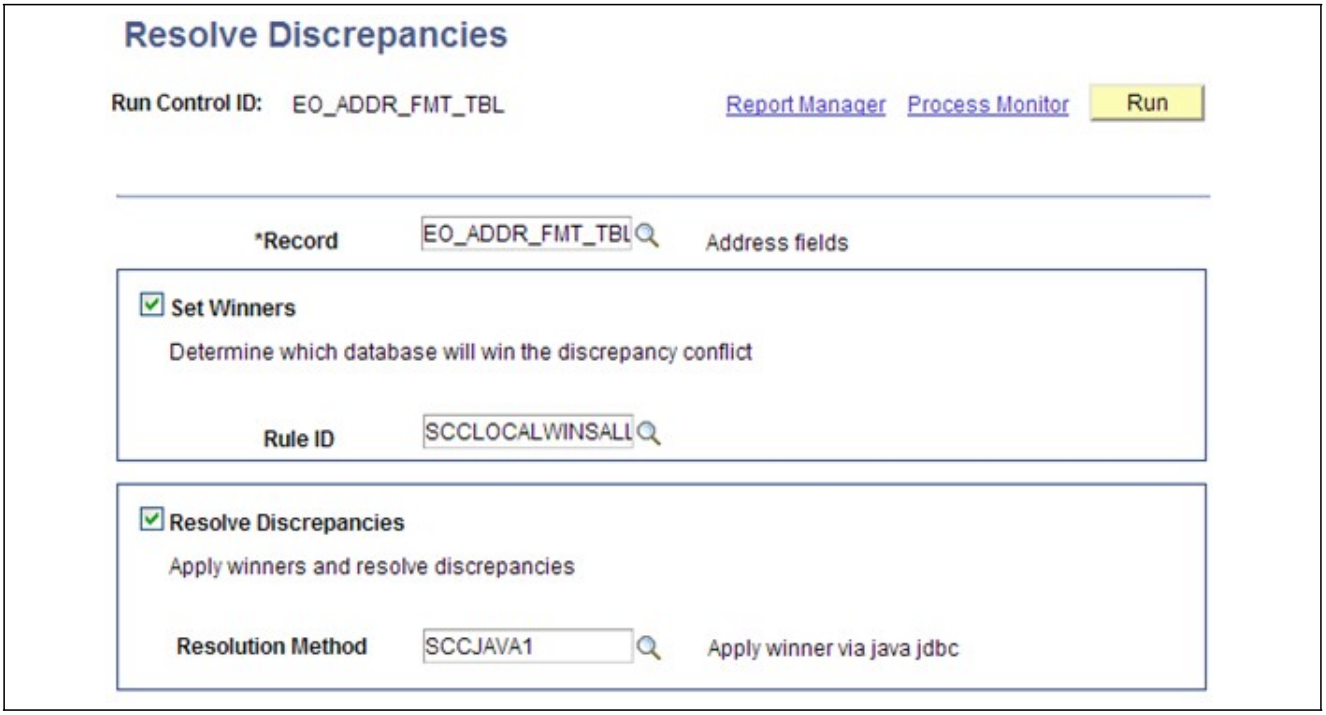
Access the Resolve Discrepancies page (Set Up SACR, System Administration, Utilities, HCM Integration, Resolve Discrepancies).



Resolve Discrepancies page

Record	Select the table name where data discrepancies are being resolved.
Set Winners	Select the check box if a Winner Rule will be used. If selected, the process will update all Undecided rows on the Integration Discrepancies page with the selected winner rule logic (such as local wins, foreign wins).
Rule ID	Select the Rule ID to use.
Resolve Discrepancies	Select the check box to apply winners and update data values in the databases accordingly.
Resolution Method	Select the resolution method being used for the updates.

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Reviewing the Resolution Log

Access the Resolution Log page (Set Up SACR, System Administration, Utilities, HCM Integration, Resolution Log).

Resolution Log

Record COUNTRY_TBL Countries

Resolution Transactions — Personalize | Find | View All | First 1-3 of 3 Last

	Process Instance	Row Number	Resolve Date Time	Data Source	Key Fields	Resolve Action	Non Key Changes
1	1524	1	05/30/13 10:01AM	SPLTC90L	LBY	Change	DESCR="Libya";DESCRSHORT="Libya";COUNTRY_2CHAR="LY";EU_MEMBER_STATE="N";POST_SRCH_AVAIL="N";ADDR_VALIDAT="N";EO_SEC_PAGE_NAME="EO_ADDR_DFT_SEC"
2	1524	2	05/30/13 10:01AM	SPLTC90L	PNG	Change	DESCR="Independent Papua New Guinea";DESCRSHORT="PNG";COUNTRY_2CHAR="PG";EU_MEMBER_STATE="N";POST_SRCH_AVAIL="N";ADDR_VALIDAT="N";EO_SEC_PAGE_NAME="EO_ADDR_DFT_SEC"
3	1524	3	05/30/13 10:01AM	SPLTC90L	SSD	Add	DESCR="Republic of South Sudan";DESCRSHORT="SouthSudan";COUNTRY_2CHAR="SS";EU_MEMBER_STATE="N";POST_SRCH_AVAIL="N";ADDR_VALIDAT="N";EO_SEC_PAGE_NAME="EO_ADDR_DFT_SEC"

Resolution Log page

When you run the Resolve Discrepancies process, the system logs all data discrepancies that are updated and displays them on this page. The log entries provide an audit history of the data updated through this process.

Process Instance The Resolve Discrepancies process instance used.

Row Number The row number from the Integration Discrepancies page that is updated.

Resolve Date/Time The date and time when the Resolve Discrepancies process updated the row of data.

Data Source The database that was used to provide the winner data values.

Key Fields The key value(s) for the data row that has been updated.

Resolve Action The action taken on the data row. Delivered values include: *Add*, *Change*, and *Delete*.

Non Key Changes The value(s) for the additional non-key fields in the data row that has been updated.

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Reviewing the Purge Resolution Log

Access the Purge Resolution Log page (Set Up SACR, System Administration, Utilities, HCM Integration, Purge Resolution Log).

Purge Resolution Log page

The Purge Resolution Log process removes unwanted history rows from the Transaction Log table. Run this process as frequently as desired. The system deletes data rows purged by this process from the database. Carefully consider what record retention policies you may have in place to determine with what frequency you run this process.

Transaction Age Enter the number of days' worth of history rows to delete. For example, *30* will cause the system to remove all rows dated 30 days prior to the current system date and earlier. The default value is blank (null) and when the process runs; all rows from the Resolution Log table are deleted.

Examples of Integration Discrepancies

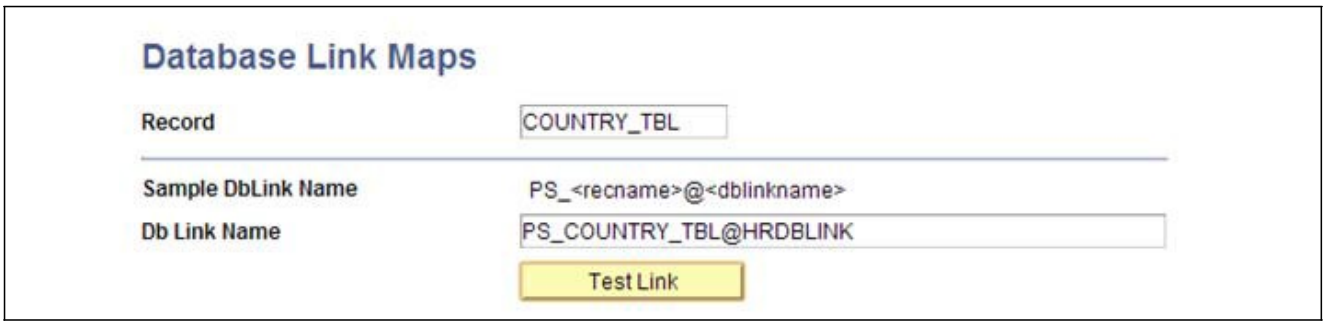
Bundle 32
Content incorporated from existing appendixes
The following are examples of setting up, running, and viewing Integration Discrepancies.

Procedural Steps

Example: Country Codes COUNTRY_SYNC (Tables: COUNTRY_TBL, EO_ADDR_FMT_TBL)

- No Record Maps required (tables do not include audit fields, and so on).
- CS 9.0 – HCM 9.1.
- Using SCCDBLINK Database Link compare method.
- Data will be resolved using Local Wins All winner rule.

1. Database Link *HRDBLINK* created on the CS 9.0 database server. (not shown here).
2. Database Link Maps for the tables included in COUNTRY_SYNC.



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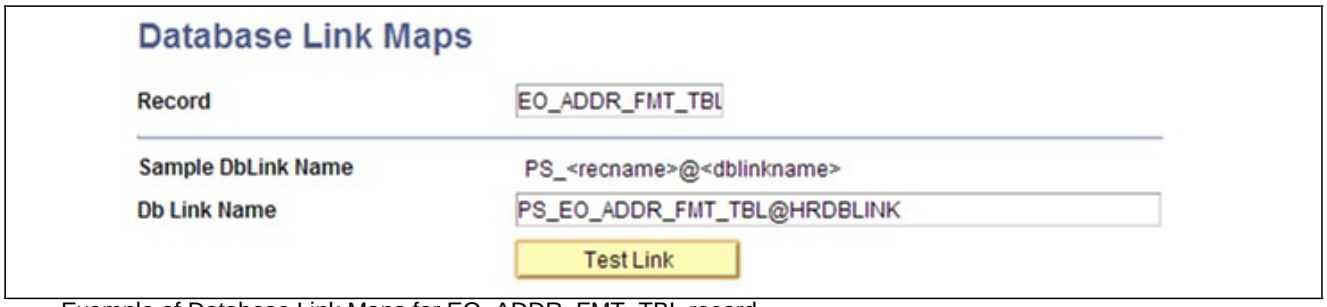
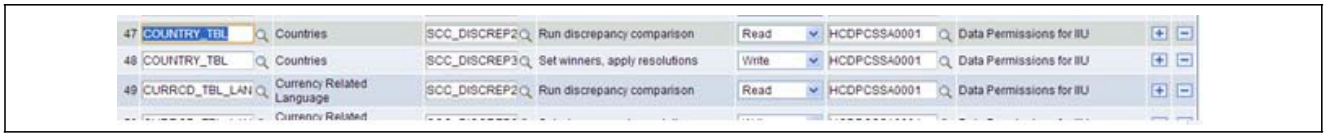
Example of Database Link Maps for COUNTRY_TBL record



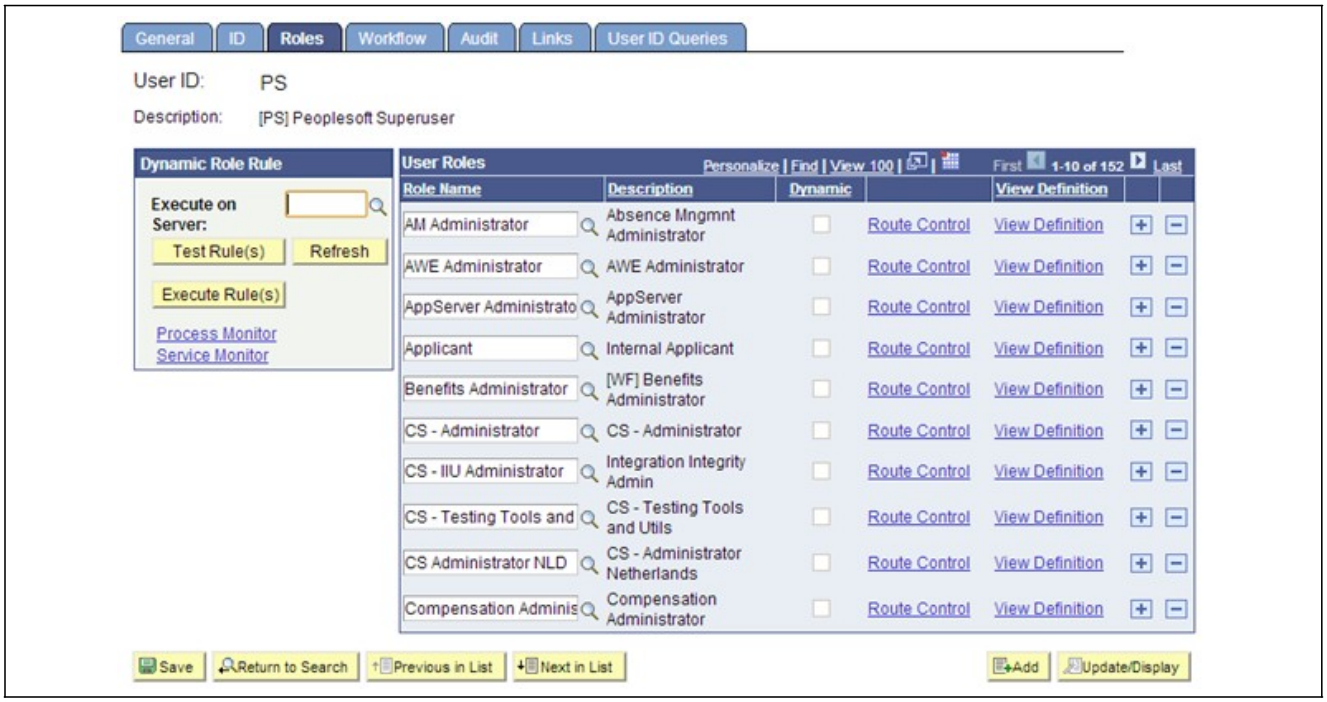
Example of Database Link Maps for EO_ADDR_FMT_TBL record

3. Confirm tables are listed in CS Permission Maps.



Example of table list

4. Confirm User ID has an assigned Role of *CS – IIU Administrator* (this includes the data permission list for record permissions).



Example of Roles page

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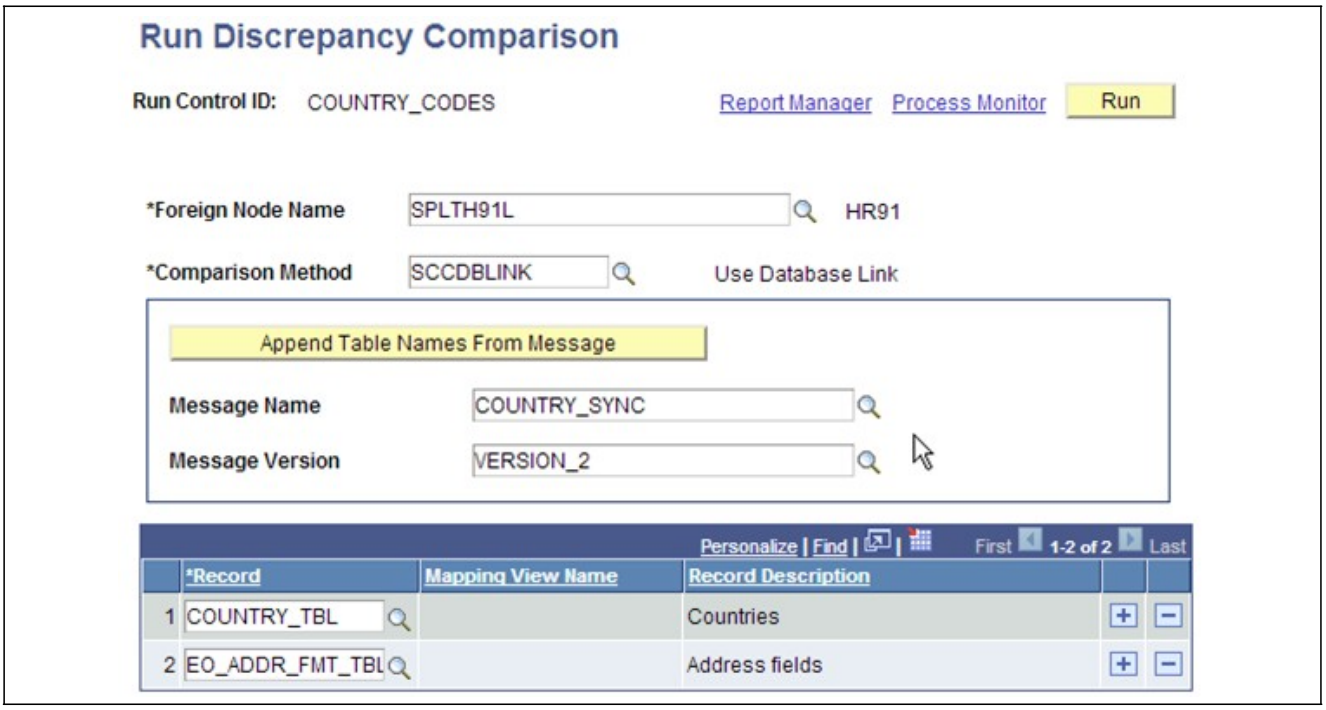
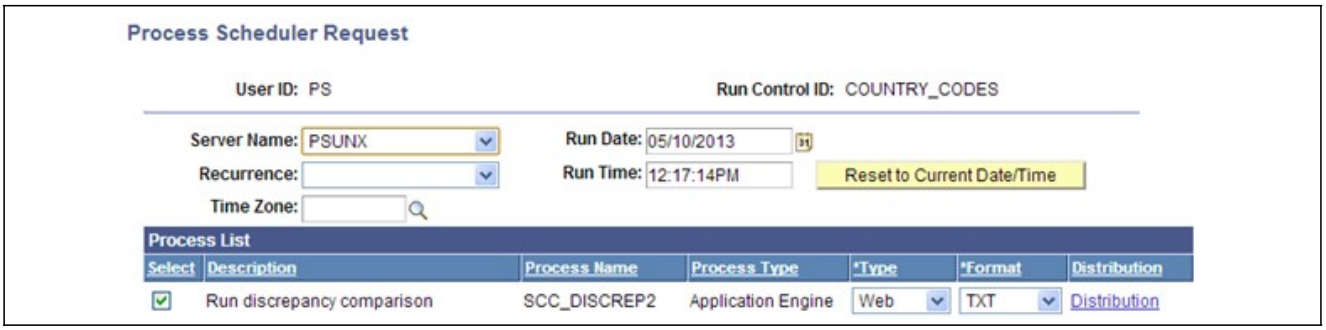
5. Run the Discrepancy Comparison process.

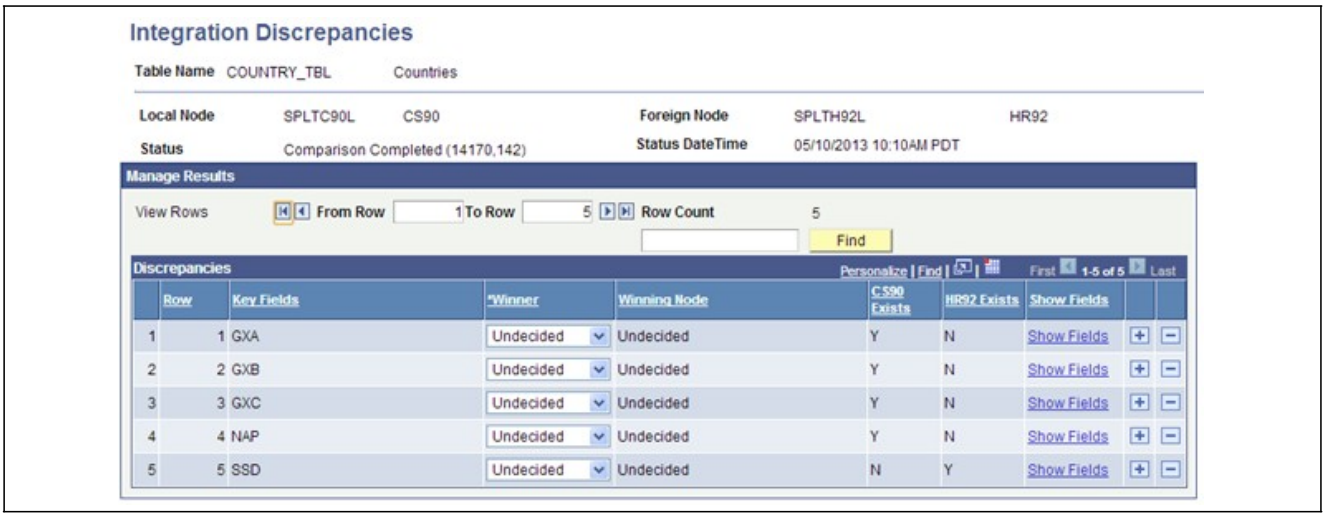


Example of Run Discrepancy Comparison run control page



Example of Process Scheduler Request page for Run Discrepancy Comparison process

6. Review Integration Discrepancies for both tables.



Example of Integration Discrepancies page (1 of 2)

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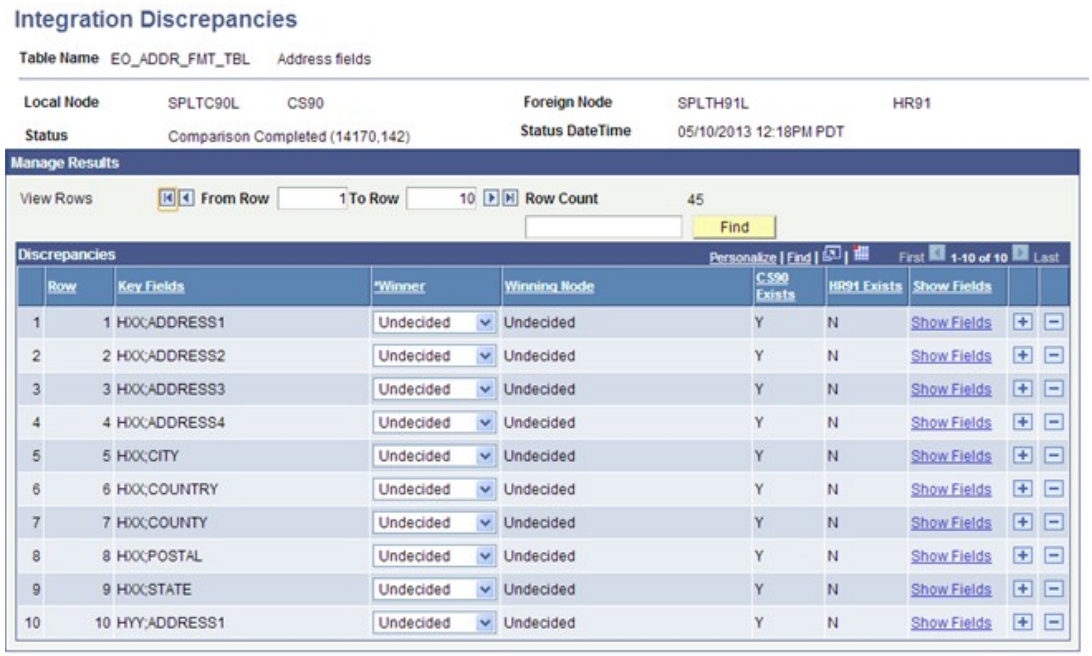
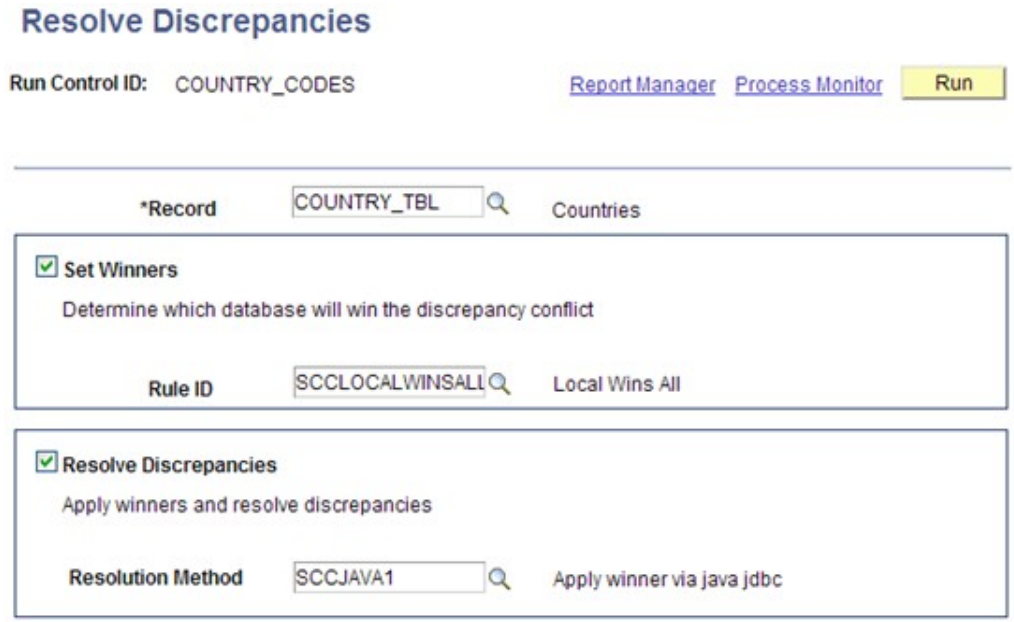


Example of Integration Discrepancies page (2 of 2)

7. Review data to determine no discrepancies are due to blocked Integration Broker queue issues.
8. Use the Resolution Process with Java JDBC method to update all rows to use Local Wins All winner rule. All CS values will be updated to the HR91 database.
9. Resolve parent COUNTRY_TBL rows first, then run the Resolve Discrepancies process.



Example of Resolve Discrepancies page (1 of 2)

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Example of Resolve Discrepancies page (2 of 2)

10. Confirm that the data was updated by first reviewing Integration Discrepancies (search does not include the tables). Then review data in the HCM database to confirm that the updates were successful.

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