TIBCO ActiveMatrix® Adapter for PeopleSoft

Configuration and Deployment

Software Release 6.1
October 2012

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Important Information

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Preface

TIBCO ActiveMatrix Adapter for PeopleSoft is a bi-directional gateway between the PeopleSoft application and applications configured for the TIBCO environment. It is assumed that you are familiar with the basic concepts of the TIBCO environment and PeopleSoft technology.

Topics

Changes from the Previous Release of This Guide

This section itemizes the major changes from the previous release of this guide.

Support for Compiling PeopleSoft Component Interface Java APIs by Using TIBCO Configuration Tool

You can run TIBCO Configuration Tool to compile the APIs. This tool replaces the BuildCI.bat installed on Microsoft Windows platforms and BuildCI.sh on UNIX platforms during the adapter installation. See Preparing PeopleSoft Component Interfaces on page 18.

Support for the SSL Protocol

This release supports the use of SSL when using PeopleSoft Application Message as the integration approach. Enabling SSL on the PeopleSoft Server on page 57 introduces the specific configurations when using SSL.

Support for Customizing Runtime Input

This release supports customizing runtime input as a service-level option. The feature is available for all the services using Component Interface. See the Schema Tab section of CI Publication Service on page 96, CI Subscription Service on page 108, and Request-Response Service on page 117.

Support for Number of Threads as Global Variable

This release supports thread number as a global variable in adapter instance configuration. This document introduces this variable as well as the other pre-defined global variables that are specific to the adapter. See Using Global Variables on page 144

Support for JMS Message Compression

JMS message compression is a service-level option that ensures messages will occupy less memory in storage and be handled faster by the TIBCO Enterprise Message Service server. See Compressing JMS Messages on page 161 for more information.

Dynamic Thread Configuration

This release supports dynamically updating the number of connetions to the PeopleSoft application server by using Hawk. See setThreadNumber() on page 196.

Preparing PeopleSoft

Chapter 1, Preparing PeopleSoft, on page 1 is updated as follows:

- "Loading the Adapter PeopleSoft Project" was a chapter in the Installation guide of previous releases. The chapter describes how to load a pre-built PeopleSoft project into PeopleTools 8.4x before using TIBCO ActiveMatrix Adapter for PeopleSoft. In this release, this chapter is merged with Chapter 1, Preparing PeopleSoft. See Loading the Adapter PeopleSoft Project on page 4.
- Loading TIBCO Libraries on page 16 is a new section that explains the libraries you need to load to the PeopleSoft application server.
- The whole chapter is updated to include more detailed information about the configuration procedures. The screenshots are all up-to-date and taken with PeopleTools 8.51.

Related Documentation

This section lists documentation resources you may find useful.

TIBCO ActiveMatrix Adapter for PeopleSoft Documentation

The following documents form the TIBCO ActiveMatrix Adapter for PeopleSoft documentation set:

- *TIBCO ActiveMatrix Adapter for PeopleSoft Concepts* Read this manual to gain an understanding of the product that you can apply to the various tasks you may undertake.
- *TIBCO ActiveMatrix Adapter for PeopleSoft Installation* Read this manual for instructions on site preparation and installation.
- *TIBCO ActiveMatrix Adapter for PeopleSoft Configuration and Deployment* Read this manual for instructions on how to create, configure, and deploy adapter projects.
- *TIBCO ActiveMatrix Adapter for PeopleSoft Examples* Read this manual to work through the examples provided with the adapter.
- *TIBCO ActiveMatrix Adapter for PeopleSoft Release Notes* Read the release notes for a list of new and changed features. This document also contains lists of known issues and closed issues for this release.

Other TIBCO Product Documentation

You may find it useful to read the documentation for the following TIBCO products:

- TIBCO ActiveMatrix BusinessWorks™
- TIBCO ActiveMatrix BusinessWorks™ Service Engine
- TIBCO ActiveMatrix® Service Bus
- TIBCO ActiveMatrix® Service Grid
- TIBCO Adapter® SDK
- TIBCO Administrator™
- TIBCO Business Studio™
- TIBCO Designer™
- TIBCO Enterprise Message Service™
- TIBCO Hawk®

- TIBCO Rendezvous®
- TIBCO Runtime Agent™

Third-Party Documentation

You may also find it useful to read the following documentation:

- "Integration Tools: PeopleSoft Component Interfaces" in *PeopleTools PeopleBook*. Topics include an explanation of Component Interfaces, how to create them, how to test them using PeopleTools, and how to validate that a Component Interface is compatible with the underlying component.
- "PeopleSoft Integration Broker" in *PeopleTools PeopleBook*. Topics include an explanation of Integration Broker, the components involved, and how to use the components in Application Messaging.
- "PeopleSoft Platforms", a link from the PeopleSoft Customer Connection web site (see http://www.peoplesoft.com), for the versions of the databases supported by PeopleSoft.
- "PeopleSoft Internet Architecture Administrating", a link from the Peoplebook-PeopleTools-Administration Tools web site (see http://www.peoplesoft.com), for information on configuring a JOLT Listener port.

Typographical Conventions

The following typographical conventions are used in this manual.

Table 1 General Typographical Conventions

Convention	Use
ENV_NAME *TIBCO_HOME*	TIBCO products are installed into an installation environment. A product installed into an installation environment does not access components in other installation environments. Incompatible products and multiple instances of the same product must be installed into different installation environments. An installation environment consists of the following properties: • **Name** Identifies the installation environment. This name is referenced in documentation as *ENV_NAME*. On Microsoft Windows, the name is appended to the name of Windows services created by the installer and is a component of the path to the product shortcut in the Windows Start > All Programs menu. • **Path** The folder into which the product is installed. This folder is referenced in documentation as *TIBCO_HOME*.
TIB_ADPSFT8_HOME	TIBCO ActiveMatrix Adapter for PeopleSoft installs into a directory within a *TIBCO_HOME*. This directory is referenced in documentation as *TIB_ADPSFT8_HOME*. The default value of *TIB_ADPSFT8_HOME* depends on the operating system. For example on Windows systems, the default value is C:\tibco\adapter\adpsft8\6.1.
TIB_EMS_HOME	TIBCO Enterprise Message Service installs into a directory within *TIBCO_HOME*. This directory is referenced in documentation as *TIB_EMS_HOME*. The value of *TIB_EMS_HOME* depends on the operating system. For example on Windows systems, the default value is C:\tibco\ems\6.3.
PS_HOME	*PS_HOME* is the directory where the PeopleSoft Application server is installed. For example, if the PeopleSoft Application server is installed at C:\PT8.49 on a Windows system, the value of *PS_HOME* is C:\PT8.49.
code font	Code font identifies commands, code examples, filenames, pathnames, and output displayed in a command window. For example: Use MyCommand to start the foo process.

Table 1 General Typographical Conventions (Cont'd)

Convention	Use
bold code font	Bold code font is used in the following ways: • In procedures, to indicate what a user types. For example: Type **admin**. • In large code samples, to indicate the parts of the sample that are of particular interest. • In command syntax, to indicate the default parameter for a command. For example, if no parameter is specified, MyCommand is enabled: MyCommand [**enable** | disable]
italic font	Italic font is used in the following ways: • To indicate a document title. For example: See *TIBCO ActiveMatrix BusinessWorks Concepts*. • To introduce new terms For example: A portal page may contain several portlets. *Portlets* are mini-applications that run in a portal. • To indicate a variable in a command or code syntax that you must replace. For example: MyCommand *PathName*
Key combinations	Key name separated by a plus sign indicate keys pressed simultaneously. For example: Ctrl+C. Key names separated by a comma and space indicate keys pressed one after the other. For example: Esc, Ctrl+Q.
	The note icon indicates information that is of special interest or importance, for example, an additional action required only in certain circumstances.
	The tip icon indicates an idea that could be useful, for example, a way to apply the information provided in the current section to achieve a specific result.
	The warning icon indicates the potential for a damaging situation, for example, data loss or corruption if certain steps are taken or not taken.

Table 2 Syntax Typographical Conventions

Convention	Use
[ ]	An optional item in a command or code syntax. For example: MyCommand [optional_parameter] required_parameter
|	A logical OR that separates multiple items of which only one may be chosen. For example, you can select only one of the following parameters: MyCommand param1 | param2 | param3
{ }	A logical group of items in a command. Other syntax notations may appear within each logical group. For example, the following command requires two parameters, which can be either the pair param1 and param2, or the pair param3 and param4. MyCommand {param1 param2} | {param3 param4} In the next example, the command requires two parameters. The first parameter can be either param1 or param2 and the second can be either param3 or param4: MyCommand {param1 | param2} {param3 | param4} In the next example, the command can accept either two or three parameters. The first parameter must be param1. You can optionally include param2 as the second parameter. And the last parameter is either param3 or param4. MyCommand param1 [param2] {param3 | param4}

Terminology and Acronyms

The following acronyms are used in this manual:

Table 3 Terminology and Acronyms

Acronym	Meaning
API	Application Programming Interface
QOS	TIBCO Rendezvous quality of service
GUI	Graphical User Interface
RV	Refers to TIBCO Rendezvous reliable message quality of service, as opposed to certified message.
RVCM	Refers to TIBCO Rendezvous certified message quality of service.
RVDQ	Refers to TIBCO Rendezvous distributed queue.
RPC	Remote Procedural Call
TRA	TIBCO Runtime Agent
JMS	Java Message Service
Component Interface (CI)	A Component Interface is a PeopleTools object that you create in PeopleSoft Application Designer. It exposes a PeopleSoft component for synchronous access from another application. External applications need not be concerned with the details of page structures and component definitions in order to access the underlying data and business logic through Component Interfaces.
TIB Work Page	This page is bundled with the TIB_PS8_ADAPTER project. It implements the logic for capturing desired fields for publication at runtime. The page must be attached to the component from which data is captured.
Inbound	Events coming into the adapter. It refers to the inflow of data into the PeopleSoft application. It is applicable to Subscription and Request-Response services.
Outbound	Events going out from the adapter. It refers to data being captured from the PeopleSoft application and being sent out. It is applicable to the Publication Service.
PIA	PeopleSoft Pure Internet Architecture

Table 3 Terminology and Acronyms (Cont'd)

Acronym	Meaning
Integration Broker (IB)	An Integration Broker facilitates exposing PeopleSoft business logic as services and consuming external web services for PeopleSoft applications to invoke. PeopleSoft Integration Broker also supports synchronous and asynchronous messaging and uses a variety of communication protocols, while managing message structure, message content, and transport disparities.
VPD	Vital Product Database

Connecting with TIBCO Resources

How to Join TIBCOmmunity

TIBCOmmunity is an online destination for TIBCO customers, partners, and resident experts. It is a place to share and access the collective experience of the TIBCO community. TIBCOmmunity offers forums, blogs, and access to a variety of resources. To register, go to http://www.tibcommunity.com.

How to Access TIBCO Documentation

You can access TIBCO documentation here:

http://docs.tibco.com

How to Contact TIBCO Support

For comments or problems with this manual or the software it addresses, contact TIBCO Support as follows:

- For an overview of TIBCO Support, and information about getting started with TIBCO Support, visit this site:

  http://www.tibco.com/services/support

- If you already have a valid maintenance or support contract, visit this site:

  https://support.tibco.com

  Entry to this site requires a user name and password. If you do not have a user name, you can request one.

Chapter 1 Preparing PeopleSoft

This chapter explains how to prepare PeopleSoft Component Interfaces and messages in your PeopleSoft system, and also how to prepare PeopleSoft components for publishing through the adapter. Information is also provided that you should have ready before starting adapter configuration.

The explanations in this manual are based on PeopleTools 8.51. If you use a PeopleTools product other than PeopleTools 8.51 in a project, some of the explanations provided in this documentation may not work.

Topics

PeopleSoft Integration Technology Overview

PeopleSoft is a leading provider of ERP software solutions that meet the changing business needs of enterprises worldwide. It offers a complete suite of enterprise solutions for accounting, material management, distribution, manufacturing, and human resources.

PeopleSoft Integration Technologies

The internet architecture introduced with PeopleSoft supports powerful functionality for internet access, integration of external applications with PeopleSoft applications, and the integration of both into the enterprise.

Component Interface

One aspect of PeopleSoft integration technology, which PeopleSoft internet architecture makes use of, is Component Interfaces. These are object-oriented software devices that allow external applications to invoke PeopleSoft business logic. Component Interfaces are ideal for use in PeopleSoft environments that require tightly coupled integration, where data must be transmitted in real time.

See also:

- "PeopleSoft Component Interfaces" in *TIBCO ActiveMatrix Adapter for PeopleSoft Concepts*.
- *Integration Tools: PeopleSoft Component Interface* in *PeopleSoft (Enterprise PeopleTools) Documentation Library*

Integration Broker

Another robust part of the PeopleSoft internet architecture is the Integration Broker that uses the Application Messaging technology to integrate with third-party applications.

See also:

- "PeopleSoft Integration Broker" in *TIBCO ActiveMatrix Adapter for PeopleSoft Concepts*.
- *Integration Tools: PeopleSoft Integration Broker* in *PeopleSoft (Enterprise PeopleTools) Documentation Library*

Configuring PeopleSoft

Before you use TIBCO ActiveMatrix Adapter for PeopleSoft, do the following preparation with PeopleSoft:

1. Load the TIBCO resources:
   - Loading the Adapter PeopleSoft Project, page 4

     Finish this step to load a pre-built PeopleSoft project into PeopleTools.
   - Loading TIBCO Libraries, page 16
2. Prepare the PeopleSoft integration technology you use:
   - Preparing PeopleSoft Component Interfaces, page 18
   - Preparing PeopleSoft Application Messages, page 27

Loading the Adapter PeopleSoft Project

The adapter software includes a pre-built PeopleSoft project (TIB_PS8_ADAPTER) that contains the server side adapter code, to be used in PeopleTools 8.4x and above. The project also contains Component Interfaces, components, fields, menus, pages, and records. For detailed project information, see Adapter PeopleSoft Project on page 4

You must set up the project in your PeopleSoft database before using the adapter. The TIB_PS8_ADAPTER project to be imported into PeopleTools is located in the *TIB_ADPSFT8_HOME*\data\TIB_PS8_ADAPTER_PT84x folder. Follow Loading the TIB_PS8_ADAPTER Project on page 9 to load the project.

Adapter PeopleSoft Project

The following table describes all the items in the TIB_PS8_ADAPTER project.

Table 4 Description of the Adapter's PeopleSoft Project (Sheet 1 of 6)

Type of Item	Name	Description
Component Interface	TIB_CI_COMPINTFC	Used by the design-time adapter to retrieve the list of Component Interfaces in the database.
	TIB_MQUEUE_DATA_CI	Used by the Publication Service to retrieve queue records.
	TIB_MQUEUE_SRCH_CI	Used by the Publication Service to retrieve queue records.
	TIB_PUB_COMPINTFC	Used by the design-time adapter to store data back into PeopleSoft. Applicable only to integration scenarios using the Publication Service.
	TIB_MSGVER_CI	Used by the design-time adapter to retrieve names and versions of messages.
	TIB_MSGREC_CI	Used by the design-time adapter to retrieve the details of a particular message.
	TIB_MSGDET_CI	Used by the design-time adapter to retrieve the details of a particular message.
Component	TIB_CI_GROUP	Used by TIB_CI_COMPINTFC.
	TIB_MQUEUE_DATA_COMP	Used by TIB_MQUEUE_DATA_CI.

Table 4 Description of the Adapter's PeopleSoft Project (Sheet 2 of 6)

Type of Item	Name	Description
	TIB_MQUEUE_SRCH_COMP	Used by TIB_MQUEUE_SRCH_CI.
	TIB_PUB_COMP	Used by TIB_PUB_COMPINTFC.
	TIB_MSGVER_COMP	Used by TIB_MSGVER_CI.
	TIB_MSGREC_COMP	Used by TIB_MSGREC_CI.
	TIB_MSGDET_COMP	Used by TIB_MSGDET_CI.
Field	TIB_ATTRIBUTE_NAME	Name of the field.
	TIB_BCITEMPARENT	Name of the parent field.
	TIB_BCNAME	Name of the Business Event.
	TIB_DESCRIPTION	Description of the field.
	TIB_EVENT_NAME	Stores name of the event.
	TIB_FIELDNAME	Name of the field.
	TIB_FIELDTYPE	Type of the field.
	TIB_GUID	Stores GUID - Unique identifier for the message.
	TIB_IS_MSG_TRIGGER	Stores TRUE or FALSE. Purpose is to determine whether to trigger the publisher if this field changes.
	TIB_ISKEY	Key field.
	TIB_ISKEY_FLAG	Stores TRUE or FALSE. Key field.
	TIB_LENGTH	Length of the field.
	TIB_LEVELNUM	
	TIB_MENUACTION	

Table 4 Description of the Adapter's PeopleSoft Project (Sheet 3 of 6)

Type of Item	Name	Description
	TIB_MODE	TIB_MODE has the following values: A - Add. U - Update. L - Update All. C - Correction.
	TIB_MSG_DATA	Content of this field.
	TIB_MSG_FIELDID	
	TIB_MSG_ORIGIN	
	TIB_MSG_TIMESTAMP	Stores Timestamp corresponding to the message.
	TIB_MSG_TYPE	
	TIB_OBJECT_NAME	
	TIB_OPERATION	
	TIB_PARENT_RECNAME	Field Parent Record Name.
	TIB_PARENTRECNAME	Field Parent Record Name.
	TIB_PNLGRPNAME	
	TIB_RECNAME	
	TIB_SEQUENCE_NO	Stores Sequence number of message.
	TIB_SERIALIZEDATA	
	TIB_STATUS	TIB_STATUS can have any of the following values: N - Not processed. I - Intermediate stage. P - Processed successfully. E-Error.
	TIB_MSGNAME	Name of the Application Messaging component.
	TIB_APMSGVER	Version of Application Messaging.

Table 4 Description of the Adapter's PeopleSoft Project (Sheet 4 of 6)

Type of Item	Name	Description
	TIB_RECDNAME	Name of the Record.
	TIB_FLDNAME	Name of the Field.
	TIB_FLDTYPE	Type of the Field.
	TIB_PRNTRECNAME	Name of the parent record name.
	TIB_RECALIAS	Name of the record alias name.
	TIB_FLDALIAS	Name of the field alias.
Menu	TIBCO_MAINT_MENU	
Page	TIB_CI_ADAPTER_WRK	Page that has all the PeopleCode used to capture data from PeopleSoft and store it in the MQUEUE table.
	TIB_CI_MQUEUE_PGE	
	TIB_CI_PUBLISHER	
	TIB_COMP_INTERFACE	
	TIB_MQUE_DATA_PGE	
	TIB_MQUE_SRCH_PGE	
	TIB_MSGVER_PG	
	TIB_MSGREC_PG	
	TIB_MSGDET_PG	
Record	TIB_BCITEM_VW	
	TIB_CI_BUS_DTL	Stores the details of the component to be captured.
	TIB_CI_BUS_HDR	Stores the events to be published and in what mode.
	TIB_CI_DTLWRK	
	TIB_CI_GET_VW	
	TIB_CI_MQUEUE	Stores the data to be published.

Table 4 Description of the Adapter's PeopleSoft Project (Sheet 5 of 6)

Type of Item	Name	Description
	TIB_CI_MSG_VW	
	TIB_CI_PARNT_VW	
	TIB_CI_SEQUENCE	Stores the sequence number of the published event.
	TIB_CI_TIDLOG	Has the PeopleCode required for capturing data to be published.
	TIB_MQUEUE_SRCH	
	TIB_PUB_WRK	
	TIB_MSGVER_VW	
	TIB_MSGREC_VW	
	TIB_MSG_VW_TBL	
SQL	TIB_BCITEM_VW	
	TIB_CI_GET_VW	Captures the GETKEYS for a particular Component Interface.
	TIB_CI_MSG_VW	Captures the details of the fields and records to be published.
	TIB_CI_PARNT_VW	Captures the parent-child relationship for Component Interfaces.
	TIB_MQUEUE_SRCH	Captures the range of sequence numbers for TIB Events and groups them by the status (processed/ unprocessed).
	TIB_MSGVER_VW	
	TIB_MSGREC_VW	

Table 4 Description of the Adapter's PeopleSoft Project (Sheet 6 of 6)

Type of Item	Name	Description
	TIB_MSG_VW_TBL	
PeopleCode	TIB_CI_TIDLOG.RowInit	This event is fired for all the records the first time a row of data is encountered. This is usually used to set the initial state of a component or a page. The adapter uses this particular record's RowInit event to host the PeopleCode to perform the following: Check if the panel is invoked online. Call a function to get the data to be captured from the TIB tables, only if the panel is invoked online and not via the Component Interface.
	TIB_CI_TIDLOG.SavePreChange	This event is fired just before the data is updated in the database by the PeopleSoft component processor. It gives you one last chance to manipulate the data before it is saved to the database. The adapter uses this particular record's SavePreChange event to host the PeopleCode to perform the following: Set the various global variables. Calls a function to start the processing of an event. Calls a function to write the message to the MQUEUE table after an event has been processed.
	TIB_CI_TIDLOG.FieldFormula	This event is fired in more than one context but primarily it is used to declare and store functions to be used to by PeopleCode of other events. Hence the adapter uses this particular record's FieldFormula event to host the PeopleCode defining various functions, which do the processing required to capture and write the data to the MQUEUE table.

Loading the TIB_PS8_ADAPTER Project

To load the project to the PeopleSoft server, you need to finish these tasks in sequence:

For more information on PeopleSoft configuration, see *PeopleSoft (Enterprise PeopleTools) Documentation Library.*

Task A Back Up and Delete the Existing TIB_PS8_ADAPTER Project in the PeopleSoft Database

Before loading the TIB_PS8_ADAPTER project, you need to check whether the project is already in the PeopleSoft database. If there is an existing TIB_PS8_ADAPTER project in the database, you must delete it and load the project from the adapter with the version you want to use.

To check whether the TIB_PS8_ADAPTER project is already in PeopleSoft Database:

1. Open PeopleTools Application Designer and log in to the server where you want to add the project.
2. Verify that there is no existing TIB_PS8_ADAPTER project already in the database:
   a. From the menu, select **File > Open**.
   b. In the Open Definition dialog, open the **TIB_PS8_ADAPTER** project.
3. Check the listed projects:
   — If there is no existing TIB_PS8_ADAPTER project, skip to Task B, Copy the TIB_PS8_ADAPTER Project, on page 12.
   — If there is an existing TIB_PS8_ADAPTER project, continue to step 4.
4. Back up any contents of the TIB_CI_MQUEUE table associated with the project.

5. Delete the existing TIB_PS8_ADAPTER project:

   From the menu, select **File > Delete**. In the Delete Definition dialog, delete all of the items in the TIB_PS8_ADAPTER project in the following order:

   a. Menus
   b. Component Interfaces
   c. Components
   d. Pages
   e. Records
   f. Fields

6. Delete the TIB_PS8_ADAPTER project itself and close the **Delete Definition** dialog.
7. If necessary, also delete the cache.
8. Exit PeopleTools Application Designer.

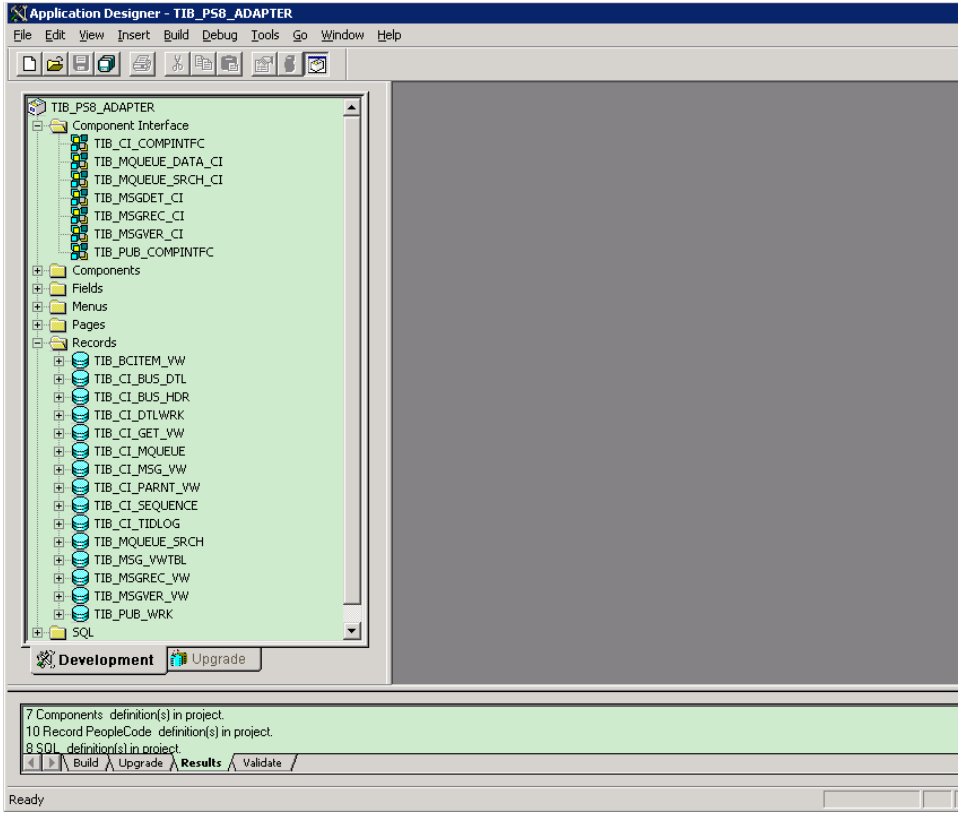
Task B Copy the TIB_PS8_ADAPTER Project

To load the project:

1. Open PeopleTools Application Designer and log in to the server where you want to add the project.
2. From the menu, select **Tools > Copy Project > From File**.
3. In the displayed dialog, browse to the following directory:
   TIB_ADPSFT8_HOME\data\TIB_PS8_ADAPTER_PT84x.
4. Select the **TIB_PS8_ADAPTER** project from the displayed list and click **Select**.
5. In the Copy From File dialog, select all the Definition Types, then click **Copy**.
6. Save the project and exit PeopleTools Application Designer.

The following sample screen shows the structural view of the TIB_PS8_ADAPTER project in the PeopleTools 8.4x Application Designer.

Figure 1 View of the Adapter's PeopleSoft Project in the 8.4x Application Designer



Task C Oracle Only: Create a Tablespace for Adapter Records

If you are using an Oracle database, you need to create a separate tablespace for the following adapter records:

- TIB_CI_BUS_DTL
- TIB_CI_BUS_HDR
- TIB_CI_MQUEUE
- TIB_CI_SEQUENCE
- TIB_CI_TIDLOG

To create a tablespace and assign records:

1. Create a tablespace in the Oracle database exclusively for adapter records. The recommended size for the tablespace is 50MB. If you want to increase the tablespace size, contact your database administrator.
2. Open PeopleTools Application Designer and log in to the target server where you added the project.
3. Open a record(s) to be allocated to the new tablespace.
4. From the menu, select **Tools > Data Administration > Set Tablespace.**
5. Select **Oracle** from the Platform drop-down list.
6. Select the created tablespace from Available Space Name-DB Name drop-down list. Change the original setting if required.
7. Click **OK**.
8. Save the record(s). A new tablespace is added to the record(s).
9. Repeat step 3 to step 8 to add the tablespace to the five records.
10. Save the project and exit PeopleTools Application Designer.

Task D Build the TIB_PS8_ADAPTER Project

To build the project:

1. Open PeopleTools Application Designer and log in to the target server where you added the project.
2. Open the TIB_PS8_ADAPTER project using PeopleTools Application Designer.
3. From the menu, select **Build > Project**.

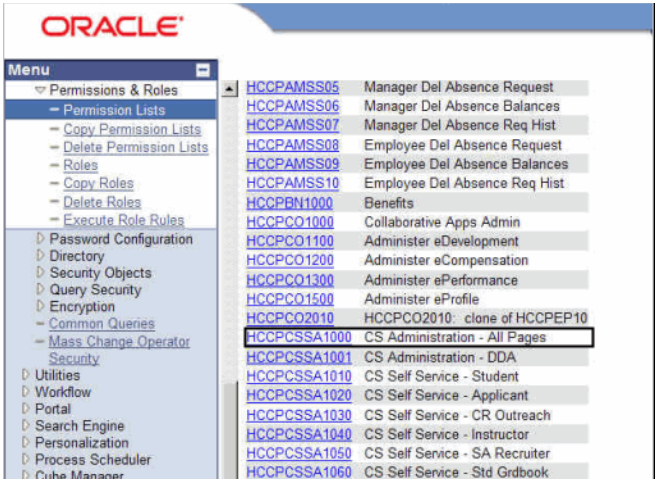
4. In the Build dialog, configure the following settings and options.
   a. Click the **Settings** button and in the displayed Build Settings dialog, select all the options that will regenerate tables, views, and indexes, and click **OK**.
   b. In the Build Options group box, check the **Create Tables** checkbox and the **Create Views** checkbox.
   c. In the Build Execute Options group box, select **Execute And Build Script** radio button.
5. Click **Build** to build the project.
6. Save the project and exit PeopleTools Application Designer.

Task E Grant Permissions for Working with CI and IB

To grant permissions for an adapter working with CI and IB:

1. Restart the PeopleSoft application server where you added the project.
2. Log in to PIA and navigate to **PeopleTools > Security > Permissions & Roles > Permission Lists**.
3. Find the permission list with a description containing "all pages" and open it**.** The name of the permission list is different for varied PeopleSoft applications. For example, find **HCCPCSSA1000 CS Administration - All Pages** in the Permission List, as shown in Figure 2.

Figure 2 Find the All Pages Permission List



4. Click to open the page and set the permissions:
   a. Click the **Pages** tab, add or find the **TIBCO_MAINT_MENU** menu and grant all permissions to the related components. Then save the change.

b. Click the **Component Interfaces** tab, grant **Full Access** permissions for the following Component Interfaces. If they do not exist, insert them into the Component Interfaces list first.

- TIB_CI_COMPINTFC
- TIB_MQUEUE_DATA_CI
- TIB_MQUEUE_SRCH_CI
- TIB_MSGDET_CI
- TIB_MSGREC_CI
- TIB_MSGVER_CI
- TIB_PUB_COMPINTFC

5. Save all the changes.
6. Restart the PeopleSoft application server.

Loading TIBCO Libraries

This section provides the steps for loading necessary library files to the PeopleSoft server:

- Integration Broker Only: Loading TIBCO Target Connector Library, page 16
- Loading TIBCO Enterprise Message Service Libraries, page 16

Integration Broker Only: Loading TIBCO Target Connector Library

After installing the adapter, you need to load TIBCO Target Connector class files to a PeopleSoft server.

1. Copy the TibcoTargetConnector.jar file in *TIB_ADPSFT8_HOME*\data to the following location in the PeopleSoft server:

   PS_HOME\webserv\peoplesoft\applications\peoplesoft\PSIGW\WEB-INF\classes\

2. Use an unzip utility, such as Winzip or WinRAR, to extract the TibcoTargetConnector.jar file in the same directory. The destination path of the extracted *.class files is:

   extracted_path\com\peoplesoft\pt\integrationgateway\targetconnector

Loading TIBCO Enterprise Message Service Libraries

To load the TIBCO EMS libraries:

1. Install the TIBCO EMS release, which automatically includes the library files in the *TIB_EMS_HOME*/lib subdirectory.
2. Copy the following JAR file from the *TIB_EMS_HOME*/lib directory to *PS_HOME*\webserv\peoplesoft\applications\peoplesoft\PSIGW\WEB-INF\lib or add the full pathnames for the JAR file to your CLASSPATH:

   — tibjms.jar

   The JRE version used by the tibjms.jar file must be equal or lower than the JRE version used by PeopleSoft. Otherwise, a PeopleSoft application cannot send to or receive messages from an EMS queue or topic.

3. Integration Broker only: If you use an SSL connection to connect to the EMS server, copy the following JAR file from the *TIB_EMS_HOME*/lib directory to *PS_HOME*\webserv\peoplesoft\applications\peoplesoft\PSIGW\WEB-INF\lib or add the full pathname for the JAR file to your CLASSPATH:

   — tibcrypt.jar

You also need to copy the following JAR files to *PS_HOME*\webserv\peoplesoft\applications\peoplesoft\PSIGW\WEB-INF\lib or add the full pathname for the JAR files to your CLASSPATH:

— slf4j-api-1.5.2.jar

— slf4j-simple-1.5.2.jar

For more information, see *TIBCO Enterprise Message Service User's Guide*.

Preparing PeopleSoft Component Interfaces

TIBCO ActiveMatrix Adapter for PeopleSoft uses PeopleSoft component interfaces as schemas and as APIs for formatting and processing data between a PeopleSoft application and the TIBCO environment. You must prepare PeopleSoft component interfaces so the design-time adapter can download them to the adapter's configuration tool, TIBCO Designer.

- Use the Test Component Interface tool in PeopleTools Application Designer to determine which fields are required and what values are valid for sending into PeopleSoft.
- Eliminate any unnecessary records and fields from a component interface. The simpler the component interface, the easier it is to set up and test the adapter. Component interfaces containing fields from derived records are likely to cause errors.
- The preparation steps given under Procedure on page 18 assume you know PeopleSoft procedures. For complete information about creating component interfaces and making them available, see *Integration Tools: PeopleSoft Component Interfaces* in *PeopleSoft (Enterprise PeopleTools) Documentation Library.*

Procedure on page 18 lists the general setup tasks with PeopleTools for using Component Interface.

Configuration Procedure for Adapter Services on page 22 lists the specific configuration details for each type of adapter service.

Procedure

Before configuring the adapter, complete the following tasks in your PeopleSoft system:

- Task A, Develop Component Interfaces, page 18
- Task B, Build PeopleSoft Component Interface Java APIs, page 19
- Task C, Compile the Built PeopleSoft Component Interface Java APIs, page 20
- Task D, Grant Permissions for the Required Component Interfaces, page 22

Task A Develop Component Interfaces

To develop the required component interfaces, you need to create or change the required component interfaces by using PeopleTools Application Designer. Make sure the component interfaces have all the records and fields you need for the type of data the adapter will be processing.

Task B Build PeopleSoft Component Interface Java APIs

To build PeopleSoft Java APIs:

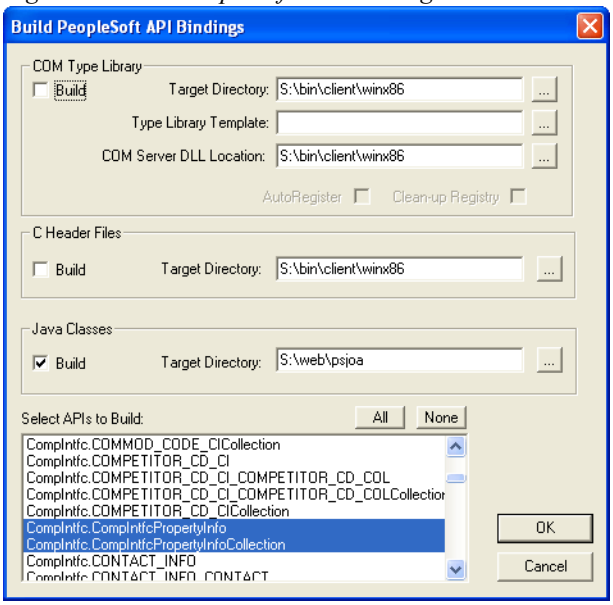
1. Open the component interface you want to use from PeopleSoft Application Designer.
2. From the menu, select **Build > PeopleSoft APIs.**
3. In the Build PeopleSoft API Bindings dialog:
   a. Uncheck the **Build** checkbox for COM Type Library.
   b. Uncheck the **Build** checkbox for C Header Files.
   c. Check the **Build** checkbox for Java Classes. Navigate to open your **Target Directory** and select the following from the **PeopleSoft APIs to Build** list:

      - PeopleSoft.*

      - CompIntfc.CompIntfc*

      - APIs for required component interfaces: For example, for the COUNTRY component interface, select CompIntfc.COUNTRY and CompIntfc.COUNTRYCollection.

Figure 3 Build PeopleSoft API Bindings



4. Click OK in the Build PeopleSoft API Bindings dialog to build the APIs.

Task C Compile the Built PeopleSoft Component Interface Java APIs

To compile the APIs for TIBCO ActiveMatrix Adapter for PeopleSoft, you can use TIBCO Configuration Tool. You install this tool as a post-installation task. For configuration details, see Compile the Component Interface APIs Using TIBCO Configuration Tool on page 20.

TIBCO Configuration Tool does not support HPUX PA-RISC platforms. This is because the release of TIBCO Configuration Tool used with the adapter requires Eclipse 3.7 to run and Eclipse 3.7 does not support HPUX PA-RISC platforms. To compile the APIs on these platforms, see Compile the Component Interface APIs Using Other Command Utilities on page 21.

Compile the Component Interface APIs Using TIBCO Configuration Tool

TIBCO Configuration Tool is installed to *TIBCO_HOME*/tct when you complete the post-installation tasks.

Follow these steps to compile the PeopleSoft Component Interface Java APIs:

1. Make preparation for the following items:
   - PeopleTools version: Contact your PeopleSoft administrator for this.
   - Access to psjoa.jar: must be from a PeopleTools version compatible with your server. Contact your PeopleSoft administrator to locate this library.
   - Component Interface Java APIs: store the APIs you built in Task B, Build PeopleSoft Component Interface Java APIs to a location that TIBCO Configuration Tool can access.
2. Run TIBCO Configuration Tool to compile the APIs.

   You can run TIBCO Configuration Tool in GUI mode, console mode, silent mode, or script mode. For detailed information on how to use the tool in each mode, see the TIBCO Configuration Tool documentation set.

   - If you run the tool in GUI mode or in console mode, you are prompted for opening the TIBCO ActiveMatrix Adapter for PeopleSoft Configuration Wizard. By using the wizard, specify the settings as listed in Table 5, TIBCO Configuration Tool Settings and complete the configuration.

Table 5 TIBCO Configuration Tool Settings

Setting	Description
JDK_HOME	Location of the installed JDK.
Java Compiler Arguments	Java compiler arguments.
PeopleTools Version	The version of PeopleTools.

Table 5 TIBCO Configuration Tool Settings

Setting	Description
PSJOA Jar File	Location of psjoa.jar.
CI Java Source Directory	Location of PeopleSoft Component Interface Java source files.
Compiled CI Java Classes Directory	Location of the CLASS files after configuration.

— If you run the tool in silent mode, you should run the tool in GUI mode to generate a configuration file (build.properties) in the following directory:

CONFIG_HOME/tct/peoplesoft/*date-time*/scripts

Table 6, TIBCO Configuration Tool Properties in build.properties lists some of the properties that you might change in the properties file.

Table 6 TIBCO Configuration Tool Properties in build.properties

Property	Description
TIBCO_HOME	TIBCO ActiveMatrix Adapter for PeopleSoft installation location
plugin.dir	TIBCO Configuration Tool installation location
adapter.dir	*TIB_ADPSFT8_HOME*
compile.parameter	Java compiler arguments.
src	Component Interface Java source directory.
dest	Compiled Component Interface Java classes directory.
jar.path	Location of psjoa.jar.
java.home	*JDK_HOME*

3. Verify that the built Java classes are available in the following directory:

   TIB_ADPSFT8_HOME/lib/ext

Compile the Component Interface APIs Using Other Command Utilities

For the platforms which TTIBCO Configuration Tool does not support, you can compile the Component Interface APIs by using one of the following alternative approaches:

- Recommended: Run BuildCI command utility under the *TIB_ADPSFT8_HOME*/bin directory.

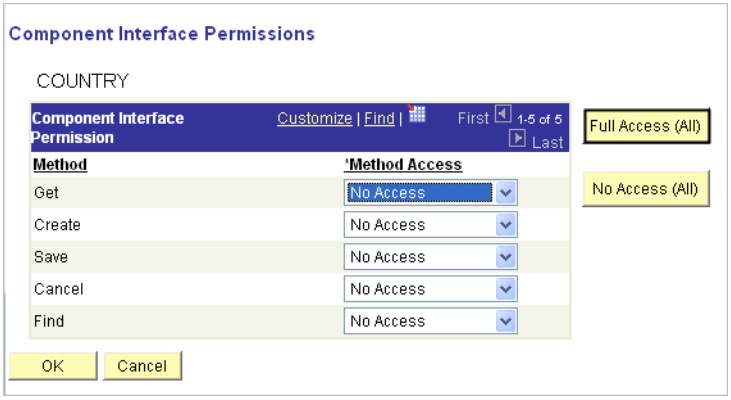
- Run an ANT task under the *TIBCO_HOME*/tct/*tct_version_number*/plugins/com.tibco.tct.peoplesoft_*plugin_version_number*/res directory.

Task D Grant Permissions for the Required Component Interfaces

To grant permissions for the component interfaces:

1. Log in to PIA and navigate to **PeopleTools > Security > Permissions & Roles > Permission Lists**.
2. Find the permission list which includes the required component interfaces and open it.
3. Click the **Component Interfaces** tab and find the desired component interfaces. For example, if you want to work with the Country component interface, make sure it is in the list.
4. Edit each component interface and grant **Full Access** permissions to all its methods, as shown in Figure 4.

Figure 4 Set Permissions for a Component Interface



Configuration Procedure for Adapter Services

The general tasks listed in Procedure on page 18 are the same for all adapter services that use Component Interface. This section introduces the specific configuration details for each adapter service as follows:

- CI Publication Service, page 23
- CI Subscription Service and Request-Response Service, page 25

CI Publication Service

Every PeopleSoft component to be processed by a CI Publication Service of the adapter must have a shadow page (formerly "panel") embedded in the component. Embedding is done in the PeopleTools Application Designer *after* you have configured the adapter in TIBCO Designer but *before* starting the adapter.

The shadow work page, TIB_CI_ADAPTER_WRK, is shipped with the adapter. It contains configuration-driven PeopleCode that extracts data from the component based on the adapter configuration settings.

To embed the shadow work page into a component, you need to finish:

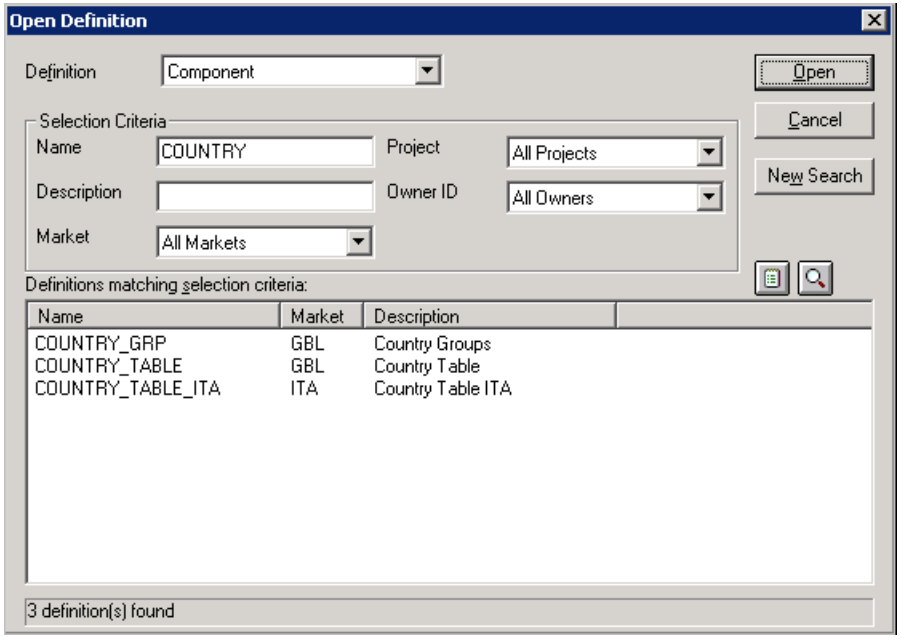
- Task A, Insert the TIB_CI_ADAPTER_WRK Page into Components, page 23
- Task B, Grant Component Permissions for the TIB_CI_ADAPTER_WRK page, page 24

Task A Insert the TIB_CI_ADAPTER_WRK Page into Components

To insert the page into the required components:

1. Log in to PeopleTools Application Designer.
2. From the menu, select **File > Open**. Use the **Open Definition** dialog to open the required components. For example, open the components that satisfy the COUNTRY selection criteria as shown in Figure 5.

Figure 5 Open Definition Dialog



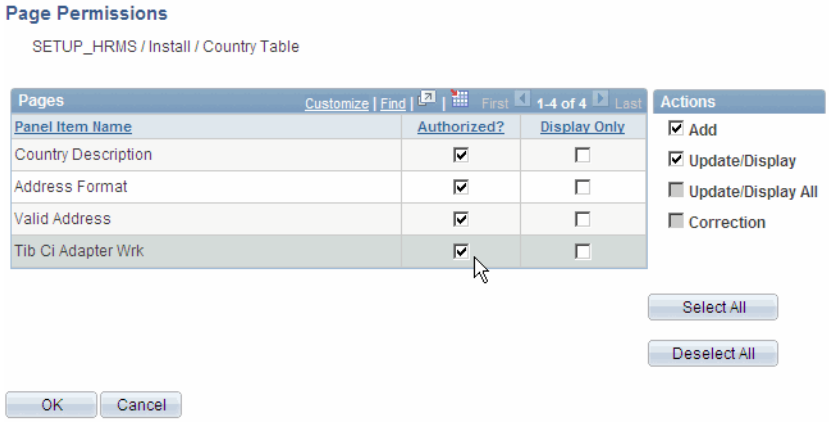
3. From the menu, select **Insert > Page Into Component**. Use the **Insert Page** dialog to insert **TIB_CI_ADAPTER_WRK** page of the TIB_PS8_ADAPTER into the component.
4. From the menu, select **File > Save** to save the component.

Task B Grant Component Permissions for the TIB_CI_ADAPTER_WRK page

To grant the permissions for the TIB_CI_ADAPTER_WRK page you just add to the required component.

1. Log in to PIA and navigate to **PeopleTools > Security > Permissions & Roles > Permission Lists**.
2. Navigate to **PeopleTools > Security > Permissions & Roles > Permission Lists**.
3. Select a suitable permission list and find the component which was inserted with TIB_CI_ADAPTER_WRK page.
4. Click **Edit Pages** and then check the **Authorized** checkbox for the Tib Ci Adapter Wrk page. For example, grant permissions for the Country_Table.GBL as shown in Figure 6:

Figure 6 Grant Permission for the TIB_CI_ADAPTER_WRK Page



5. Click OK.
6. Save the changes.

CI Subscription Service and Request-Response Service

If you are applying a PeopleSoft component interface to a Subscription Service or a Request-Response Service in the adapter, set up the fields in the CREATEKEYS, GETKEYS, and FINDKEYS folders in every component interface as shown in the following table. Remember, PeopleSoft component interfaces become schemas in the adapter.

PeopleSoft Mode	CREATEKEYS Fields	GETKEYS Fields
Add	Must fill in	Fill-in optional
Correction	Fill-in optional	Must fill in

To insert data into the PeopleSoft system, make sure that both the CREATEKEYS and GETKEYS fields are filled in, regardless of whether they are new or recently updated. For more information on the CREATEKEYS, GETKEYS, and FINDKEYS, see Implementation of Keys in the TIBCO Adapter for PeopleSoft on page 158.

The maximum number of records returned by the adapter's Request-Response Service is limited to 300. This is due to a limitation built into PeopleSoft which restricts the number of records resulting from a FIND query on a component interface.

The adapter provides the FINDKEYS functionality of PeopleSoft Component Interface technology as a feature which can be used with the adapter's Request-Response Service. The adapter fetches the schema for a particular component interface at design time. In addition to the CREATEKEYS and GETKEYS schemas, the adapter now fetches the FINDKEYS schema as well. Hence, at runtime, if the FINDKEYS values are specified in the incoming request, they take precedence over any GETKEYS or CREATEKEYS values specified. The adapter's Request-Response Service uses the same FINDKEYS values to query PeopleSoft and returns, as a reply, a sequence of FINDKEY values, which satisfy the query criterion.

Preparing PeopleSoft Application Messages

TIBCO ActiveMatrix Adapter for PeopleSoft uses PeopleSoft application messages as schemas for formatting and processing data between a PeopleSoft application and the TIBCO environment. PeopleSoft application messages must be prepared so the design-time adapter can download them to the adapter's configuration tool, TIBCO Designer.

The following list will help you set up the PeopleSoft environment.

- Check the Message definition in PIA to determine the required fields and valid values to be sent to PeopleSoft.
- Eliminate any unnecessary records and fields from the message. The simpler the message, the easier it is to set up and test the adapter.
- The preparation steps given under Procedure on page 27 assume you know PeopleSoft procedures. For complete information about creating messages and making them available, see *Integration Tools: PeopleSoft Integration Broker* in *PeopleSoft (Enterprise PeopleTools) Documentation Library.*

Procedure on page 27 lists the general setup tasks with PeopleTools if you want to use Integration Broker.

Configuration Procedure for Adapter Services on page 44 lists the specific configuration details for each type of adapter service.

If you use an SSL connection, you also need to read Enabling SSL on the PeopleSoft Server on page 57.

Procedure

The following steps are involved in setting up the Integration Broker using PeopleTools. All the steps require you to log in to the PeopleSoft Pure Internet Architecture.

To Define Integration Gateways and Load Connectors

- Task A, Configure Gateway URL and Activate Domain, page 28
- Task B, Load Gateway Connectors, page 29

To Configure Integration Gateway Properties

- Task C, Configure Integration Gateway Properties, page 32

To Set Up Integration

- Task D, Define Nodes, page 33
- Task E, Define Messages, page 35
- Task F, Define Message Queues, page 38
- Task G, Define Services, page 38
- Task H, Define Service Operations, page 40
- Task I, Define Routings, page 42

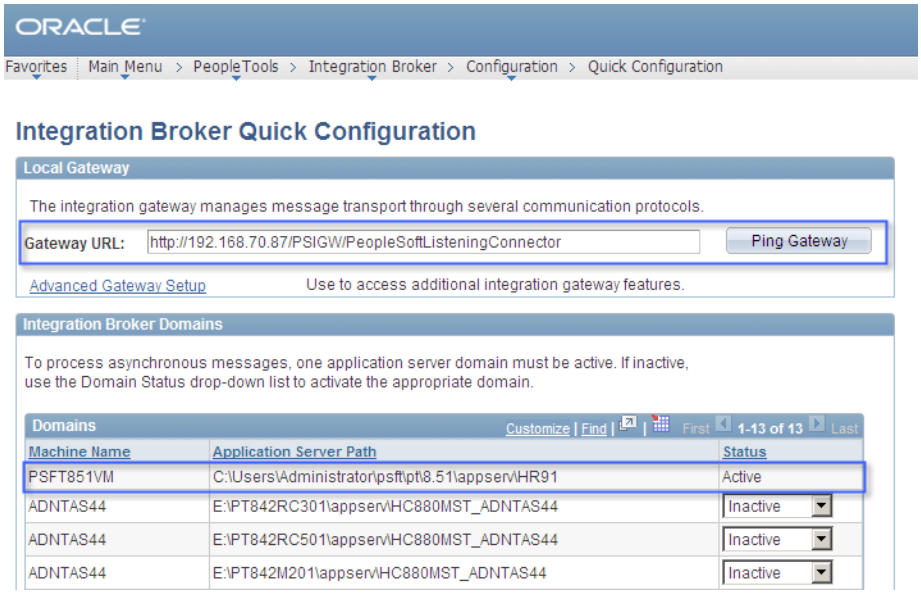
Before you start with configuration, make sure you finish loading TIBCO libraries on the PeopleSoft server and restart the server. See Loading TIBCO Libraries on page 16 for more information.

Task A Configure Gateway URL and Activate Domain

To configure gateway URL and activate domain:

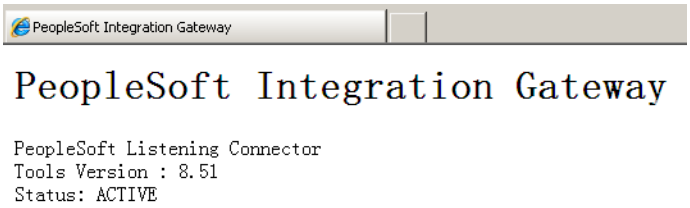
1. Navigate to **PeopleTools > Integration Broker > Configuration > Quick Configuration**.
2. Keep the default Gateway URL as is or enter the one you want to use. See Figure 7 for an example.

Figure 7 Integration Broker Quick Configuration Pane



3. Click the **Ping Gateway** button. Make sure a message that shows the gateway is active is displayed. See Figure 8 as an example.

Figure 8 PeopleSoft Integration Gateway Status Message



4. To process asynchronous messages, one application server domain must be active. In the Integration Broker Domains pane, activate the appropriate domain you want to use. See Figure 7 for an example.
5. Click **Save**.

Task B Load Gateway Connectors

The Integration Broker allows you to define and customize target connectors. The steps to define a connector are the same for all adapter services. However, based on the adapter service selected, you need to select the appropriate target connector from the following three types of connectors:

- **HTTPTARGET connector**: for IB Publication Service, IB Subscription Service and Request-Response Invocation service.
- **JMSTARGET connector**: for IB Publication and Subscription Service.
- **TIBCOTARGET connector**: for IB Publication and Request-Response Invocation Service.

  TIBCOTARGET connector is a connector defined by TIBCO that is installed on the Integration Gateway. TIBCOTARGET Connector facilitates the exchange of JMS messages between PeopleSoft and the adapter.

See Configuration Procedure for Adapter Services on page 44 for detailed setup procedures for each service.

To load and define gateway connectors:

1. Navigate to **PeopleTools > Integration Broker > Configuration > Gateways**.
2. Search the existing gateways. If no gateway satisfies your search criteria, click the **Add A New Value** link. In the Integration Gateway ID field, enter **TIB_LOCAL**, and click **Add**.

Figure 9 The Gateways Pane

3. Fill in the information for the TIB_LOCAL gateway, as shown in Figure 10.
   a. Check the **Local Gateway** checkbox.
   b. In the URL field, enter the gateway URL you configured in step 2 of Task A, Configure Gateway URL and Activate Domain, on page 28.

Figure 10 Gateway Information

4. Click the **Load Gateway Connectors** button. All loaded Gateway Connectors are shown in the Connectors area, as shown in Figure 11.

Figure 11 Default Gateway Connectors

Connectors — Customize | Find | First 1-9 of 9 Last

	*Connector ID	Description	*Connector Class Name			
1	SMTPTARGET		SMTPTargetConnector	Properties	+	−
2	FILEOUTPUT		SimpleFileTargetConnector	Properties	+	−
3	PSFTTARGET		PeopleSoftTargetConnector	Properties	+	−
4	JMSTARGET		JMSTargetConnector	Properties	+	−
5	HTTPTARGET		HttpTargetConnector	Properties	+	−
6	GETMAILTARGET		GetMailTargetConnector	Properties	+	−
7	FTPTARGET		FTPTargetConnector	Properties	+	−
8	AS2TARGET		AS2TargetConnector	Properties	+	−
9	PSFT81TARGET		ApplicationMessagingTargetConnector	Properties	+	−

5. Add an entry with the following details, and then click **Save**.
   - Connector ID: **TIBCOTARGET**
   - Connector Class Name: **TibcoTargetConnector**
6. Click the **Properties** link for the TIBCOTARGET connector.
7. Add the properties listed in Table 7 for the connector.

Table 7 TIBCOTARGET Connector Properties

Property ID	Property Name	Value
HEADER	sendUncompressed	Y
TIBCOTARGET	JMSQueue	*queue_name* For example, IBPUB.QUEUE
TIBCOTARGET	JMSTopic	*topic_name* For example, IBPUB.TOPIC
TIBCOTARGET	JMSUrl	tcp://*TIBCO_EMS_server_name:port* For example, tcp://192.168.70.86:7222
TIBCOTARGET	JMSUserName	*TIBCO_EMS_server_username* For example, admin
TIBCOTARGET	JMSPassword	Encrypted *TIBCO_EMS_server_password* For example, "{V1.1}ZuI38CaBQOM=" for password "admin"
TIBCOTARGET	ServiceType	Either of the following values: • RPCCLIENT • PUBLISHER

8. Click **OK** to save the properties.
9. Click **Save** to save the gateway information.

Task C Configure Integration Gateway Properties

After you define the default local integration gateway, specify the integration gateway URL and load the delivered connectors, you must configure the integration gateway properties file. To establish settings for the integration gateway and its delivered connectors, you use the integrationGateway.properties file under *PS_HOME*\webserv\peoplesoft\applications\peoplesoft\PSIGW\WEB-INF.

When the gateway server boots, it reads and applies the properties in the integrationGateway.properties configuration file. Changes that you make to the file while the server is running have no immediate effect.

If you want to make changes to the integrationGateway.properties file while the server is running, you can log in to PIA and change the properties online. PeopleSoft Integration Broker reapplies the configuration settings—including the changes—without rebooting.

To Access the Properties File using PIA

1. Navigate to **PeopleTools > Integration Broker > Configuration > Gateways**.
2. Search the gateway you defined in Task B, Load Gateway Connectors, on page 29
3. Open the gateway and click the **Gateways Setup Properties** link next to the integration gateway URL field.
4. In the displayed Gateway Properties Sign-in page, enter the **User ID** and **Password**. Click **OK**.
5. In the displayed PeopleSoft Node Configuration page, click the **Advanced Properties Page** link.
6. Configure gateway properties in the displayed editor.
7. Click **OK** to save the properties.
8. Click **Save** to save the integration gateway configuration.

To Configure Integration Gateway Properties

You need to configure the following integration gateway properties:

- Delivered Connector Configuration

ig.isc.serverURL=*PeopleSoft_server_name*:*port*
ig.isc.userid=*username*
ig.isc.password=*password*
ig.isc.toolsRel=*PeopleTools_version*

Use the supplied Password Encryption Utility to generate an encrypted password for ig.isc.password.

- JMS Configuration Section
  - If you want to use the JMS transport type in Queue mode, add the following properties for the queue. Replace # with the queue number. For example, if this is the third queue you specify, replace # with 3.

```
# Enter the number of Queue listeners to instantiate
ig.jms.Queues=#

ig.jms.Queue#=queue_name
ig.jms.Queue#.Provider=Tibco
ig.jms.Queue#.JMSFactory=QueueConnectionFactory
ig.jms.Queue#.MessageSelector=
ig.jms.Queue#.Url=tcp://TIBCO_EMS_server_name:port
ig.jms.Queue#.User=TIBCO_EMS_server_username
ig.jms.Queue#.Password=TIBCO_EMS_server_password
```

Use the supplied Password Encryption Utility to generate an encrypted password for ig.jms.Queue1.Password.

  - If you want to use the JMS transport type in Topic mode, add the following properties for the topic. Replace # with the topic number. For example, if this is the third topic you specify, replace # with 3.

```
# Enter the number of Topic listeners to instantiate
ig.jms.Topics=#

ig.jms.Topic#=topic_name
ig.jms.Topic#.Provider=Tibco
ig.jms.Topic#.JMSFactory=TopicConnectionFactory
ig.jms.Topic#.MessageSelector=
ig.jms.Topic#.Url=tcp://TIBCO_EMS_server_name:port
ig.jms.Topic#.User=TIBCO_EMS_server_username
ig.jms.Topic#.Password=TIBCO_EMS_server_password
```

Use the supplied Password Encryption Utility to generate an encrypted password for ig.jms.Topic1.Password.

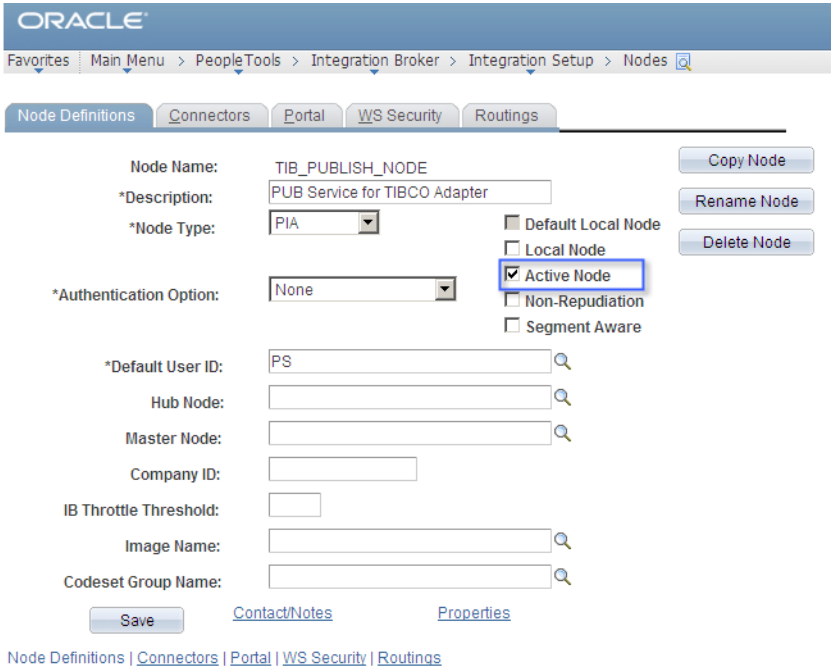
Task D Define Nodes

Nodes represent any organization, application or system that will play a part in integrations. For example, nodes can represent customers, business units, suppliers, other trading partners, external or third-party software systems, and so on. Node definitions define the locations to or from which messages can be routed. Because an application can send messages to itself, a default local node definition that represents the application is delivered as part of the integration engine. Each PeopleSoft installation must have one, and only one, default local node.

To define a node, follow these steps:

1. Navigate to **PeopleTools > Integration Broker > Integration Setup > Nodes**.
2. Search the existing nodes. If no node satisfies your search criteria, click the **Add A New Value** link. Enter **Node Name**, and click **Add**.
3. Click the **Node Definitions** tab to define the node, as shown in Figure 12.
   a. Enter **Description**.
   b. Select **PIA** from the Node Type drop-down list.
   c. Enter **Default User ID**.
   d. Check the **Active Node** checkbox.

Figure 12 Node Definitions



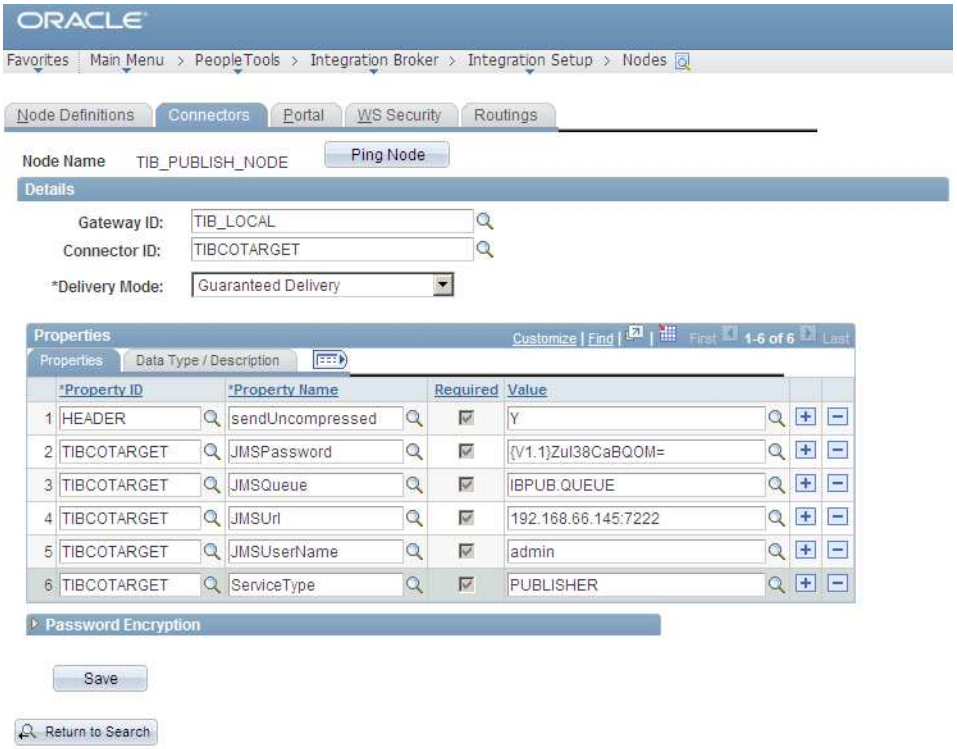
4. Click the **Connectors** tab and define the connectors.

   a. Specify **Gateway ID** or click the button to look up the Gateway ID you defined in Task B, Load Gateway Connectors, on page 29.

   b. Specify **Connector ID** or click the button to look up the Connector ID you defined in Task B, Load Gateway Connectors, on page 29.

   The connector properties are loaded as shown in Figure 13:

Figure 13 Node Connector Properties



   c. Click **Ping Node**. Make sure the result is success.

      You must start your EMS server before you ping the node.

   d. Click **Return**.

5. Click **Save**. The specified node is created.

Task E Define Messages

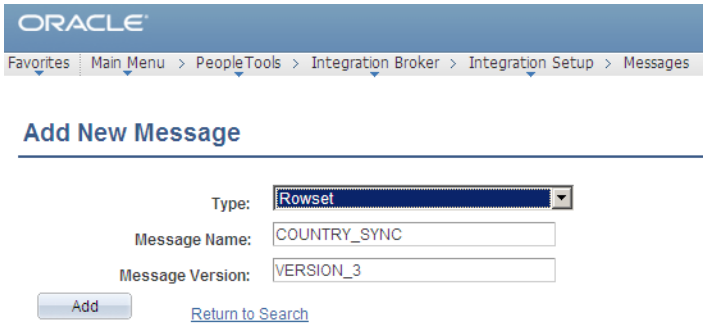
Message definitions provide the physical description of the data that is being sent, including fields, field types, and field lengths.

To define a message:

1. Navigate to **PeopleTools > Integration Broker > Integration Setup > Messages**.
2. Search the existing messages. If no message satisfies your search criteria, click the **Add A New Value** link.
3. Do the following steps to add a new message.
   a. Select **Rowset** from the Type drop-down list.
   b. Enter **Message Name**.
   c. Enter **Message Version**.
   d. Click **Add**.

   See Figure 14 as an example:

Figure 14 Add a New Message



4. Click the **Message Definition** tab and define the message.
   a. Enter **Description**
   b. Select **Enterprise Components** from the Owner ID drop-down list.
   c. Click the **Add Record To Root** link to add a level 0 record to the root node.
   d. Click the record link, you can also add more records to the level 0 record or its child records.

   See Figure 15 as an example. The COUNTRY_SYNC message has COUNTRY_TBL as its level 0 record and EO_ADDR_FMT_TBL as the child level 1 record.

Figure 15 Message Definition

5. Click **Save**. The specified message is created.

Task F Define Message Queues

A *message queue* isolates different groups of service operations from each other. It needs to be created exclusively to handle messages meant for the adapter. You can also choose an existing message queue. If a message does not exist for a record from which data is to be exported, it needs to be created. Modifications to the existing messages might be required.

Task G Define Services

PeopleSoft Integration Broker enables you to take an existing component interface and create a service which can be used to invoke the component interface.

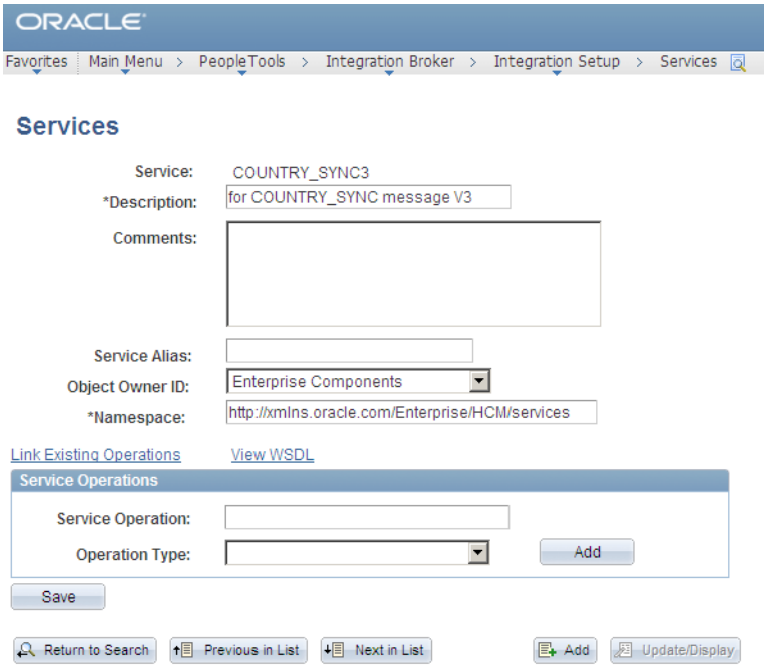
To define a service:

1. Navigate to **PeopleTools > Integration Broker > Integration Setup > Services**.
2. Search the existing services. If no service satisfies your search criteria, click the **Add A New Value** link.
3. Enter the service name, and then click the **Add** button.

4. Fill in the service information:
   a. Enter **Description**.
   b. Select **Enterprise Components** from the Object Owner ID drop-down list.

   See Figure 16 as an example.

Figure 16 Service Information



5. Define a service operation in the Service Operations area:
   a. Enter **Service Operation**.
   b. Select an **Operation Type** from the drop-down list.
   c. Click **Add**.
   d. Follow step 3 to step 8 in Task H, Define Service Operations, on page 40 to define the service operation.
6. Click **Save**. The specified service is created.

Task H Define Service Operations

A *service operation* definition consists of general information about an operation, such as its name, description, and so on. It also specifies an operation type, which determines how the operation is to be processed, synchronously or asynchronously. In addition, it contains routings which determine the direction, inbound or outbound, of the service operation. A service operation has one or more handlers, which contain and run the programming logic for sending or receiving the message, manipulating message content, and other functions.

The Integration Broker allows you to define and customize service operations. The steps to define a service operation are the same for all adapter services. However, based on the adapter service selected, you need to select the appropriate operation type from the following two choices:

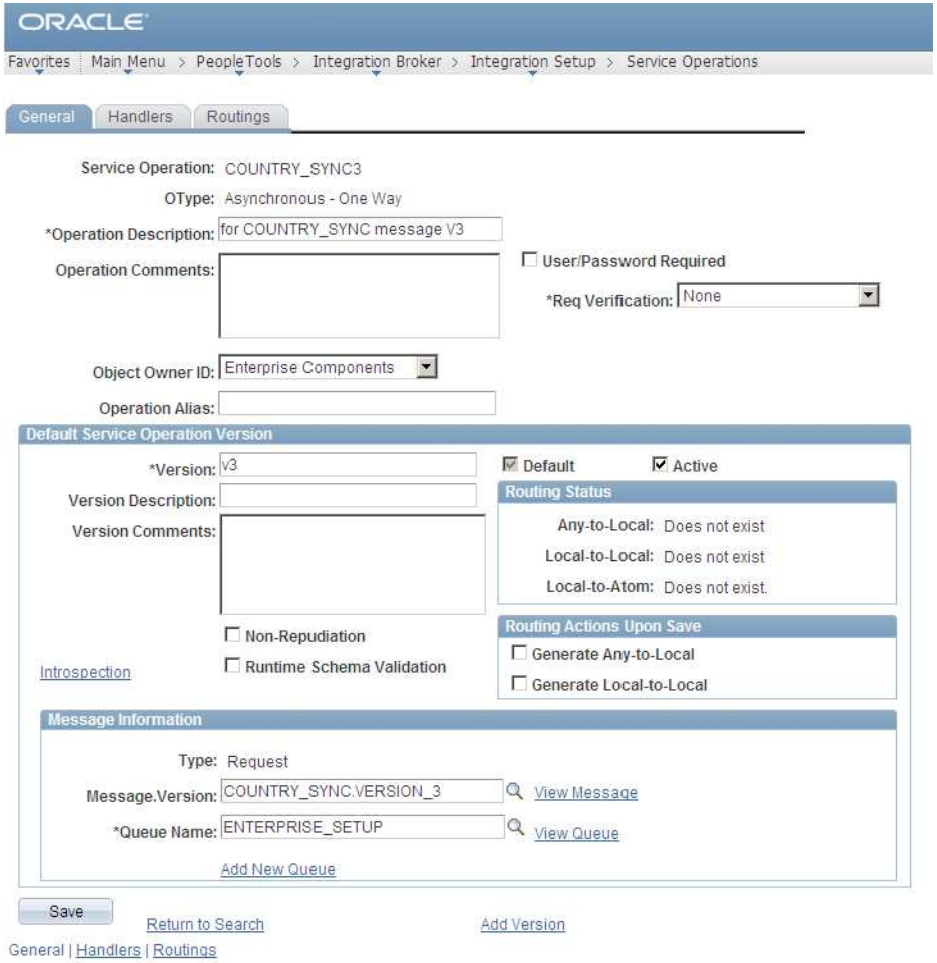
- **Asynchronous - One Way**: for Message Subscription Service and Message Publication Service.
- **Synchronous**: for Message Request Response Invocation Service.

To define a service operation:

1. Navigate to **PeopleTools > Integration Broker > Integration Setup > Service Operations**.
2. Search the existing service operations. If no service operation satisfies your search criteria, click the **Add A New Value** link.
3. Fill in the information in the Add New Service Operation pane:
   a. Specify **Service** or click the button to look up the service you defined in Task G, Define Services, on page 38.
   b. Specify the **Service Operation** name.
   c. Select the appropriate **Operation Type** from the drop-down list.
   d. Click **Add**.
4. Click the **General** tab and fill in the information:
   a. Enter **Operation Definition**.
   b. Select **Enterprise Components** from the Object Owner ID drop-down list.
   c. Enter **Version**.
   d. Check the **Active** checkbox.
   e. Specify **Message.Version** or click the button to look up the message you defined in Task E, Define Messages, on page 35.
   f. Specify **Queue Name** or click the button to look up the message queue you defined in Task F, Define Message Queues, on page 38.

   See Figure 17 as an example.

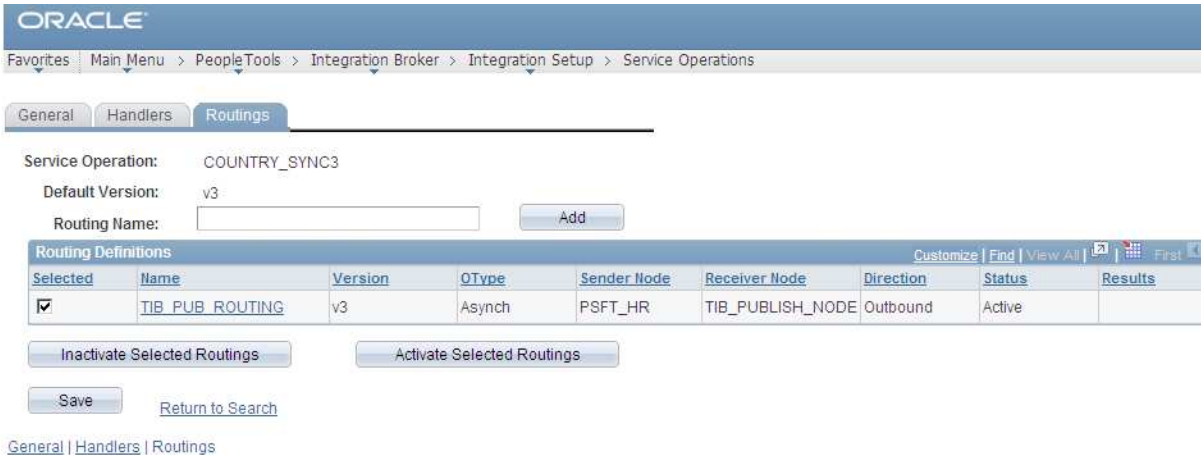
Figure 17 Service Operation Information



5. Click the **Routings** tab. Enter the **Routing Name** and click **Add**.
6. Follow step 4 to step 6 in Task I, Define Routings, on page 42 to define the routing.

7. Check the **Selected** checkbox of the routing you defined and want to use. Then click **Activate Selected Routings**. Make sure the selected routing is active. See Figure 18 as an example.

Figure 18 Activate A Selected Routing



8. Click **Save**. The specified service operation is created.

Task I Define Routings

Routing definitions determine the sender and receiver of an integration. Routing definitions allow you to specify inbound and outbound transformations that enable you to transform data structures into those that the sending or receiving systems can understand.

The Integration Broker allows you to define and customize routings. The steps to define a routing are the same for all adapter services. However, based on the adapter service selected, you need to select the appropriate sender node and receiver node. See Configuration Procedure for Adapter Services on page 44 for the specific configuration details for each type of adapter service.

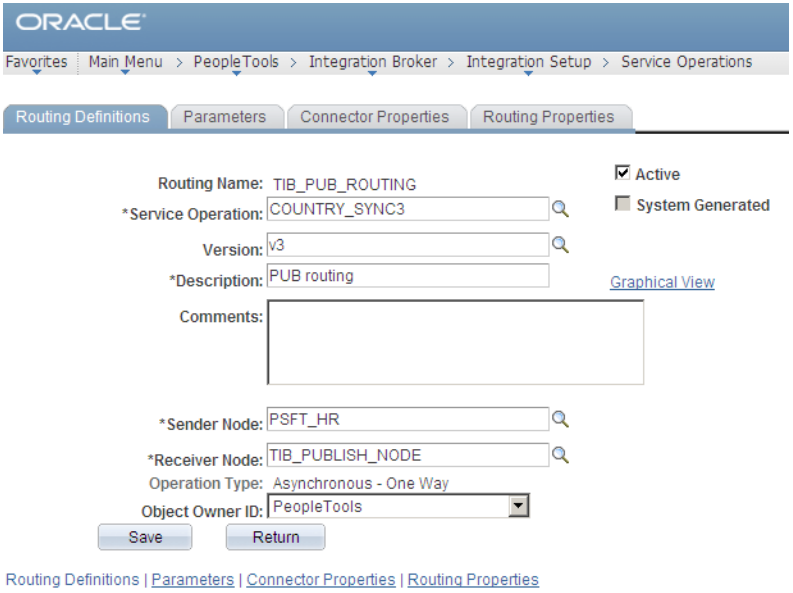
To define a routing:

1. Navigate to **PeopleTools > Integration Broker > Integration Setup > Routings**.
2. Search the existing routings. If no routing satisfies your search criteria, click the **Add A New Value** link.
3. Enter **Routing Name**, and click **Add**.

4. Click the **Routing Definitions** tab and define the routing:
   a. Specify **Service Operation** or click the button to look up the service you defined in Task H, Define Service Operations, on page 40.
   b. Enter Version.
   c. Enter Description.
   d. Specify **Sender Node** or click the button to look up the node you defined in Task D, Define Nodes, on page 33.
   e. Specify **Receiver Node** or click the button to look up the node you defined in Task D, Define Nodes, on page 33.
   f. Select **PeopleTools** from the Object Owner ID drop-down list.

   See Figure 19 as an example.

Figure 19 Routing Definitions



5. Click the Connector Properties tab and fill in the information:
   a. Specify **Gateway ID** or click the button to look up the gateway you defined in Task A, Configure Gateway URL and Activate Domain, on page 28.
   b. Specify **Connector ID** or click the button to look up the connector you defined in Task B, Load Gateway Connectors, on page 29.
6. Click **Save**. The specified routing is created.

Configuration Procedure for Adapter Services

The general tasks listed in Procedure on page 27 are the same for all adapter services, but the values assigned to certain parameters will differ based on the adapter services configured. This section introduces the detailed information for each adapter service as follows:

- Message Publication Service, page 44
- Message Subscription Service, page 50
- Request-Response Invocation Service, page 54

You may select one of the following transport types for each adapter service.

- HTTP transport
- JMS transport

Message Publication Service

To Configure Integration Broker by Using PeopleTools

Select a transport type and follow these steps:

1. Load gateway connectors. See Load Gateway Connectors on page 29 for detailed information.

   a. If you want to use the HTTP transport type, you may use the default gateway TIB_LOCAL, and then add a connector entry **HTTPTARGET** to it. Click the **Properties** link for HTTPTARGET connector to open the Connector Properties pane and add the properties listed in Table 8 for the connector.

Table 8 HTTPTARGET Connector Properties for Message Publication Service

Property ID	Property Name	Value
HEADER	sendUncompressed	Y
HEADER	version	VERSION_1
HTTPPROPERTY	Method	POST
PRIMARYURL	URL	*HTTP_server_name:port* For example, http://127.0.0.1:2002

   b. If you want to use the JMS transport type, you may use the default gateway TIB_LOCAL and the default JMSTARGET connector, or add a connector entry **TIBCOTARGET** to it. Click **Properties** of the TIBCOTARGET connector to open

the Connector Properties pane and add the properties listed in Table 7 for the connector.

2. Configure the integration properties. See Task C, Configure Integration Gateway Properties, on page 32 for more information.

   If you want to use the JMS transport type, configure the following properties:

   ig.jms.Queue#: Use this property only if you want to use Queue as the JMS Connection Factory for the adapter. This value should match the Subscriber Subject under the SubscriberOptions tab in TIBCO Designer.

   ig.jms.Topic#: Use this property only if you want to use Topic as the JMS Connection Factory for the adapter. This value should match the Subscriber Subject under the SubscriberOptions tab in TIBCO Designer.

The value of the Queue or Topic should already exist in the TIBCO Enterprise Message Service server.

   See SubscriberOptions Tab on page 105 for more details about configuring a connection factory in TIBCO Designer.

3. To define a node, enter the following Connection Properties. See Define Nodes on page 33 for more information.

   a. If you want to use the HTTP transport type, modify the following properties:

      HTTPPROPERTY: Specify the method as **POST**.

      PRIMARYURL: Specify the URL for the HTTP Listening Connector of the adapter. For example, **http://127.0.0.1:2002**

   b. If you want to use the JMS transport type, and define the TIBCOTARGET connector in step 1, modify the following properties for the connector:

      JMSQueue: Use this property only if you want to use Queue as the JMS Connection Factory for the adapter. The value of JMSQueue in PIA should match the Subscriber Subject under the SubscriberOptions tab in TIBCO Designer.

      JMSTopic: Use this property only if you want to use Topic as the JMS Connection Factory. The value of JMSTopic in PIA should match the Subscriber Subject under the SubscriberOptions tab in TIBCO Designer.

      See SubscriberOptions Tab on page 105 for more details about configuring a connection factory in TIBCO Designer.

      JMSUrl: Enter the URL for the TIBCO Enterprise Message Server (EMS). For example, **tcp://192.168.66.145:7222**

ServiceType: PUBLISHER

4. To define a message, see Define Messages on page 35. You can define a new message or just use the pre-defined messages.
5. To define a service, see Define Services on page 38. You can define a new service for the message you defined in step 4 or just use the related service that PeopleSoft delivered.
6. To define a service operation, see Define Service Operations on page 40. You can define a new service operation for the service you defined in step 5.

   Select **Asynchronous - One Way** from the Operation Type drop-down list.
7. To define a routing, see Define Routings on page 42. To configure routings, you need to correctly set the sender node and the receiver node.
   - Sender node: must be a *local* node in the PeopleSoft server, for example, PSFT_HR.
   - Receiver node: must be a node you defined in step 3.

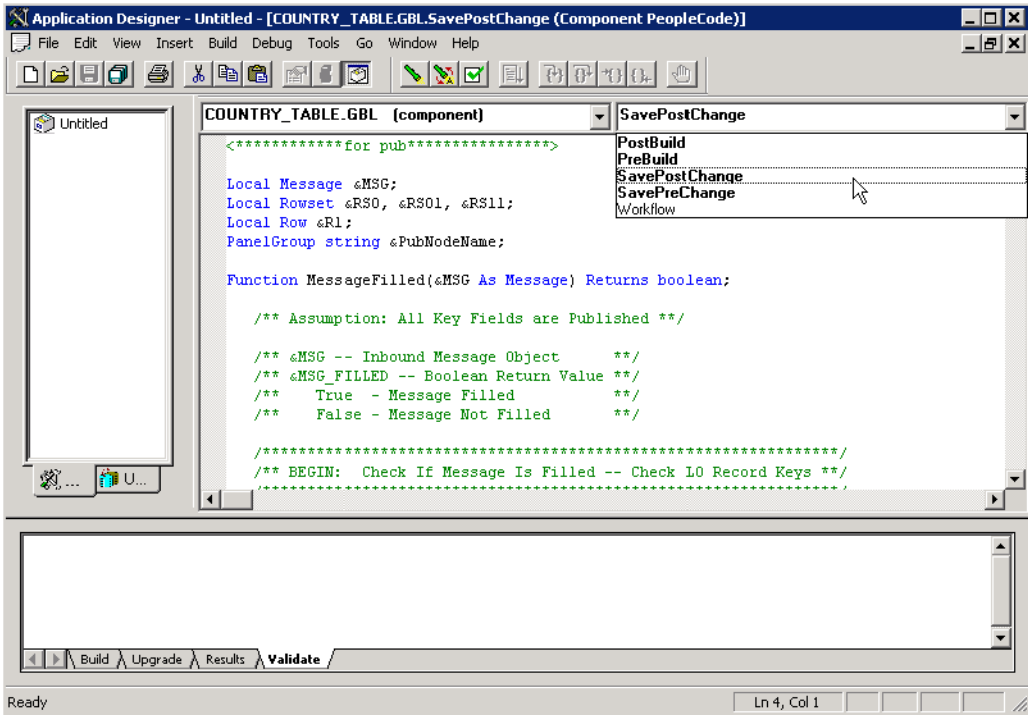
To Configure PeopleCode by Using PeopleTools Application Designer

To configure the PeopleCode of your desired component:

1. Open PeopleTools Application Designer and log in to the PeopleSoft server.
2. Select **File > Open** to open the Open Definition dialog, and then select **Component** from the Definition drop-down list. Type the component name, such as COUNTRY_TABLE in the Name field and then click **Open**.
3. With the component definition opened, select **View > View PeopleCode**.

4. In the displayed PeopleCode Editor, leave the component name as is in the left hand side drop-down list and select the **SavePostChange** event from the right hand side drop-down list. See Figure 20.

Figure 20 SavePostChange PeopleCode in Application Designer



5. In the PeopleCode Editor, paste the following PeopleCode. If there are any existing lines of PeopleCode, you should comment them out first and then append the code given.

   Replace the *%message_name%* with the corresponding message name without any quotes.

   This PeopleCode will go into the SavePostChange event for the required component.

```
Local Message &MSG;
Local Rowset &RS0, &RS01, &RS11;
Local Row &R1;
PanelGroup string &PubNodeName;

Function MessageFilled(&MSG As Message) Returns boolean;

  /** Assumption: All Key Fields are Published **/
```

```
/** &MSG -- Inbound Message Object **/
/** &MSG_FILLED -- Boolean Return Value **/
/** True - Message Filled **/
/** False - Message Not Filled **/

/*****************************************************************/
/** BEGIN: Check If Message Is Filled -- Check L0 Record Keys **/
/*****************************************************************/

&ZERO = 0;

&MSG_FILLED = False; /** Set Message Filled Indicator to False **/
&MSG_RS = &MSG.GetRowset(); /** Set Rowset Pointer Level 0 Message Rowset **/

For &NBR_TRANSACTIONS = 1 To &MSG_RS.RowCount; /** Navigate to A Message Transaction **/

  &TRANSACTION = &MSG_RS.GetRow(&NBR_TRANSACTIONS);

  For &NBR_RECORDS = 1 To &TRANSACTION.RecordCount /** Navigate to A Level 0 Record **/

    &REC = &TRANSACTION.GetRecord(&NBR_RECORDS);

    &NBR_KEYS = 0; /** Number of Record Keys Counter **/
    &NBR_POPULATED_KEYS = 0; /** Number of Populated Record Keys **/

    If &REC.Name <> "PSCAMA" Then /** Check Record Keys only if Message Record is not PSCAMA **/

      For &NBR_FIELDS = 1 To &REC.FieldCount /** Navigate to Level 0 Record Fields **/

        &FIELD = &REC.GetField(&NBR_FIELDS);
        &IS_KEY = &FIELD.IsKey;

        /** Count Number of Keys and Number of Populated Keys **/
        If &IS_KEY Then
          &FIELD_VALUE = &FIELD.Value;
          If All(&FIELD_VALUE) Or &FIELD_VALUE = &ZERO Then
            &NBR_POPULATED_KEYS = &NBR_POPULATED_KEYS + 1;
          End-If;
          &NBR_KEYS = &NBR_KEYS + 1;
        Else
          &NBR_FIELDS = &REC.FieldCount
        End-If;

      End-For; /** For &NBR_FIELDS = 1 To &REC.FieldCount **/

      /** Number of Key Flags = Number of Key Flags Populated ==> All Keys Populated ==> Message Populated **/
      If &NBR_KEYS = &NBR_POPULATED_KEYS Then
        &MSG_FILLED = True;
      End-If;

    End-If; /** If &REC.Name <> "PSCAMA" Then **/

  End-For; /** For &NBR_RECORDS = 1 To &TRANSACTION.RecordCount **/

End-For; /** For &NBR_TRANSACTIONS = 1 To &RS.RowCount; **/

/*****************************************************************/
```

```
  /** END: Check If Message Is Filled -- Check L0 Record Keys **/
  /*************************************************************/

  Return &MSG_FILLED;

End-Function;

If ActiveRowCount() = CurrentRowNumber() Then

  &MSG = CreateMessage(Message.%message_name%);
  If All(&PubNodeName) Then
    &MSG.DoNotPubToNodeName = &PubNodeName;
  End-If;
  If &MSG.IsActive Then
    &MSG.CopyRowsetDelta(GetLevel0());
    If MessageFilled(&MSG) Then
      &MSG.Publish();
    End-If;
  End-If;

End-If;
```

6. Save the component definition.

Message Subscription Service

To Configure Integration Broker by Using PeopleTools

Select a transport type and follow these steps:

1. Load Gateway connectors. See Load Gateway Connectors on page 29 for detailed information.

   a. If you want to use the HTTP transport type, you may use the default gateway TIB_LOCAL, and then add a connector entry **HTTPTARGET** to it. Click the **Properties** link for HTTPTARGET connector to open the Connector Properties pane and add the properties listed in Table 9 for the connector.

Table 9 HTTPTARGET Connector Properties for Message Subscription Service

Property ID	Property Name	Value
HEADER	sendUncompressed	Y
HEADER	version	VERSION_1
HTTPPROPERTY	Method	GET
PRIMARYURL	URL	*HTTP_server_name:port* For example, http://127.0.0.1:2002

   b. If you want to use the JMS transport type, you may use the default gateway TIB_LOCAL, and then add a connector entry **JMSTARGET** to it. Click **Properties** of the JMSTARGET connector to open the Connector Properties pane and configure the properties listed in Table 10 for the connector. The JMSQueue name IBSUB.QUEUE should differ with the queue name of the Message Subscription Service in TIBCO Designer.

Table 10 JMSTARGET Connector Properties for Message Subscription Service

Property ID	Property Name	Value
HEADER	sendUncompressed	Y
JMSTARGET	JMSAcknowledgement	AUTO_ACKNOWLEDGE
JMSTARGET	JMSDeliveryMode	NON_PERSISTENT
JMSTARGET	JMSFactory	QueueConnectionFactory
JMSTARGET	JMSMessageTimeToLive	0
JMSTARGET	JMSMessageType	Text
JMSTARGET	JMSPriority	0
JMSTARGET	JMSProvider	TIBCO
JMSTARGET	JMSQueue	*queue_name*
JMSTARGET	JMSReplyTo	FALSE

Table 10 JMSTARGET Connector Properties for Message Subscription Service (Cont'd)

Property ID	Property Name	Value
JMSTARGET	JMSUrl	tcp://*TIBCO_EMS_server_name:port* For example, tcp://192.168.66.145:7222

2. Configure the integration properties. See Task C, Configure Integration Gateway Properties, on page 32 for more information.

   If you want to use the JMS transport type, configure the following properties:

   ig.jms.Queue#: Use this property only if you want to use Queue as the JMS Connection Factory for the adapter. This value should match the IB Subscriber Subject under the SubscriberOptions tab in TIBCO Designer.

   ig.jms.Topic#: Use this property only if you want to use Topic as the JMS Connection Factory for the adapter. This value should match the IB Subscriber Subject under the SubscriberOptions tab in TIBCO Designer.

   The value of the Queue or Topic should already exist in the TIBCO Enterprise Message Service server.

   See SubscriberOptions Tab on page 114 for more details about configuring a connection factory for Message Subscription Service in TIBCO Designer.

3. To define a node, for example TIB_NODE, enter the following Connection Properties. See Define Nodes on page 33.

   a. If you want to use the HTTP transport type, modify the following properties:

      HTTPPROPERTY: Specify the method as **GET**.

      PrimaryURL: Specify the URL for the HTTP listening connector of the adapter. For example, **http://127.0.0.1:2002**

   b. If you want to use the JMS transport type, modify the following properties:

      JMSFactory: QueueConnectionFactory or TopicConnectionFactory depending on the Connection Factory type that you want to use.

      See SubscriberOptions Tab on page 114 for more details about configuring a connection factory for Message Subscription Service in TIBCO Designer.

      JMSProvider: TIBCO

      JMSUrl: Enter the URL of the TIBCO Enterprise Message Server (EMS) server. For example, **tcp://192.168.66.145:7222**

4. To define a message, see Define Messages on page 35. You can define a new message or just use the pre-defined messages.
5. To define a service, see Define Services on page 38. You can define a new service for the message you defined in step 4 or just use the related service that PeopleSoft delivered.
6. To define a service operation, see Define Service Operations on page 40. You can define a new service operation for the service you defined in step 5.

   Select **Asynchronous - One Way** from the Operation Type drop-down list.

Your service operation name has to be the same as your message name. For example, if your message name is CURRENCY_SYNC, your service operation name must also be CURRENCY_SYNC.

Click the Handlers tab and make sure that only one handler is active.

7. To define a routing, see Define Routings on page 42. To configure routings, you need to correctly set the sender node and the receiver node.
   - Sender node: must be a node you defined in step 3.
   - Receiver node: must be a *local* node in the PeopleSoft server, for example, PSFT_HR.

To Configure PeopleCode by Using PeopleTools Application Designer

To configure the PeopleCode of your desired component:

1. Open PeopleTools Application Designer and log in to the PeopleSoft server.
2. Select **File > Open** to open the Open Definition dialog, and then select **Message** from the Definition drop-down list. Type the message name, such as **CURRENCY_SYNC** in the Name field and then click **Open** to open the Message Definition pane.
3. Click the appropriate node under the Message Subscriptions node and then select **View > View PeopleCode**.
4. When the PeopleCode Editor appears, leave the message name as is in the left hand side drop-down list and select the **Subscription** event from the right hand side drop-down list.
5. In the PeopleCode Editor, paste the following PeopleCode. If there are any existing lines of PeopleCode, you should comment them out first and then append the code given.

   This PeopleCode will go into the Subscription event of the PeopleCode for the required Component.

   Replace the *record_name* with the corresponding message name without any quotes.

```
Local Message &MSG;
Local Rowset &LEVEL0;
Local Record &rLocation, &REC;

&MSG = GetMessage();
&rLocation = CreateRecord(Record.record_name);
&LEVEL0 = &MSG.GetRowset();
/* Multiple level 0 rows may exist in AE batch programs,
    but not with online panel processing... */
&REC = &LEVEL0(1).record_name;
&MSG.ExecuteEdits();
If &MSG.IsEditError Then
/*Specific error will be visible in App Msg Monitor */
MessageBox(0, "", 2, 0, "message is edited error");
Exit (1);
Else
  &AUDIT_ACTN = &MSG.GetRowset()(1).PSCAMA.AUDIT_ACTN.Value;
Evaluate &AUDIT_ACTN
  When = "U"
    /* Data from publishing node was changed */
    &REC.CopyFieldsTo(&rLocation);
    &RES = &rLocation.Update();
    /* If update failed, it is probably because the data in
      the two databases hasn't been synchronized.
      Try insert action as a last resort. */
    If &RES = False Then
      &rLocation.Insert();
    End-If;
    Break;
  When = "A"
    /* New high order key inserted in publishing node */
    &REC.CopyFieldsTo(&rLocation);
    &rLocation.Insert();
    Break;
  When = "D"
    /* High order key was deleted in publishing node */
    &REC.CopyFieldsTo(&rLocation);
    &rLocation.Delete();
    Break;
  End-Evaluate;
End-If;
```

6. Save the component definition.

To Configure PeopleSoft Web Server

1. Modify the web.xml file located in *PS_HOME*\webserv\peoplesoft\applications\peoplesoft\PSIGW\WEB-INF as following:

```
<servlet>
    <servlet-name>JMSListeningConnectorAdministrator</servlet-name>
    <servlet-class>com.peoplesoft.pt.integrationgateway.listeningconnector.JMSListeningConnectorAdministrat
    or </servlet-class>
</servlet>
<servlet-mapping>
    <servlet-name>JMSListeningConnectorAdministrator</servlet-name>
    <url-pattern>/JMSListeningConnectorAdministrator/*</url-pattern>
</servlet-mapping>
```

2. Restart PIA.
3. Stop/Start listening or subscribing the event from the JMS Queue or Topic, open your web browser and input the following URLs:
   — To start listening or subscribing to events:

     http://*peoplesoft_server_name*/PSIGW/JMSListeningConnectorAdministrator?Activity=START

   — To stop listening or subscribing events:

     http://*peoplesoft_server_name*/PSIGW/JMSListeningConnectorAdministrator?Activity=STOP

Request-Response Invocation Service

To Configure Integration Broker by Using PeopleTools

Select a transport type and follow these steps:

1. Load gateway connectors. See Load Gateway Connectors on page 29 for detailed information.
   a. If you want to use the HTTP transport type, you may use the default gateway TIB_LOCAL, and then add a connector entry **HTTPTARGET** to it. Click the **Properties** link for HTTPTARGET connector to open the Connector Properties pane and add the properties listed in Table 8 for the connector.
   b. If you want to use the JMS transport type, you may use the default gateway TIB_LOCAL and then add a connector entry **TIBCOTARGET** to it. Click **Properties** of the TIBCOTARGET connector to open the Connector Properties pane and add the properties listed in Table 7 for the connector.
2. Configure the integration properties. See Task C, Configure Integration Gateway Properties, on page 32 for more information.

If you want to use the JMS transport type, configure the following properties:

ig.jms.Queue#: Use this property only if you want to use Queue as the JMS Connection Factory for the adapter. This value should match the Subscriber Subject under the SubscriberOptions tab in TIBCO Designer.

ig.jms.Topic#: Use this property only if you want to use Topic as the JMS Connection Factory for the adapter. This value should match the Subscriber Subject under the SubscriberOptions tab in TIBCO Designer.

The value of the Queue or Topic should already exist in the TIBCO Enterprise Message Service server.

See SubscriberOptions Tab on page 124 for more details about configuring a connection factory for Request-Response Invocation Service in TIBCO Designer.

3. To define a node, enter the following Connection Properties. See Define Nodes on page 33 for more information.

   a. If you want to use the HTTP transport type, modify the following properties:

      HTTPPROPERTY: Specify the method as **POST**.

      PRIMARYURL: Specify the URL for the HTTP Listening Connector of the adapter. For example, **http://127.0.0.1:2002**

   b. If you want to use the JMS transport type, and define the TIBCOTARGET connector in step 1, modify the following properties for the connector:

      JMSQueue: Use this property only if you want to use Queue as the JMS Connection Factory for the adapter. The value of JMSQueue in PIA should match the Subscriber Subject under the SubscriberOptions tab in TIBCO Designer.

      JMSTopic: Use this property only if you want to use Topic as the JMS Connection Factory. The value of JMSTopic in PIA should match the Subscriber Subject under the SubscriberOptions tab in TIBCO Designer.

      See SubscriberOptions Tab on page 124 for more details about configuring a connection factory for Request-Response Invocation Service in TIBCO Designer.

      JMSUrl: Enter the URL for the TIBCO Enterprise Message Server (EMS). For example, **tcp://192.168.66.145:7222**

      ServiceType: RPCCLIENT

4. To define a message, see Define Messages on page 35. You can define a new message or just use the pre-defined messages.

5. To define a service, see Define Services on page 38. You can define a new service for the message you defined in step 4 or just use the related service that PeopleSoft delivered.

6. To define a service operation, see Define Service Operations on page 40. You can define a new service operation for the service you defined in step 5.

   Select **Synchronous** from the Operation Type drop-down list. Configure the handler of the service operation in the Handlers tab.

7. To define a routing, see Define Routings on page 42. To configure routings, you need to correctly set the sender node and the receiver node.

   — Sender node: must be a *local* node in the PeopleSoft server, for example, PSFT_HR.

   — Receiver node: must be a node you defined in step 3.

To Configure PeopleCode by Using PeopleTools Application Designer

To configure the PeopleCode of your desired component:

1. Open PeopleTools Application Designer and log in to the PeopleSoft server.
2. Select **File > Open** to open the Open Definition dialog, and then select **Component** from the Definition drop-down list. Type the component name, such as **COUNTRY_TABLE** in the Name field and then click **Open**.
3. With the component definition opened, select **View > View PeopleCode**.
4. In the displayed PeopleCode Editor, leave the component name as is in the left hand side drop-down list and select the **SavePostChange** event from the right hand side drop-down list. See Figure 20.
5. In the PeopleCode Editor, paste the following PeopleCode. If there are any existing lines of PeopleCode, you should comment them out first and then append the code given.

   Replace the *service_operation_name* with the corresponding message name without any quotes.

   This PeopleCode will go into the SavePostChange event for the required component.

```
Local Message &msg;
Local Message &msg1;
Local Rowset &rowSet;
Local XmlDoc &xmlDoc;
Local string &xmlString;
Local XmlNode &rootNode;
Local XmlNode &actionNode;

&rowSet = GetLevel0();
&msg = CreateMessage(Operation.service_operation_name);
&msg1 = CreateMessage(Operation.service_operation_name);
&msg.CopyRowset(&rowSet);
&xmlString = &msg.GenXMLString();
&xmlDoc = CreateXmlDoc(&xmlString);
&rootNode = &xmlDoc.DocumentElement;
```

```
&actionNode = &rootNode.FindNode("MsgData/Transaction/PSCAMA/AUDIT_ACTN");
&actionNode.NodeValue = %Mode;
&xmlString = &xmlDoc.GenXmlString();
&msg1.LoadXMLString(&xmlString);
MessageBox(0, "", 2, 0, &xmlString);
&response = %IntBroker.SyncRequest(&msg1);

If (&response.ResponseStatus = 0) Then
  &XML_STRING = &response.GenXMLString();
  &SUCCESS_FILE = GetFile("c:\temp\sync0.txt", "w", "a", %FilePath_Absolute);
  &SUCCESS_FILE.WriteLine(&XML_STRING);
  &SUCCESS_FILE.Close();
  MessageBox(0, "", 2, 0, "success");
Else
  MessageBox(0, "", 2, 0, "error");
End-If
```

If Request-Response Invocation Service succeeds, the text file will be generated and the response message appears in the file under the following directory specified in the above PeopleCode: c:\temp\sync0.txt.

6. Save the component definition.

Enabling SSL on the PeopleSoft Server

If you want to use SSL connection, you need to make the following configurations in addition to Procedure on page 27.

- Task A, Configuring TIBCOTARGET Connector, page 58
- Task B, Configure Integration Gateway Properties, page 59
- Task C, Define Node for SSL Connection, page 59

Before you make these configurations, you need to prepare TIBCO EMS Server and load the necessary library files to PeopleTools. **See also**:

- "Chapter 18, Using the SSL Protocol" in *TIBCO Enterprise Message Service User's Guide*
- Loading TIBCO Enterprise Message Service Libraries on page 16

Task A Configuring TIBCOTARGET Connector

Besides the connector properties in Table 7, TIBCOTARGET Connector Properties, on page 31, you need to add the properties in Table 11, TIBCOTARGET Connector SSL Properties to the TIBCOTARGET connector. The table refers to the EMS server as "server" and the PeopleSoft server as "client".

Table 11 TIBCOTARGET Connector SSL Properties

Property ID	Property Name	Value
TIBCOTARGET	JMSUrl	ssl://*TIBCO_EMS_server_name:SSL_port* For example, ssl://192.168.70.86:7243
TIBCOTARGET	ssl_ciphers	The cipher suites that the client uses. For example, "+RC4-MD5:+RC4-SHA"
TIBCOTARGET	ssl_expected_ hostname	The name the client expects in the CN field of the server's certificate. For example, "server". If this parameter is not set, the expected name is the hostname of the server. The value of this parameter is used when the ssl_verify_hostname parameter is enabled.
TIBCOTARGET	ssl_identity	The client's digital certificate. For example, "certs/client_identity.p12".
TIBCOTARGET	ssl_issuer	Issuer's certificate chain for the client's certificate. For example, "certs/client_root.cert.pem".
TIBCOTARGET	ssl_password	The password used to encrypt the certificate files.
TIBCOTARGET	ssl_trusted	List of CA certificates to trust as issuers of server certificates. Supply only CA root certificates.
TIBCOTARGET	ssl_vendor	The vendor name of the SSL implementation that the client uses.
TIBCOTARGET	ssl_verify_host	Specifies whether the client should verify the EMS server's certificate. The values for this parameter are enabled or disabled. By default, this parameter is enabled, signifying the client should verify the server's certificate. When disabled, the client establishes secure communication with the server, but does not verify the server's identity.
TIBCOTARGET	ssl_verify_ hostname	Specifies whether the client should verify the name in the CN field of the server's certificate. The values for this parameter are enabled and disabled. By default, this parameter is enabled, signifying the client should verify the name of the connected host or the name specified in the ssl_expected_hostname parameter against the value in the server's certificate. If the names do not match, the client rejects the connection. When disabled, the client establishes secure communication with the server, but does not verify the server's name.

For more details, see "Configuring SSL in EMS Clients" in *TIBCO Enterprise Message Service User's Guide.*

Task B Configure Integration Gateway Properties

Besides the properties described in Configure Integration Gateway Properties on page 32, you need to add the following SSL-specific properties to the specific queue or topic listener you defined in the JMS configuration section of integrationGateway.properties.

- If you want to use the JMS transport type in Queue mode, the SSL-specific properties are following:

ig.jms.Queue#.Url=ssl://*TIBCO_EMS_server_name*:*ssl_port*
ig.jms.Queue#.SecurityPrincipal=*security_principal*
ig.jms.Queue#.SecurityCredentials=*password_for_certificates*

  Use the supplied Password Encryption Utility to generate an encrypted password for ig.jms.Queue#.SecurityCredentials.

- If you want to use the JMS transport type in Topic mode, the SSL-specific properties are following:

ig.jms.Topic#.Url=ssl://*TIBCO_EMS_server_name*:*ssl_port*
ig.jms.Topic#.SecurityPrincipal=*security_principal*
ig.jms.Topic#.SecurityCredentials=*password_for_certificates*

  Use the supplied Password Encryption Utility to generate an encrypted password for ig.jms.Topic#.SecurityCredentials.

Task C Define Node for SSL Connection

You need to define a separate node for SSL connection. To define a node, follow the steps in Define Nodes on page 33. Update the properties in the Connectors tab to match the SSL-specific properties you specified in Task A, Configuring TIBCOTARGET Connector, on page 58.

Chapter 2 Working with TIBCO ActiveMatrix BusinessWorks

This chapter introduces how to create a project, define business processes, and execute the processes in TIBCO ActiveMatrix BusinessWorks.

Topics

Overview

TIBCO ActiveMatrix BusinessWorks is a scalable, extensible, and easy to use integration platform that allows you to develop and test integration projects. TIBCO ActiveMatrix BusinessWorks includes a graphical user interface, TIBCO Design, for defining business processes and an engine that executes the process.

TIBCO Designer is also used to configure TIBCO ActiveMatrix Adapter for PeopleSoft instances. See Chapter 4, Configuring an Adapter Instance, on page 79 for details.

In enterprise applications, you may need to manipulate different adapter services. TIBCO ActiveMatrix BusinessWorks facilitates your deployment and configuration process with easy drag, drop, and link operations for complex services transactions.

In TIBCO ActiveMatrix BusinessWorks, adapters provide services to activities inside the business process. The business process can communicate with adapters by using activities found in the adapter palette. These activities interact with each of the standard adapter services.

For more information about business processes and activities, see the TIBCO ActiveMatrix BusinessWorks documentation.

Starting TIBCO Designer

To start TIBCO Designer, execute one of the following platform-specific commands to open the TIBCO Designer window.

- On Microsoft Windows

  From the Start menu, select **All Programs > TIBCO > TIBCO Designer** *n.n* **> Designer** *n.n*.

  or

  From the command line, run *TIBCO_HOME***designer***n.n***bin****designer.exe**

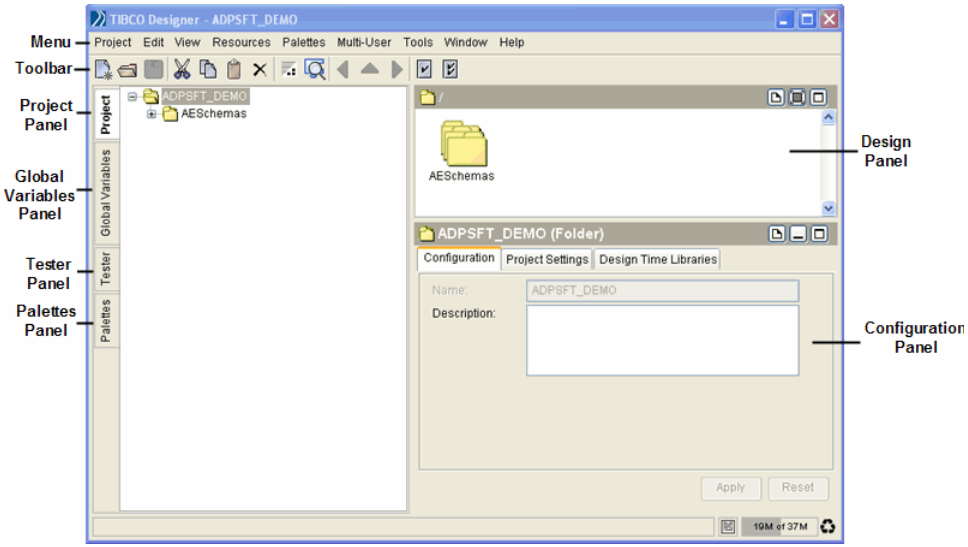
- On UNIX

  TIBCO_HOME/**designer**/*n.n*/**bin**/**designer.sh**

TIBCO Designer Interface

The TIBCO Designer window contains the following areas: Menu, Toolbar, Project Panel, Global Variables Panel, Tester Panel, Palettes Panel, Design Panel, and Configuration Panel, as shown in Figure 21. For detailed information, see **Help** > **Designer Help**.

Figure 21 The TIBCO Designer Window

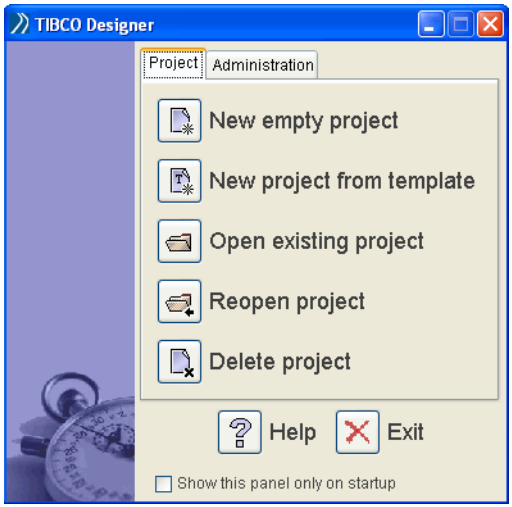


Creating a Project

To create a project in TIBCO Designer, follow these steps:

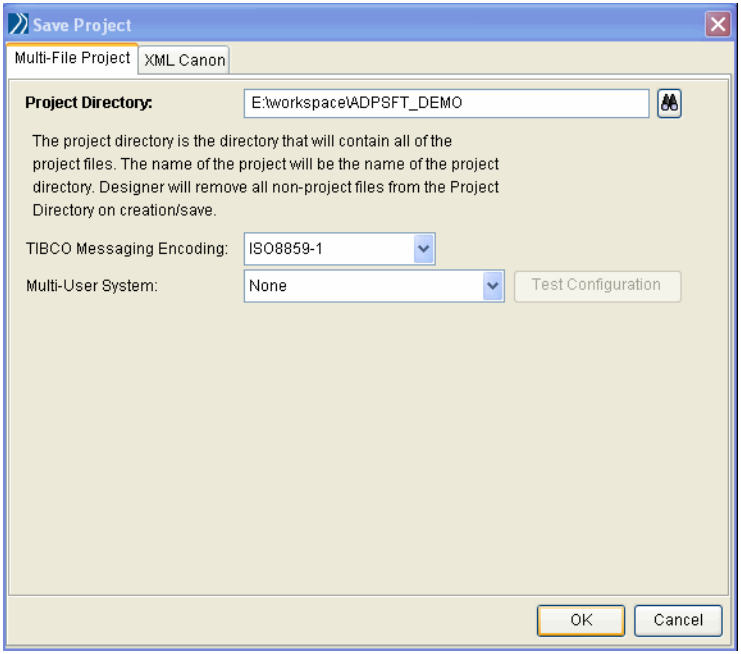
1. Start TIBCO Designer.
2. Click the **New empty project** button in the TIBCO Designer dialog.

Figure 22 Create a Project



3. Select the **Multi-File Project** tab in the Save Project dialog. Click the **Browse** button to save the newly created project in the desired location or type the path in the Project Directory field.
   For example, type **E:\workspace\ADPSFT_DEMO** in the Project Directory field, as shown in Figure 23.

Figure 23 Save Project



4. Click the **OK** button to open the TIBCO Designer window.

Configuring an Adapter Instance

After creating a project in TIBCO Designer, you need to create an adapter instance and configure it to access the PeopleSoft application server. See Chapter 4, Configuring an Adapter Instance, on page 79 for details.

Creating a Process

After creating the adapter instance, you may need to create a process to deal with workflow.

Make sure you have added services into the adapter instance before configuring a process.

For detailed information about creating and configuring a process, see *TIBCO Designer User's Guide*.

To create a process, follow these steps:

1. Select your project in the Project Panel.
2. Expand the Process palette in the Palettes Panel and drag a **Process Definition** resource into the Design Panel on the right.
3. Double-click the Process Definition button in the Design Panel to open the ActiveEnterprise Adapter Palette under the Project Panel.
4. Drag one or more the following activities into the Process Definition Design Panel, and configure the activities under the Configuration Panel.
   - Publish to Adapter, page 67
   - Adapter Subscriber, page 68
   - Adapter Request-Response Server, page 68
   - Invoke an Adapter Request-Response Server, page 68
   - Respond to Adapter Request, page 69

   For detailed information about configuring the above activities, see the TIBCO ActiveMatrix BusinessWorks documentation.
5. Click the **Apply** button to save the configuration.

Publish to Adapter

The Publish to Adapter activity publishes a message that can be received by an adapter subscription service.

Subscription services are configured during the adapter configuration, and the activity uses the information configured in the adapter configuration to fill in most of the fields of this activity.

CI Subscription Service and Message Subscription Service are two subscription services available in TIBCO ActiveMatrix Adapter for PeopleSoft. See Adding and Configuring a PeopleSoft Adapter Service on page 75 for detailed information.

Adapter Subscriber

The Adapter Subscriber activity starts a process based on the receipt of a message from the publication service of the specified adapter.

Publication services are configured during adapter configuration, and the activity uses the information configured in the adapter configuration to fill in most of the fields of this activity.

CI Publication Service and Message Publication Service are the two publication services available in TIBCO ActiveMatrix Adapter for PeopleSoft. See Adding and Configuring a PeopleSoft Adapter Service on page 75 for detailed information.

Adapter Request-Response Server

The Adapter Request-Response Server starts a process based on the receipt of a request from an adapter. The adapter sends a request using a preconfigured request-response invocation service, and the process that is started acts as the implementation of the request. The process sends any required responses back to the adapter service using the Respond to Adapter Request activity.

Adapter request-response invocation services are configured during adapter configuration, and the activity uses the information configured in the adapter configuration to fill in most of the fields of this activity.

Request-Response Invocation Service is available in TIBCO ActiveMatrix Adapter for PeopleSoft. See Adding and Configuring a PeopleSoft Adapter Service on page 75 for detailed information.

Invoke an Adapter Request-Response Server

The Invoke an Adapter Request-Response Service activity is used to communicate with an adapter request-response service. This service invokes an operation with input and output by way of the adapter.

Request-response services are configured during adapter configuration, and the activity uses the information configured in the adapter configuration to fill in most of the fields of this activity.

Request-Response Service is available in TIBCO ActiveMatrix Adapter for PeopleSoft. See Adding and Configuring a PeopleSoft Adapter Service on page 75 for detailed information.

Respond to Adapter Request

The Respond to Adapter Request activity is used to send a response to an adapter for a previously received request. For example, you may have a Wait for Adapter Request activity in a process definition. The incoming adapter request may require a response from your process. The Respond to Adapter Request is used to send that response.

Testing the Process

After creating and configuring a process, you can test it with TIBCO Designer. This allows you to make sure the process works correctly before you deploy it.

See *TIBCO BusinessWorks Process Design Guide* for detailed information about using test mode.

Chapter 3 Getting Started

This chapter describes the basic steps to configure and run TIBCO ActiveMatrix Adapter for PeopleSoft. Details for each step described here are provided later in the manual.

Topics

Prerequisites

Before starting the configuration, ensure that all required software has been installed and is operating correctly. For detailed information about required software, see *TIBCO ActiveMatrix Adapter for PeopleSoft Installation*.

You should know how to drag and drop icons in TIBCO Designer and be familiar with saving projects. If you are not familiar with these topics, see the documentation for TIBCO Designer, which can be accessed from the **Help > Designer Help** menu option in TIBCO Designer.

If your installation is standalone, verify that a repository server is up and running (see the TIBCO Designer Help menu: **Help > Help For > Repository**).

See Chapter 1, Preparing PeopleSoft, on page 1 for information about preparing the PeopleSoft application to work with the adapter.

Configuring an Adapter Instance

Each project contains one or more instances of the adapter configuration. This configuration is accessed whenever an adapter application is started.

A typical sequence of creating a project and configuring an adapter instance is as follows:

1. Starting TIBCO Designer, page 73
2. Creating a Project, page 73
3. Creating and Configuring a PeopleSoft Adapter Configuration, page 74

Starting TIBCO Designer

To start TIBCO Designer, execute one of the following platform-specific commands to open the TIBCO Designer window.

- On Microsoft Windows

  From the Start menu, select **All Programs > TIBCO > TIBCO Designer** *n.n* **> Designer** *n.n*.

  or

  From the command line, run *TIBCO_HOME***designer***n.n***bin****designer.exe**

- On UNIX

  TIBCO_HOME/**designer**/*n.n*/**bin**/**designer.sh**

For detailed information about starting TIBCO Designer, see Starting TIBCO Designer on page 63.

Creating a Project

To create a project in TIBCO Designer, follow these steps:

1. Start TIBCO Designer.
2. Click the **New empty project** button in the TIBCO Designer dialog.
3. Select the **Multi-File Project** tab (if it is not already selected) in the Save Project dialog. Type **E:\workspace\ADPSFT_DEMO** in the Project Directory field.
4. Click the **OK** button to open the TIBCO Designer window.

For detailed information about creating a new project, see Creating a Project on page 64.

Creating and Configuring a PeopleSoft Adapter Configuration

To create and configure a PeopleSoft adapter configuration, follow these steps:

1. Click to open the ADPSFT_DEMO project in the Project Panel.
2. Expand the **PeopleSoft Adapter** palette in the Palettes Panel, and drag the PeopleSoft Adapter Configuration icon to the Design Panel on the right.

If the PeopleSoft Adapter palette does not appear in the Palette Panel, Select **Palettes > Adapters > PeopleSoft Adapter** from the Menu.

3. Click the **PeopleSoftAdapterConfiguration** icon in the Design Panel. The PeopleSoft Adapter Configuration Panel appears.

   In the **Configuration** tab:

   — Specify the instance name. The default name is PeopleSoftAdapterConfiguration.

   — Specify the PeopleTools version as 8.41 and above.

   — Click the **Apply** button to save your configuration.

   In the **Design-Time Connection** tab:

   — Specify the necessary information to access the PeopleSoft system.The login ID and password you specify are PeopleSoft, not TIBCO.

   — Specify the necessary information to connect to the PeopleSoft Application Server from where the Component Interfaces are downloaded. Port must specify the JOLT listener port, not the application server port.

   — Click the **Connect...** button. This opens communication between TIBCO Designer and the PeopleSoft Application Server. When the connection is successful message appears, click the **OK** button.

   — Click the **Apply** button to save your configuration.

4. Save your project.

For detailed information about creating and configuring a PeopleSoft Adapter Configuration, see Configuring an Adapter Instance on page 82.

Adding and Configuring a PeopleSoft Adapter Service

After creating a PeopleSoft Adapter Configuration, add and configure the adapter services in the adapter.

The following six adapter services can be added:

- CI Publication Service, page 96
- Message Publication Service, page 103
- CI Subscription Service, page 108
- Message Subscription Service, page 112
- Request-Response Service, page 117
- Request-Response Invocation Service, page 122

For detailed information about adding and configuring a PeopleSoft adapter service, see Chapter 5, Configuring Adapter Services, on page 93.

To add and configure a CI Publication Service, follow these steps:

1. In the Project Panel, expand the adapter instance folder which is, by default, PeopleSoftAdapterConfiguration.
2. Click **Adapter Services** in the project panel.
3. Drag a **CI Publication Service** icon to the Design Panel.
4. Specify options in the **Configuration** tab. See Configuration Options on page 96 for more information.
   — Specify the Component Interface Name and click **Fetch Interface...** . This returns a list of the available Component Interfaces from PeopleSoft with a matching name. Choose the Component Interface.
   — Click the **Apply** button. This generates a unique endpoint with a TIBCO Rendezvous subject name. The adapter automatically enters this information in the **Advanced** tab.

   Rendezvous is selected as the default Transport Type. If you select JMS as the Transport Type, a unique endpoint with the destination name will be generated.

   — Click the **Get Schema** button. This downloads the Component Interface schema from PeopleSoft to TIBCO Designer.
   — Click the **Save to PeopleSoft** button. This will save the details required in the PeopleSoft database to trigger the Publication Service.
5. Save your project.

Starting the Adapter

After configuring the adapter with Publication, Subscription and Request-Response Services, you can start the adapter.

This section describes three ways to start the adapter:

- Starting the Adapter with the Adapter Tester, page 76
- Starting the Adapter from the Command line with a Repository File, page 76

You can also deploy the adapter with TIBCO Administrator. For more information, see Chapter 6, Deploying and Starting an Adapter Using TIBCO Administrator, on page 131.

Starting the Adapter with the Adapter Tester

To start the adapter with the Adapter Tester, the adapter and TIBCO Designer must be installed on the same machine.

1. Start TIBCO Designer.
2. Select **Tools > Show Adapter Tester** on the Menu
3. In the left pane, select the adapter instance that you want to start.
4. Click the **Run Settings** tab. In the Working Directory field, enter a directory to place running files.
5. In the Adapter Executable field, select the executable. For example, TIBCO Adapter for PeopleSoft 6.1 (adpsft8.exe).
6. Click the **Apply** button.
7. Click the **Start** button. To view the output messages, click the **Console** tab.

Starting the Adapter from the Command line with a Repository File

To start the adapter from the command line with a repository file, the project must be run as a local repository and saved in DAT (repository) format.

Task A Convert the Project to a Repository File

To export the project to a local repository:

1. Start TIBCO Designer.
2. Select **Project > Export Full Project...** on the Menu. The Export Project dialog appears.

3. Click the **Local Repository** tab and enter the project name and the output directory in the Export Project dialog. Click the **OK** button.
4. In the Create Project dialog, select File Type and TIBCO Messaging Encoding. Click the **Yes** button.

Task B Start the Adapter

The adapter can be run by specifying the path of the DAT file in the repo URL, in the properties file or TIBCO Runtime Agent.

1. At the command prompt, go to the *PS_HOME\bin* directory, which hosts the adapter executable.
2. Enter the following command to start the adapter:

   adpsft8.exe -system:repourl *repository_file_url* -system:configurl *configuration_url*

   For example,

```
adpsft8.exe -system:repourl D:\example\pub.dat
    -system:configurl PeopleSoftAdapterConfiguration
```

Chapter 4 Configuring an Adapter Instance

This chapter explains how to create and configure an adapter instance. All the tasks are performed using TIBCO Designer

Topicsc

Creating an Adapter Instance

After creating a project in TIBCO Designer, you need to create an adapter instance and configure it to access the PeopleSoft application server.

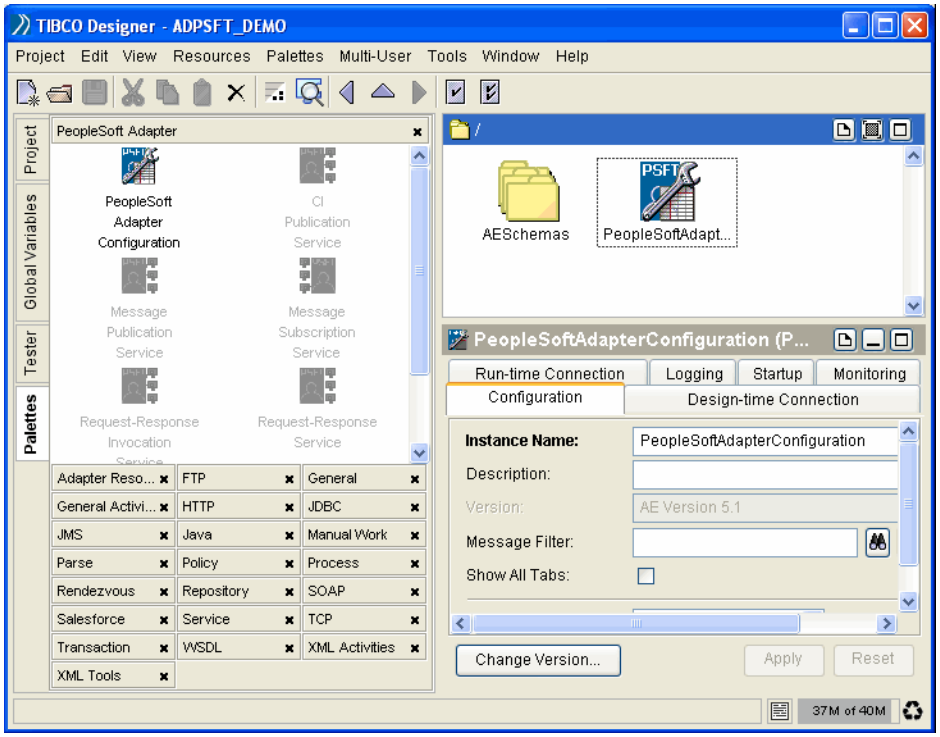
For detailed information about creating a project in TIBCO Designer, see Creating a Project on page 64.

To create an adapter instance, follow these steps:

1. Click to open the newly created project in the Project Panel.
2. Expand the **PeopleSoft Adapter** palette in the Palettes Panel, and drag the PeopleSoft Adapter Configuration icon to the Design Panel on the right, as shown in Figure 24.

If the PeopleSoft Adapter palette does not appear in the Palette Panel, Select **Palettes > Adapters > PeopleSoft Adapter** from the Menu.

Figure 24 Create a PeopleSoft Adapter Configuration



3. Click the **PeopleSoftAdapterConfiguration** icon in the Design Panel. The PeopleSoft Adapter Configuration Panel appears.

4. Click the **Save** button to save your project.

Configuring an Adapter Instance

Configure an adapter instance in the following tabs in the Configuration Panel:

- Configuration Tab, page 82
- Design-time Connection Tab, page 83
- Runtime Connection Tab, page 84
- Adapter Services Tab, page 85
- General Tab, page 86
- Logging Tab, page 86
- Startup Tab, page 88
- Monitoring Tab, page 88

Configuration Tab

The Configuration tab contains the following fields, as shown in Table 12.

Table 12 Configuration Tab

Field	Description
Instance Name	The name of the adapter instance. Use the default name or replace it with a name of your choice. See Guidelines for Choosing an Instance Name on page 83 for more information.
Description	(Optional) A short description of the adapter instance.
Version	The version string indicates the ActiveEnterprise (AE) format in which the adapter instance is saved. When a new adapter instance is created in TIBCO Designer 5.x, the version string is set to AE Version 5.1. To change versions, click the **Change Version...** button. An adapter instance can be saved in AE 4.0 or AE 5.0 format.
Message Filter	Specify a message filter, if you have configured a message filter resource for use with the adapter. The filter allows you to manipulate incoming and outgoing data before sending it on the network or handing it to the target application. Filters can be written using the TIBCO Adapter SDK. See *TIBCO Adapter SDK Programmer's Guide* for information about writing a message filter.
Show All Tabs	Select this checkbox to display the Adapter Services tab and General tab for advanced options configuration.

Table 12 Configuration Tab (Cont'd)

Field	Description
PeopleTools Version	From the drop-down list, select the version of PeopleTools that you will use.

Guidelines for Choosing an Instance Name

- An instance name must use alphanumeric characters. An underscore (_) character can be used. The entire instance name must be less than 80 characters. The space character cannot be used in an instance name.
- An instance name cannot use global variables.
- An instance name must be unique with respect to other adapter instances for the same adapter in the project. The same instance name can be used to name an adapter instance for a different adapter in the same project. For example, a PeopleSoft adapter instance named TEST and a Siebel adapter instance named TEST can coexist in the same project.
- Each instance name must be unique per adapter within a project even if each instance is defined in a different folder. That is, configuring same-named adapter instances in different folders will not make their names unique.

When you create an adapter instance, the palette automatically creates several resources for it. The names of these resources derive from the name of the instance they belong to. Changing the adapter instance name results in an automatic regeneration of the resources names. If you manually modify any resource name, that particular name will *not* be automatically regenerated next time your rename the adapter instance.

Design-time Connection Tab

Many of the fields listed in Table 13 make use of global variables. Click the **Global Variables** tab in the project panel to enter a value for a global variable.

Table 13 Design-time Configuration Tab

Field	Description
Application Server Name	The host name or IP address of the machine that hosts the PeopleSoft Application Server.
Port	The port number that the PeopleSoft Application Server is configured to. Note: this is the JOLT Listener port (the default is 9000) not the Workstation Listener port (default is 7000).

Table 13 Design-time Configuration Tab (Cont'd)

Field	Description
Login	The username used to log in to the PeopleSoft Application Server.
Password	The password associated with the username that is used to log in to the PeopleSoft Application Server.
Remember Password	If this checkbox is not checked (by default), the password must be entered each time the project is opened. If it is checked, the password will be stored in the project repository.
Use Design-time Connection For Runtime	If this checkbox is checked (by default), all values specified in the Design-time Connections tab apply to runtime connections. If it is checked, you can enter different runtime connection parameters.
DTA Transport	Select the transport to be used by the design-time adapter, JMS or Rendezvous.

Connect... Button

The Connect... button allows you to test whether the specified configuration fields result in a valid connection to the PeopleSoft Application Server.

Runtime Connection Tab

If you have checked the **Use Design-Time Connection For Runtime** checkbox in the Design-time Connection tab, most options in the Runtime Connection tab will inherit the design-time configuration and cannot be changed.

Table 14 Runtime Connection Tab

Field	Description
Application Server Name	The host name or IP address of the machine that hosts the PeopleSoft Application Server.
Port	The port number that the PeopleSoft Application Server is configured to. Note: this is the JOLT Listener port (the default is 9000) not the Workstation Listener port (default is 7000).
Login	The username used to log in to the PeopleSoft Application Server.
Password	The password associated with the username that is used to log in to the PeopleSoft Application Server.

Table 14 Runtime Connection Tab (Cont'd)

Field	Description
Maximum Number of Reconnect Attempts	Specify the total number of reconnection attempts to make before the runtime adapter or adapter service is stopped. A value of **-1** means reconnection attempts will continue indefinitely.
Number of Reconnect Attempts Before Suspending Impacted Service(s)	Specify the number of reconnection attempts to make before suspending a runtime adapter or adapter service. The value of the Adapter Termination Criteria field determines whether the adapter or an adapter service is stopped.
Interval between Reconnect Attempts (milliseconds)	Specify the time interval in milliseconds to elapse between each reconnection attempt.
Adapter Termination Criteria (after max number of reconnect attempts	This field is disabled.

Adapter Services Tab

This tab is visible only when you check the **Show All Tabs checkbox** in the Configuration tab.

Specify common parameters to one or more types of services.

Table 15 Adapter Services Tab

Field	Description
Publisher Polling Interval	This parameter determines how often the adapter will read from its queue table (TIB_CI_MQUEUE). The default setting is 5000 milliseconds (5 seconds) Note: This field is applicable only for the CI Publication Service.

For detailed information about creating and configuring adapter services, see Chapter 5, Configuring Adapter Services, on page 93.

General Tab

This tab is visible only when you check the Show All Tabs checkbox in the Configuration tab.

Table 16 General Tab

Field	Description
Termination Subject or Topic	A message sent on the termination subject (if Rendezvous is the transport) or topic (if JMS is the transport) stops the adapter. In most cases, you should use the default value. See *TIBCO Rendezvous Concepts* for information about specifying subject names. See the *TIBCO Enterprise Message Service User's Guide* for information about publishing on a topic.
Number of Threads	The number of connections to be opened with the PeopleSoft application server by the adapter.

Logging Tab

The Logging tab specify the output destination (sinks) for the trace messages and set the tracing level for the roles selected.

Table 17 Logging Tab

Field	Description
Use Advanced Logging	If the checkbox is not checked (by default), you can set two standard output destinations (sinks) for trace messages and set the tracing level for the roles selected. If the checkbox is checked, you have complete control on selecting the destinations and associating desired roles with each of the destinations. To create and configure sinks, see Guidline for Creating and Configuring the Sinks on page 87.
Log to Standard I/O	(STDIO Sink) If the checkbox is checked, trace messages are displayed in the command prompt window where the adapter is started. If the checkbox is not checked, trace messages do not display in the window.
Log File	Specify the name of the log file (log sink) to which trace messages are written. Global variables can be used to specify the location of the log file. See Using Global Variables on page 144 for more information. The roles available are Info, Debug, Warning, and Error messages. The trace message generated depends on the roles selected. Turning on the roles can affect the performance of the adapter. Therefore, it is recommended that you turn on the required roles only.

Table 17 Logging Tab (Cont'd)

Field	Description
Log Info Messages	The roles available are Info, Debug, Warning, and Error messages. The trace message generated depends on the roles selected. Turning on the roles can affect the performance of the adapter. Therefore, it is recommended that you turn on the required roles only.
Log Debug Messages	
Log Warning Messages	Trace messages of the selected level(s) will be collected in the named log sink. You can configure what levels of trace messages you want logged, and where trace messages are sent. There are three types of logs (log sinks) that you can configure to hold trace messages, corresponding to three levels (roles) of trace messages, Information, Warning and Error. A fourth level of trace messages, Debug, is reserved and should not be enabled unless requested by the TIBCO Product Support Group. This option writes a lot of information to the log file and significantly reduces the speed of the adapter.
Log Error Messages	

Guildline for Creating and Configuring the Sinks

To create and configure the sinks, follow these steps:

1. Check the **Use Advanced Logging** checkbox in the Logging Tab.
2. Expand ***ProjectName* > *PeopleSoftAdapterConfiguration* > Advanced > Log Sinks** in the Project Panel.
3. Drag the **Generic Log Sink** palette from the Palettes panel to the Design panel, and then select a **Sink Type** in the Configuration tab. Click the **Apply** button. For detailed information about Sink Types, see Sink Types on page 87.
4. For all the sinks, optionally the name and description can be provided.
5. Select a sink displayed in the Design Panel and configure it in the Configuration Panel. There are two predefined sinks in the adapter instance, fileSink and stdioSink.

Sink Types

There are four sink types available: File, Hawk, Network, and STDIO. Each of them has certain configuration options:

- For the File sink, the file limit, file count, and the option to append or overwrite can be specified. When created by default, this is set to 30000 bytes, 3 and append mode respectively.
- For the STDIO sink, the option to write to stdout or stderr can be selected. When created by default, stdout is selected.
- The Hawk sink uses the hawk session, created and used by the adapter for monitoring purposes, to send tracing messages to the TIBCO Hawk monitor or Display.

- For details on Hawk sessions, see Using Global Variables on page 144. The configuration for the Hawk sink involves specifying the MicroAgent Name that must be specified in the configuration panel.
- The Network sink is used to publish tracing message on TIBCO Rendezvous. The configuration for the network sink involves specifying the session, and the subject on which the trace messages needs to be published.

Startup Tab

The Startup tab contains the following fields, as shown in Table 18.

Table 18 Startup Tab

Field	Description
Show Startup Banner	If the checkbox is checked (by default), the startup banner displays the runtime adapter version, the infrastructure version on which the adapter is built, and copyright information in the console window when the adapter is started. The content of the start banner is predefined and cannot be changed.
Metadata Search URL	Specifies the location where the adapter searches for base schemas. The adapter searches for any schema that has been defined and saved at this location, and that should be loaded at startup. This field is predefined and cannot be changed.

Monitoring Tab

Many of the fields listed in the Monitoring tab make use of global variables. Click the **Global Variables** tab in the project panel to enter a value for a global variable.

Table 19 Monitoring Tab

Field	Description
Enable Standard Microagent	Allows you to turn on or off the standard TIBCO Hawk Microagent. Clicking the **Globe** icon, you can switch the way of configuration between a standard checkbox and text value (true or false).
Standard Microagent Name	The name for the standard microagent that will be registered with the TIBCO Hawk system. In most cases the default value is used. The InstanceId variable need not be set because it is automatically set at runtime by the runtime adapter.
Standard MicroAgent Timeout (ms)	The timeout value for the standard microagent in milliseconds. The default value is 10000.

Table 19 Monitoring Tab (Cont'd)

Field	Description
Enable Standard Microagent	Allows you to turn on or off the standard TIBCO Hawk Microagent. Clicking the **Globe** icon, you can switch the way of configuration between a standard checkbox and text value (true or false).
Class Microagent Name	The name for the class microagent that will be registered with the TIBCO Hawk system. In most cases the default value is used.
Class MicroAgent Timeout (ms)	The timeout value for the class microagent in milliseconds. The default value is 10000.
Default Microagent Session	Specify the name of the TIBCO Rendezvous session that will be used by the standard, class, and custom microagents. The session name and the corresponding session are automatically generated by TIBCO Designer. Do not change the session name or the session. However, you can modify the session parameters if required. Navigate to the Sessions folder under the Advanced folder to modify the session parameters. Make sure you have set the correct parameter value for the global variables that correspond to the TIBCO Hawk configuration. If the session parameters are not set properly, the microagents will not display in TIBCO Hawk Display. For a list of all supported microagents, see Chapter 8, Monitoring the Adapter Using TIBCO Hawk, on page 163.

Saving the Project

Adapter configuration information and all other parameter settings related to the adapter configuration are saved in a TIBCO Designer project. You can save the project that represents it, at any time while configuring the adapter. Each time you save a project, any configuration information you have entered is saved as a repository instance.

For the saving procedure and more information about the repository choices, see *TIBCO Designer User's Guide*.

Testing the Adapter

Before testing the adapter, see Chapter 1, Preparing PeopleSoft, page 1 to set up the PeopleSoft environment. To test the adapter, start it after configuring and check for correct messaging. In this method, you can configure the adapter as required, then start it. If your preparations and configurations are successful, the adapter will connect to PeopleSoft and messaging will indicate no errors.

Chapter 5 Configuring Adapter Services

This chapter explains how to create and configure adapter services for an adapter instance. All the tasks are performed using TIBCO Designer.

Topics

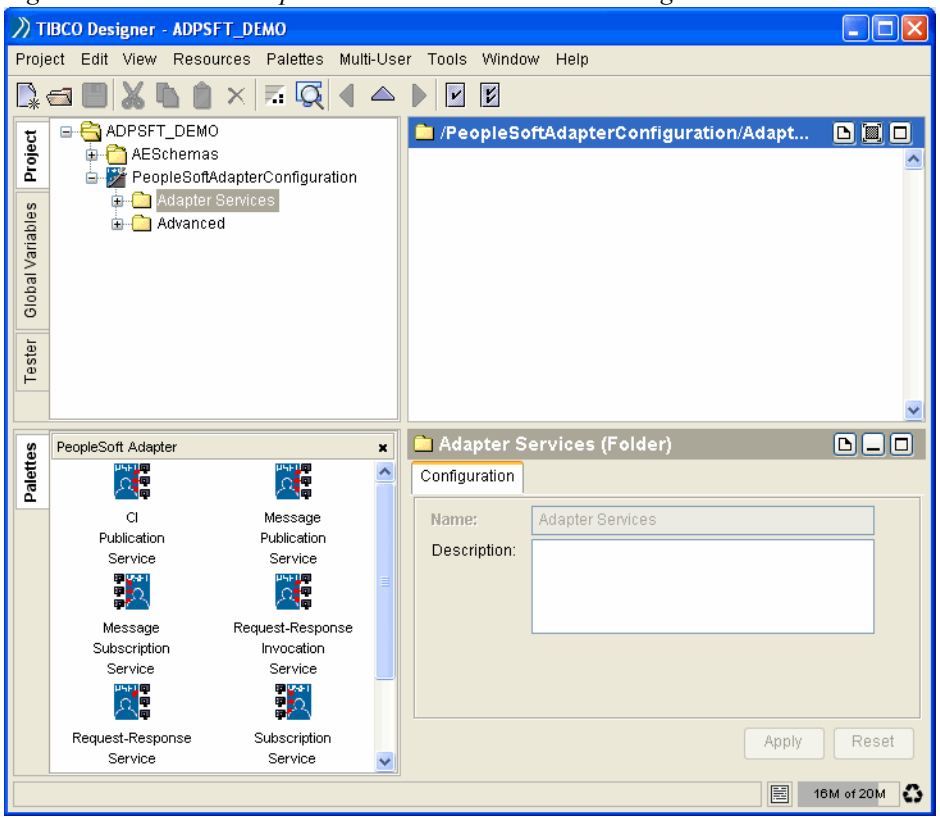
Creating an Adapter Service

After configuring an adapter instance, create one or multiple adapter services for it. For detailed information about configuring an adapter instance, see Chapter 4, Configuring an Adapter Instance, on page 79.

To create an adapter service, follow these steps:

1. Expand ***ProjectName* > *PeopleSoftAdapterConfiguration*** in the Project Panel, and then click the **Adapter Services** folder. All the available services for the adapter appears in the Palettes Panel, as shown in Figure 25.

Figure 25 Available Adapter Services shown in TIBCO Designer



If you cannot see the Project Panel and the palettes Panel in the same TIBCO Designer window, select **Edit > Preferences** on the Menu to open the TIBCO Designer Preferences dialog. Under the View tab, click the **Use tabs** radio button in the Layout pane.

2. Drag a service icon in the Palettes Panel to the Design Panel.

3. Specify configuration options for the created service in the Configuration Panel.
   - CI Publication Service, page 96
   - Message Publication Service, page 102
   - CI Subscription Service, page 107
   - Message Subscription Service, page 111
   - Request-Response Service, page 116
   - Request-Response Invocation Service, page 121
4. Click the **Save** button to save your configuration.

CI Publication Service

When running as a CI Publication Service, the adapter uses PeopleCode embedded in a TIBCO page to persist data entered by PeopleSoft users into a queue table. The runtime CI Publication Service polls that queue table. If an unprocessed event is found, it sends the message out to the TIBCO environment and stamps the queue entry as processed.

For a CI Publication Service to work, a shadow page (formerly "panel") named TIB_CI_ADAPTER_WRK must be embedded in any component that will be published. For instructions on how to do this, see CI Publication Service on page 23.

- Configuration Options, page 96
- Configuration Task Sequence, page 100

Configuration Options

Configure a CI Publication Service under the following tabs in the Configuration Panel.

- Configuration Tab, page 96
- Schema Tab on page 98
- Advanced Tab on page 99

Configuration Tab

The Configuration tab contains the following fields:

Table 20 CI Publication Service Configuration - Configuration Tab (Sheet 1 of 2)

Field	Description
Name	The name of the Component Interface stored in the PeopleSoft database. It matches the Component Interface Name and is automatically filled in by TIBCO Designer.
Component Interface Name	TIBCO Designer automatically supplies this name when you click the **Fetch Interface…** button and select a Component Interface. When starting the adapter, it uses this name to find the Component Interface in PeopleSoft. You can enter a partial string in this field to filter the Component Interfaces that are presented in the drop-down list when you click the **Fetch Interface…** button. For example, entering **p** would narrow the drop-down list to only Component Interface names beginning with p.

Table 20 CI Publication Service Configuration - Configuration Tab (Sheet 2 of 2)

Field		Description
Publish On:		This field determines which PeopleSoft modes will cause a Publish to occur. **Note:** After saving the configuration settings to the PeopleSoft database if you modify the Publish on settings, you must once again click the **Apply** button, and then click the Get Schema button, and finally click the Save To PeopleSoft button.
	Add	Add mode allows the input of new records, for example a new PRODUCT.
	Update	Update mode is used to view current data and modify future data.
	Update All	Update all is used to view history, current and future data but only modify future data.
	Correction	Correction is used to view history, current and future data, and correct all records.
Publish Current Record		Check this checkbox to publish the current record (for Effective Dated records only). **Note:** The adapter will consider a record as Effective Dated if the effective date field in that record starts with EFFDT.
Transport Type		The transport to be used by the runtime adapter, JMS or Rendezvous. See Transport Type on page 126 for details.
JMS		
JMS Compress		Available only for the JMS transport. It can be Uncompressed or Compressed. See Compressing JMS Messages on page 161 for details.
Connection Factory Type		Available only for the JMS transport. It can be Topic or Queue. See Connection Factory Type on page 128 for details.
Delivery Mode		Available only for the JMS transport. It can be Persistent or Non-Persistent. See Delivery Mode on page 128 for details.
Wire Format		Services must use the same wire format to exchange data. It is XML Message. See Wire Format on page 127 for details.
Rendezvous		
Quality of Service		Available only for the Rendezvous transport. It can be Certified or Reliable. Reform to Quality of Service on page 126 for details.
Wire Format		Services must use the same wire format to exchange data. It can be XML Message or ActiveEnterprise Message. See Wire Format on page 127 for details.

Save To PeopleSoft

Click the **Save To PeopleSoft** button to save the configuration to the PeopleSoft application server.

If a copied instance containing a CI Publication Service is used with different connection parameters, ensure that the **Save To PeopleSoft** button is clicked after changing the parameters.

Get Schema

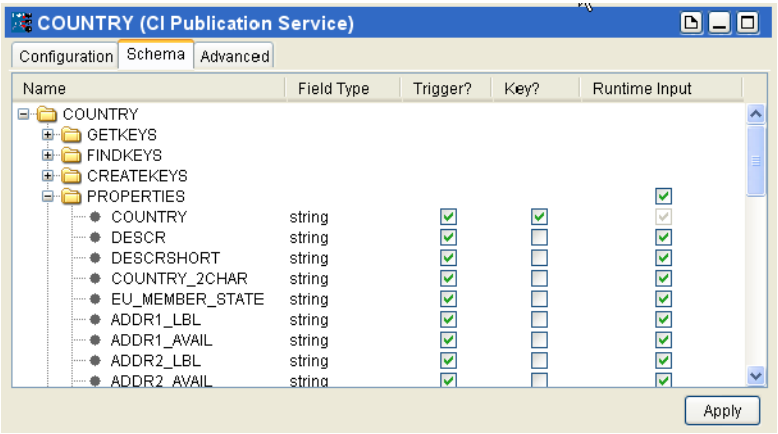
Click the **Get Schema** button to list the fields of the fetched schema in the Schema Tab.

If you have changed any configuration, either on the service level or on the instance level, click the Get Schema button to ensure that the modification is reflected in the service at runtime.

Schema Tab

In the Schema tab you can view all elements but change only the trigger and runtime input settings, as shown in Figure 26.

Figure 26 CI Publication Service - Schema Tab



To view schema elements, click on the folders to expand them. It is not necessary to click the Apply button.

To change the trigger setting, follow these steps:

1. Expand the PROPERTIES folder until the Trigger column is populated.
2. Check or uncheck the **Trigger** checkbox required. If checked, an update to this field will trigger a publish.

3. Check or uncheck the **Runtime Input** checkbox. If checked, this field will be included in the runtime input.
4. Click the **Apply** button, and then click the Save To PeopleSoft button in the Configuration tab.

The Schema tab contains the following fields:

Table 21 CI Publication Service Configuration - Schema Tab

Field	Description
Name	This column shows a field name if the schema attribute is a field or the record name if the schema attribute is a record. You can expand folders in this column to display triggers for PROPERTIES fields. When the adapter publishes data, the governing schema puts data only in the PROPERTIES node.
Field Type	This column applies only if a field is shown. **Note:** The values are TIBCO field-types and not PeopleSoft field-types.
Trigger?	This column indicates whether a change in the field will cause PeopleCode to store an entry into the queue table. By default, a trigger is enabled for all fields so that a change in any field will trigger an event. To disable the trigger for a field, uncheck the checkbox.
Key?	This column indicates whether the field is a key in a PeopleSoft database. **Note:** The values are TIBCO field-types and not PeopleSoft field-types.
Runtime Input	This column indicates whether the field will be included in the runtime input. **Note:** The key fields are always included in the runtime input.

Advanced Tab

The Advanced tab contains the following fields:

Table 22 CI Publication Service Configuration - Advanced Tab

Field	Description
Destination	Available only for the JMS transport. By default, a dynamic destination is generated using the Domain and Deployment global variables, the adapter acronym, the adapter instance name, and the service name. If you use this default dynamic destination, ensure that the values for Domain and Deployment are not empty. You can override the default dynamic destination by specifying the static destination in this field. The static destination *must* be defined on the EMS server before it can be used by the runtime adapter. See the *TIBCO Enterprise Message Service User's Guide* for information about destinations.

Table 22 CI Publication Service Configuration - Advanced Tab

Field	Description
Message Subject	Available only for the Rendezvous transport. By default, a service uses a message subject that is generated using the Domain and Deployment global variables, the adapter acronym, the adapter instance name and the service name. If you use this default subject, make sure the values for Domain and Deployment are not empty. You can type a TIBCO Rendezvous subject name different from the default in this field. See *TIBCO Rendezvous Concepts* for information about specifying subject names.
Endpoint Reference	The location in TIBCO Repository where the endpoint information will be stored (default). Endpoints store information such as message subject, endpoint type, and startup state.
Schema Reference	A link to a location for the defined PeopleSoft adapter schema.

Configuration Task Sequence

To configure a CI Publication Service, follow these steps:

1. In the Project Panel, expand the adapter instance folder (by default, PeopleSoftAdapterConfiguration).
2. Click **Adapter Services** in the project panel.
3. Drag a **CI Publication Service** icon to the Design Panel.
4. Specify options in the **Configuration** tab. See Configuration Options on page 96 for more information.
5. Click the **Apply** button. This generates a unique endpoint with a TIBCO Rendezvous subject name. The adapter automatically enters this information in the **Advanced** tab.

   Rendezvous is selected as the default Transport Type. If you select JMS as the Transport Type, a unique endpoint with the destination name will be generated.

6. Enter the name for the Component Interface and click the **fetch interface** button to fetch the component interface.
7. Click the **Get Schema** button. This downloads the Component Interface schema from PeopleSoft to TIBCO Designer.
8. Click the **Save to PeopleSoft** button. This will save the details required in the PeopleSoft database to trigger the Publication Service.
9. Save your project.

When a publication service is deleted, the corresponding entry in the PeopleSoft database is not automatically deleted. You must delete the entry in the PeopleSoft database using the SQL script that is generated in the following location:

TIBCO_HOME\adapter\adpsft8\version_number\scripts

On deleting a Publication Service do the following in the PeopleSoft system:

- Detach the Work Panel for the Component Interface associated with the Publication Service instance.
- Locate the SQL script in the scripts directory and run it to delete the entry in the PeopleSoft database. The name of the script file is *Component Interface Name_Adapter Configuration Name*.sql. For example, if an adapter configuration called pub, created for the Component Interface ACTIVITY, is deleted, the .sql file generated will be named ACTIVITY_pub.sql.

In a scenario where two Publication Services are associated with the same Component Interface, for example Publication Services A and B, which are both associated with ACTIVITY CI. If you delete Publication Service A, do not detach the Work Panel for the ACTIVITY CI. Detaching the Work Panel in this scenario will disable Publication Service B as well.

Message Publication Service

When running as a Message Publication Service, the adapter uses PeopleCode provided with the adapter to capture data from PeopleSoft into a PeopleSoft message and send it over HTTP or JMS to the adapter. The runtime Message Publication Service receives the message, processes it and publishes it out to the TIBCO environment. It then sends back an acknowledgement to the PeopleSoft system.

For the Message Publication service to work, the PeopleCode provided with the installation needs to be copied in the SavePostChange event of the component from which the data has to be published out.

- Configuration Options, page 102
- Configuration Task Sequence, page 105

Configuration Options

Configure a Message Publication Service under the following tabs in the Configuration Panel.

- Configuration Tab, page 102
- Schema Tab, page 103
- SubscriberOptions Tab, page 104
- Advanced Tab, page 105

Configuration Tab

The Configuration tab contains the following fields:

Table 23 Message Publication Service Configuration - Configuration Tab

Field	Description
Name	The name of the Message stored in the PeopleSoft database. It matches the Message Name and is automatically filled in by TIBCO Designer.
Message Name	TIBCO Designer automatically supplies this name when you click the Fetch Message button and select a Message. When starting the adapter, it uses this name to find the Message in PeopleSoft. You can enter a partial string in this field to filter the Messages that are presented in the drop-down list when you click the Fetch Message button. For example, entering **p** would narrow the drop-down list to only Message names beginning with p.

Table 23 Message Publication Service Configuration - Configuration Tab (Cont'd)

Field	Description
Publish Current Record	Check this checkbox to publish the current record (for Effective Dated records only). **Note:** The adapter will consider a record as Effective Dated if the effective date field in that record starts with EFFDT.
Transport Type	The transport to be used by the runtime adapter, JMS or Rendezvous. See Transport Type on page 126 for details.
JMS	
JMS Compress	Available only for the JMS transport. It can be Uncompressed or Compressed. See Compressing JMS Messages on page 161 for details.
Connection Factory Type	Available only for the JMS transport. It can be Topic or Queue. See Connection Factory Type on page 128 for details.
Delivery Mode	Available only for the JMS transport. It can be Persistent or Non-Persistent. See Delivery Mode on page 128 for details.
Wire Format	Services must use the same wire format to exchange data. It is XML Message. See Wire Format on page 127 for details.
Rendezvous	
Quality of Service	Available only for the Rendezvous transport. It can be Certified or Reliable. See Quality of Service on page 126 for details.
Wire Format	Services must use the same wire format to exchange data. It can be XML Message or ActiveEnterprise Message. See Wire Format on page 127 for details.

Get Schema

Click the **Get Schema** button to list the fields of the fetched schema in the Schema Tab.

If you have changed any configuration, either on the service level or on the instance level, click the **Get Schema** button to ensure that the modification is reflected in the service at runtime.

Schema Tab

In the **Schema** tab you can view all elements.

To view schema elements, click on the folders to expand them. It is not necessary to click the **Apply** button.

The Schema tab contains the following fields:

Table 24 Message Publication Service Configuration - Schema Tab

Field	Description
Name	This column shows a field name if the schema attribute is a field or the record name if the schema attribute is a record.
Field Type	This column applies only if a field is shown. **Note:** The values are TIBCO field-types and not PeopleSoft field-types.

SubscriberOptions Tab

The SubscriberOptions tab contains the following fields:

Table 25 Message Publication Service Configuration - SubscriberOptions Tab

Field	Description
Subscriber Subject	Enter the subject on which the adapter should subscribe for messages from PeopleSoft. The Subscriber Subject should be the same as the one mentioned in Define Nodes on page 33.
Client TimeOut (in millisecond)	The time taken by the Client to time out. By default, it is 5000 milliseconds.
Subscriber Transport Type	The Transport Type used by the adapter to send messages to the PeopleSoft Integration Broker. The Transport Type can be JMS or HTTP.
JMS	
Connection Factory Type	Available only for the JMS transport. It can be Topic or Queue. See Connection Factory Type on page 128 for details.
Delivery Mode	Available only for the JMS transport. It can be Persistent or Non-Persistent. See Delivery Mode on page 128 for details.
HTTP	
HTTP Port	Available only for the HTTP transport. The port at which the adapter waits for HTTP messages. By default, the adapter listens at port 2002 for IB messages.

Advanced Tab

The Advanced tab contains the following fields:

Table 26 Message Publication Service Configuration - Advanced Tab

Field	Description
Destination	Available only for the JMS transport. By default, a dynamic destination is generated using the Domain and Deployment global variables, the adapter acronym, the adapter instance name, and the service name. If you use this default dynamic destination, ensure that the values for Domain and Deployment are not empty. You can override the default dynamic destination by specifying the static destination in this field. The static destination *must* be defined on the EMS server before it can be used by the runtime adapter. See the *TIBCO Enterprise Message Service User's Guide* for information about destinations.
Message Subject	Available only for the Rendezvous transport. By default, a service uses a message subject that is generated using the Domain and Deployment global variables, the adapter acronym, the adapter instance name and the service name. If you use this default subject, make sure the values for Domain and Deployment are not empty. You can type a TIBCO Rendezvous subject name different from the default in this field. See *TIBCO Rendezvous Concepts* for information about specifying subject names.
Endpoint Reference	The location in TIBCO Repository where the endpoint information will be stored (default). Endpoints store information such as message subject, endpoint type, and startup state.
Schema Reference	A link to a location for the defined PeopleSoft adapter schema.

Configuration Task Sequence

To configure a Message Publication Service, follow these steps:

1. In the Project Panel, expand the adapter instance folder (by default, PeopleSoftAdapterConfiguration).
2. Click **Adapter Services** in the project panel.
3. Drag a **Message Publication Service** icon to the Design Panel.
4. Specify options in the **Configuration** tab. See Configuration Tab on page 102 for more information.

5. Click the **Apply** button. This generates a unique endpoint with a TIBCO Rendezvous subject name. The adapter automatically enters this information in the **Advanced** tab.

> Rendezvous is selected as the default Transport Type. If you select JMS as the Transport Type, a unique endpoint with the destination name will be generated.

6. Click the **Get Schema** button. This downloads the Message schema from PeopleSoft to TIBCO Designer.
7. Save your project.

CI Subscription Service

When running as a Subscription Service the adapter receives messages from the TIBCO Environment and inserts the message data into a PeopleSoft database through Component Interface APIs.

- Configuration Options, page 107
- Configuration Task Sequence, page 110

Configuration Options

Configure a Subscription Service under the following tabs in the Configuration Panel.

- Configuration Tab, page 107
- Schema Tab, page 108
- Advanced Tab, page 109

Configuration Tab

The Configuration tab contains the following fields:

Table 27 Subscription Service Configuration - Configuration Tab

Field	Description
Name	The name of the Component Interface stored in the PeopleSoft database. It matches the Component Interface Name and is automatically filled in by TIBCO Designer.
Component Interface Name	TIBCO Designer automatically supplies this name when you click the **Fetch Interface…** button and select a Component Interface. When starting the adapter, it uses this name to find the Component Interface in PeopleSoft. You can enter a partial string in this field to filter the Component Interfaces that are presented in the drop-down list when you click the **Fetch Interface…** button. For example, entering **p** would narrow the drop-down list to only Component Interface names beginning with p.
Transport Type	The transport to be used by the runtime adapter, JMS or Rendezvous. See Transport Type on page 126 for details.
JMS	
Connection Factory Type	Available only for the JMS transport. It can be Topic or Queue. See Connection Factory Type on page 128 for details.

Table 27 Subscription Service Configuration - Configuration Tab (Cont'd)

Field	Description
Delivery Mode	Available only for the JMS transport. It can be Durable or Non Durable. See Delivery Mode on page 128 for details.
Wire Format	Services must use the same wire format to exchange data. It is XML Message. See Wire Format on page 127 for details.
Rendezvous	
Quality of Service	Available only for the Rendezvous transport. It can be Certified, Reliable or Distributed Queue. See Quality of Service on page 126 for details.
Wire Format	Services must use the same wire format to exchange data. It can be XML Message or ActiveEnterprise Message. See Wire Format on page 127 for details.

Get Schema

Click the **Get Schema** button to list the fields of the fetched schema in the Schema Tab.

If you have changed any configuration, either on the service level or on the instance level, click the **Get Schema** button to ensure that the modification is reflected in the service at runtime.

Schema Tab

In the Schema tab you can view all elements.

To view schema elements, click on the folders to expand them. It is not necessary to click the Apply button.

The Schema tab contains the following fields:

Table 28 Subscription Service Configuration - Schema Tab

Field	Description
Name	This column shows a field name if the schema attribute is a field, or shows a record name if the schema attribute is a record.
Field Type	This column applies only if a field is shown. **Note:** The values are TIBCO field-types and not PeopleSoft field-types.
Key?	This column indicates whether the field is a key in a PeopleSoft database. **Note:** The values are TIBCO field-types and not PeopleSoft field-types.

Table 28 Subscription Service Configuration - Schema Tab (Cont'd)

Field	Description
Runtime Input	This column indicates whether the field will be included in the runtime input. **Note:** The key fields are always included in the runtime input.

Advanced Tab

The Advanced tab contains the following fields:

Table 29 Subscription Service Configuration - Advanced Tab

Field	Description
Destination	Available only for the JMS transport. By default, a dynamic destination is generated using the Domain and Deployment global variables, the adapter acronym, the adapter instance name, and the service name. If you use this default dynamic destination, ensure that the values for Domain and Deployment are not empty. You can override the default dynamic destination by specifying the static destination in this field. The static destination *must* be defined on the EMS server before it can be used by the runtime adapter. See the *TIBCO Enterprise Message Service User's Guide* for information about destinations.
Message Subject	Available only for the Rendezvous transport. By default, a service uses a message subject that is generated using the Domain and Deployment global variables, the adapter acronym, the adapter instance name and the service name. If you use this default subject, make sure the values for Domain and Deployment are not empty. You can type a TIBCO Rendezvous subject name different from the default in this field. See *TIBCO Rendezvous Concepts* for information about specifying subject names.
Endpoint Reference	The location in TIBCO Repository where the endpoint information will be stored (default). Endpoints store information such as message subject, endpoint type, and startup state.
Schema Reference	A link to a location for the defined PeopleSoft adapter schema.

Operation Code

The input data received by the Subscription Service contains a field called operation code (OPRN_CODE) if the Component Interface associated with the service contains records that are level 1 and above. The value in the operation code field determines the mode of update carried out on child records in the target PeopleSoft database. The values that can be specified in the input data for OPRN_CODE are:

- I - If the incoming row(s) is present insert it.

- U - If the incoming row(s) is present, update it.
- R - Replace existing row(s) with the incoming row(s). (Deprecated)
- D - If the incoming row(s) is present delete it.
- Null - If no operation code is specified an update is carried out.

See Implementation of Keys in the TIBCO Adapter for PeopleSoft on page 158 for more information on the operation codes.

Configuration Task Sequence

To configure a Subscription Service, follow these steps:

1. In the Project Panel, expand the adapter instance folder (by default, PeopleSoftAdapterConfiguration).
2. Click **Adapter Services** in the project panel.
3. Drag a **Subscription Service** icon to the Design Panel.
4. Specify options in the Configuration tab. See Configuration Tab on page 107 for more information.
5. Click the **Apply** button. This generates a unique endpoint with a TIBCO Rendezvous subject name. The adapter automatically enters this information in the Advanced tab.

   Rendezvous is selected as the default Transport Type. If you select JMS as the Transport Type, a unique endpoint with the destination name will be generated.

6. Click the **Get Schema** button. This downloads the Component Interface schema from PeopleSoft to TIBCO Designer.
7. Save your project.

Message Subscription Service

When running as a Subscription Service the adapter receives messages from the TIBCO Environment and inserts the message data into a PeopleSoft database using the Integration Broker.

- Configuration Options, page 111
- Configuration Task Sequence, page 114

Configuration Options

Configure a Message Subscription Service under the following tabs in the Configuration Panel.

- Configuration Tab, page 111
- Schema Tab, page 112
- SubscriberOptions Tab, page 113
- Advanced Tab, page 114

Configuration Tab

The Configuration tab contains the following fields:

Table 30 Message Subscription Service Configuration - Configuration Tab

Field	Description
Name	The name of the Message stored in the PeopleSoft database. It matches the Message Name and is automatically filled in by TIBCO Designer.
Message Name	TIBCO Designer automatically supplies this name when you click the **Fetch Message…** button and select a Message. When starting the adapter, it uses this name to find the Message in PeopleSoft. You can enter a partial string in this field to filter the Messages that are presented in the drop-down list when you click the **Fetch Message…** button. For example, entering **p** would narrow the drop-down list to only Message names beginning with p.
Transport Type	The transport to be used by the runtime adapter, JMS or Rendezvous. See Transport Type on page 126 for details.
JMS	
Connection Factory Type	Available only for the JMS transport. It can be Topic or Queue. See Connection Factory Type on page 128 for details.

Table 30 Message Subscription Service Configuration - Configuration Tab (Cont'd)

Field	Description
Delivery Mode	Available only for the JMS transport. It can be Durable or Non Durable. See Delivery Mode on page 128 for details.
Wire Format	Services must use the same wire format to exchange data. It is XML Message. See Wire Format on page 127 for details.
Rendezvous	
Quality of Service	Available only for the Rendezvous transport. It can be Certified, Reliable or Distributed Queue. See Quality of Service on page 126 for details.
Wire Format	Services must use the same wire format to exchange data. It can be XML Message or ActiveEnterprise Message. See Wire Format on page 127 for details.

Get Schema

Click the **Get Schema** button to list the fields of the fetched schema in the Schema Tab.

If you have changed any configuration, either on the service level or on the instance level, click the **Get Schema** button to ensure that the modification is reflected in the service at runtime.

Schema Tab

In the **Schema** tab you can view all elements.

To view schema elements, click on the folders to expand them. It is not necessary to click the Apply button.

The Schema tab contains the following fields:

Table 31 Message Subscription Service Configuration - Schema Tab

Field	Description
Name	This column shows a field name if the schema attribute is a field or the record name if the schema attribute is a record. You can expand folders in this column to display triggers for PROPERTIES fields. When the adapter publishes data, the governing schema puts data only in the PROPERTIES node.
Field Type	This column applies only if a field is shown. **Note:** The values are TIBCO field-types and not PeopleSoft field-types.

SubscriberOptions Tab

The SubscriberOptions tab contains the following fields:

Table 32 Message Subscription Service Configuration - SubscriberOptions Tab

Field	Description
Requesting Node	Enter the name of the Requesting Node. The Requesting Node mentioned in the Node definition in PeopleSoft should be the same as the one mentioned here.
Node Password	The Node Password is the same as the Password specified in the Node definition in PeopleSoft.
Client TimeOut (in millisecond)	The time taken by the Client to time out. By default, it is 5000 milliseconds.
Subscriber Transport Type	The Transport Type used by the adapter to send messages to the PeopleSoft Integration Broker. The Transport Type can be JMS or HTTP.
JMS	
Connection Factory Type	Available only for the JMS transport. It can be Topic or Queue. See Connection Factory Type on page 128 for details.
Delivery Mode	Available only for the JMS transport. It can be Persistent or Non-Persistent. See Delivery Mode on page 128 for details.
IB Subscriber Subject	Available only for the JMS transport. The subject on which IB subscribes for messages from the adapter. The subject name entered here should be the same as the one entered in the integrationGateway.properties file
User Name	Available only for the JMS transport. The user name used to connected to the TIBCO Enterprise Message Server (EMS).
Password	Available only for the JMS transport. The password used to connect to the TIBCO Enterprise Message Server (EMS).
JNDI URL	Available only for the JMS transport. The URL of the TIBCO Enterprise Message Server (EMS).
HTTP	
HTTP Port	Available only for the HTTP transport. The port at which the adapter waits for HTTP messages. By default, the adapter listens at port 2002 for IB messages.

Advanced Tab

The Advanced tab contains the following fields:

Table 33 Message Subscription Service Configuration - Advanced Tab

Field	Description
Destination	Available only for the JMS transport. By default, a dynamic destination is generated using the Domain and Deployment global variables, the adapter acronym, the adapter instance name, and the service name. If you use this default dynamic destination, ensure that the values for Domain and Deployment are not empty. You can override the default dynamic destination by specifying the static destination in this field. The static destination *must* be defined on the EMS server before it can be used by the runtime adapter. See the *TIBCO Enterprise Message Service User's Guide* for information about destinations.
Message Subject	Available only for the Rendezvous transport. By default, a service uses a message subject that is generated using the Domain and Deployment global variables, the adapter acronym, the adapter instance name and the service name. If you use this default subject, make sure the values for Domain and Deployment are not empty. You can type a TIBCO Rendezvous subject name different from the default in this field. See *TIBCO Rendezvous Concepts* for information about specifying subject names.
Endpoint Reference	The location in TIBCO Repository where the endpoint information will be stored (default). Endpoints store information such as message subject, endpoint type, and startup state.
Schema Reference	A link to a location for the defined PeopleSoft adapter schema.

Configuration Task Sequence

To configure a Subscription Service, follow these steps:

1. In the Project Panel, expand the adapter instance folder (by default, PeopleSoftAdapterConfiguration).
2. Click **Adapter Services** in the project panel.
3. Drag a **Message Subscription Service** icon to the Design Panel.
4. Specify options in the **Configuration** tab. See Configuration Tab on page 111 for more information.

5. Click the **Apply** button. This generates a unique endpoint with a TIBCO Rendezvous subject name. The adapter automatically enters this information in the **Advanced** tab.

Rendezvous is selected as the default Transport Type. If you select JMS as the Transport Type, a unique endpoint with the destination name will be generated.

6. Click the **Get Schema** button. This downloads the message schema from PeopleSoft to TIBCO Designer.
7. Specify options in the **SubscriberOptions** tab. See SubscriberOptions Tab on page 113 for more information.
8. Click the **Apply** button.
9. Save your project.

Request-Response Service

This service is often called a Request Reply Server or RPC (Remote Procedural Call) Server. When running as a Request-Response Service, the adapter receives requests from the TIBCO environment, parses them, calls the appropriate Component Interface API to set the input fields, then calls another set of Component Interface APIs to get the output fields. The output fields are wrapped in a schema and sent back to the caller.

- Configuration Options, page 116
- Configuration Task Sequence, page 114

Configuration Options

Configure a Request-Response Service under the following tabs in the Configuration Panel.

- Configuration Tab, page 116
- Schema Tab, page 117
- Advanced Tab, page 119

Configuration Tab

The Configuration tab contains the following fields:

Table 34 Request-Response Service Configuration - Configuration Tab

Field	Description
Name	The name of the Component Interface stored in the PeopleSoft database. It matches the Component Interface Name and is automatically filled in by TIBCO Designer.
Component Interface Name	TIBCO Designer automatically supplies this name when you click the Fetch Interface button and select a Component Interface. When starting the adapter, it uses this name to find the Component Interface in PeopleSoft. You can enter a partial string in this field to filter the Component Interfaces that are presented in the drop-down list when you click the Fetch Interface button. For example, entering **p** would narrow the drop-down list to only Component Interface names beginning with p.
Transport Type	The transport to be used by the runtime adapter, JMS or Rendezvous. See Transport Type on page 126 for details.
JMS	

Table 34 Request-Response Service Configuration - Configuration Tab (Cont'd)

Field	Description
Connection Factory Type	Available only for the JMS transport. It can be Topic or Queue. See Connection Factory Type on page 128 for details.
Delivery Mode	Available only for the JMS transport. It can be Durable or Non Durable. See Delivery Mode on page 128 for details.
Wire Format	Services must use the same wire format to exchange data. It is XML Message. See Wire Format on page 127 for details.
Rendezvous	
Quality of Service	Available only for the Rendezvous transport. It can be Certified, Reliable or Distributed Queue. See Quality of Service on page 126 for details.
Wire Format	Services must use the same wire format to exchange data. It can be XML Message or ActiveEnterprise Message. See Wire Format on page 127 for details.

Get Schema

Click the **Get Schema** button to list the fields of the fetched schema in the Schema Tab.

If you have changed any configuration, either on the service level or on the instance level, click the **Get Schema** button to ensure that the modification is reflected in the service at runtime.

Schema Tab

In this tab you can view all schema elements and change Direction.

To view schema elements, click on the folders to expand them. It is not necessary to click the Apply button.

To change the Direction, follow these steps:

1. Expand the required folder until the Direction column is populated.
2. Click on the direction of the required field and then select the new direction from the drop-down list.
3. Click the **Apply** button.

The Schema tab contains the following fields:

Table 35 Request-Response Service Configuration - Schema Tab

Field	Description
Name	This column shows a field name if the schema attribute is a field, or shows a record name if the schema attribute is a record.
Field Type	This column applies only if a field is shown. **Note:** The values are TIBCO field-types and not PeopleSoft field-types.
Direction	The valid values for Direction are: • In — This field is read from the incoming request but not set in the outgoing reply. Indicates the PROPERTIES field is used as an input field. • Out — This field is not read from the incoming request but set in the outgoing reply. Indicates the PROPERTIES field is used as an output field. • InOut — This field is read from the incoming request and set in the outgoing reply. Indicates the PROPERTIES field is used in both directions. When a field direction is INOUT, the field value is used in the request sent to PeopleSoft as well as retrieved from PeopleSoft and sent back to the request as part of the reply.
Key?	This column indicates whether the field is a key in a PeopleSoft database. **Note:** The values are TIBCO field-types and not PeopleSoft field-types.
Runtime Input	This column indicates whether the field will be included in the runtime input. **Note:** The key fields are always included in the runtime input.

Operation Code

The input data received by the Request-Response Service contains a field called operation code (OPRN_CODE) if the Component Interface associated with the service contains records that are level 1 and above. The value in the operation code field determines the mode of update carried out on child records in the target PeopleSoft database. The values that can be specified in the input data for OPRN_CODE are:

- I — If the incoming row(s) is present insert it.
- U — If the incoming row(s) is present update it.
- R — Replace existing row(s) with the incoming row(s).
- D — If the incoming row(s) is present delete it.
- Null — If no operation code is specified an update is carried out.

See Implementation of Keys in the TIBCO Adapter for PeopleSoft on page 158 for more information on the operation codes.

Advanced Tab

The Advanced tab contains the following fields:

Table 36 Request-Response Service Configuration - Advanced Tab

Field	Description
Destination	Available only for the JMS transport. By default, a dynamic destination is generated using the Domain and Deployment global variables, the adapter acronym, the adapter instance name, and the service name. If you use this default dynamic destination, ensure that the values for Domain and Deployment are not empty. You can override the default dynamic destination by specifying the static destination in this field. The static destination *must* be defined on the EMS server before it can be used by the runtime adapter. See the *TIBCO Enterprise Message Service User's Guide* for information about destinations.
Message Subject	Available only for the Rendezvous transport. By default, a service uses a message subject that is generated using the Domain and Deployment global variables, the adapter acronym, the adapter instance name and the service name. If you use this default subject, make sure the values for Domain and Deployment are not empty. You can type a TIBCO Rendezvous subject name different from the default in this field. See *TIBCO Rendezvous Concepts* for information about specifying subject names.
Endpoint Reference	The location in TIBCO Repository where the endpoint information will be stored (default). Endpoints store information such as message subject, endpoint type, and startup state.
Schema Reference	A link to a location for the defined PeopleSoft adapter schema.

Configuration Task Sequence

To configure a Request-Response Service, follow these steps:

1. In the Project Panel, expand the adapter instance folder (by default, PeopleSoftAdapterConfiguration).
2. Click **Adapter Services** in the project panel.
3. Drag a **Request-Response Service** icon to the Design Panel.
4. Specify options in the **Configuration** tab. See Configuration Tab on page 116 for more information.

5. Click the **Apply** button. This generates a unique endpoint with a TIBCO Rendezvous subject name. The adapter automatically enters this information in the **Advanced** tab.

> Rendezvous is selected as the default Transport Type. If you select JMS as the Transport Type, a unique endpoint with the destination name will be generated.

6. Click the **Get Schema** button. This downloads the Component Interface schema from PeopleSoft to TIBCO Designer.
7. Click the **Apply** button.
8. Save your project.

Request-Response Invocation Service

The Request-Response invocation service uses the Integration Gateway to transfer HTTP or JMS messages. When you save a message in PeopleSoft, the SavePostChange method gets executed and the message is converted to XML and published to a Message Channel residing on the PeopleSoft Application Server. When the Integration Engine finds a new message in the Message Channel, it looks for an active node associated with the Message Channel. On finding the node, based on the Target Connector, the Integration Engine builds the request and sends it to the PeopleSoft adapter. On receiving the request, the adapter processes the requests and sends the response back to PeopleSoft.

For the Request-Response Invocation service to work, the PeopleCode provided with the installation needs to be copied in the SavePostChange event of the component from which the data has to be sent out. For instructions on how to do this, see Preparing PeopleSoft Application Messages on page 27.

- Configuration Options, page 116
- Configuration Task Sequence, page 114

Configuration Options

Configure a Request-Response Invocation Service under the following tabs in the Configuration Panel.

- Configuration Tab, page 121
- Inbound Message Tab, page 122
- Outbound Message Tab, page 123
- SubscriberOptions Tab, page 123
- Advanced Tab, page 123

Configuration Tab

The Configuration tab contains the following fields:

Table 37 Request-Response Invocation Service Configuration - Configuration Tab

Field	Description
Name	The name of the Message stored in the PeopleSoft database. It matches the Message Name and is automatically filled in by TIBCO Designer.

Table 37 Request-Response Invocation Service Configuration - Configuration Tab (Cont'd)

Field	Description
Message Name	TIBCO Designer automatically supplies this name when you click the **Fetch Message…** button and select a Message. When starting the adapter, it uses this name to find the Message in PeopleSoft. You can enter a partial string in this field to filter the Messages that are presented in the drop-down list when you click the **Fetch Message…** button. For example, entering **p** would narrow the drop-down list to only Message names beginning with p.
Publish Current Record	Check this checkbox to publish the current record (for Effective Dated records only). **Note:** The adapter will consider a record as Effective Dated if the effective date field in that record starts with EFFDT.
Transport Type	The transport to be used by the runtime adapter, JMS or Rendezvous. See Transport Type on page 126 for details.
JMS	
JMS Compress	Available only for the JMS transport. It can be Uncompressed or Compressed. See Compressing JMS Messages on page 161 for details.
Connection Factory Type	Available only for the JMS transport. It can be Topic or Queue. See Connection Factory Type on page 128 for details.
Delivery Mode	Available only for the JMS transport. It can be Persistent or Non Persistent. See Delivery Mode on page 128 for details.
Wire Format	Services must use the same wire format to exchange data. It is XML Message. See Wire Format on page 127 for details.
Rendezvous	
Quality of Service	Available only for the Rendezvous transport. It can be Certified, Reliable or Distributed Queue. See Quality of Service on page 126 for details.
Wire Format	Services must use the same wire format to exchange data. It can be XML Message or ActiveEnterprise Message. See Wire Format on page 127 for details.

Inbound Message Tab

The Inbound Message tab contains the following fields:

Table 38 Request-Response Invocation Service Configuration - Inbound Message Tab

Field	Description
Name	This column shows a list of field names available in the schema.

Table 38 Request-Response Invocation Service Configuration - Inbound Message Tab

Field	Description
Field Type	This column shows the datatype corresponding to the fields in the schema.

Outbound Message Tab

The Outbound Message tab contains the following fields:

Table 39 Request-Response Invocation Service Configuration - Outbound Message Tab

Field	Description
Name	This column shows a list of field names available in the schema.
Field Type	This column shows the datatype corresponding to the fields in the schema.

SubscriberOptions Tab

The SubscriberOptions tab contains the following fields:

Table 40 Request-Response Invocation Service Configuration - SubscriberOptions Tab

Field	Description
Subscriber Subject	Enter the subject on which the adapter should subscribe for messages from PeopleSoft. The Subscriber Subject should be the same as the one mentioned in Define Nodes on page 33.
Client TimeOut (in millisecond)	The time taken by the Client to time out. By default, it is 5000 milliseconds.
Subscriber Transport Type	The Transport Type used by the adapter to send messages to the PeopleSoft Integration Broker. The Transport Type can be JMS or HTTP.
JMS	
Connection Factory Type	Available only for the JMS transport. It can be Topic or Queue. See Connection Factory Type on page 128 for details.
Delivery Mode	Available only for the JMS transport. It can be Persistent or Non-Persistent. See Delivery Mode on page 128 for details.
HTTP	
HTTP Port	Available only for the HTTP transport. The port at which the adapter waits for HTTP messages. By default, the adapter listens at port 2002 for IB messages.

Advanced Tab

The Advanced tab contains the following fields:

Table 41 Request-Response Invocation Service Configuration - Advanced Tab

Field	Description
Destination	Available only for the JMS transport. By default, a dynamic destination is generated using the Domain and Deployment global variables, the adapter acronym, the adapter instance name, and the service name. If you use this default dynamic destination, ensure that the values for Domain and Deployment are not empty. You can override the default dynamic destination by specifying the static destination in this field. The static destination *must* be defined on the EMS server before it can be used by the runtime adapter. See the *TIBCO Enterprise Message Service User's Guide* for information about destinations.
Message Subject	Available only for the Rendezvous transport. By default, a service uses a message subject that is generated using the Domain and Deployment global variables, the adapter acronym, the adapter instance name and the service name. If you use this default subject, make sure the values for Domain and Deployment are not empty. You can type a TIBCO Rendezvous subject name different from the default in this field. See *TIBCO Rendezvous Concepts* for information about specifying subject names.
Endpoint Reference	The location in TIBCO Repository where the endpoint information will be stored (default). Endpoints store information such as message subject, endpoint type, and startup state.
Schema Reference	A link to a location for the defined PeopleSoft adapter schema.

Configuration Task Sequence

To configure a Request-Response Invocation Service, follow these steps:

1. In the Project Panel, expand the adapter instance folder (by default, PeopleSoftAdapterConfiguration).
2. Click **Adapter Services** in the project panel.
3. Drag a **Request-Response Invocation Service** icon to the Design Panel.
4. Specify options in the **Configuration** tab. See Configuration Tab on page 121 for more information.

5. Click the **Apply** button. This generates a unique endpoint with a TIBCO Rendezvous subject name. The adapter automatically enters this information in the **Advanced** tab.

> Rendezvous is selected as the default Transport Type. If you select JMS as the Transport Type, a unique endpoint with the destination name will be generated.

6. Click the **Get Schema** button. This downloads the Message schema from PeopleSoft to TIBCO Designer.
7. Specify options in the **SubscriberOptions** tab. See SubscriberOptions Tab on page 123 for more information.
8. Save your project.

Common Configuration Options for Adapter Services

This section explains the following common configuration options for adapter services:

- Transport Type, page 126
- Quality of Service, page 126
- Wire Format, page 127
- Connection Factory Type, page 128
- Delivery Mode, page 128

The transport type (Rendezvous or JMS) you select for the runtime adapter determines transport specific service options. Only options that are compatible with a service's transport type will be available in the Configuration Panel.

Transport Type

There are two transport types available for the runtime adapter, namely JMS and Rendezvous. After selecting the transport type, you can configure the transport specific options. Only options that are compatible with the service's transport type appear in the Configuration Panel.

The transport can be configured to use a trusted store and identity resource for use in SSL (Secure Sockets Layer) configurations. TIBCO Rendezvous sessions and JMS topics have an SSL configuration field which uses a dialog to perform SSL configuration.

To enable and configure SSL:

1. In the Project Panel, select the adapter instance.
2. Expand **Advanced** > **Sessions**, and then select the TIBCO Rendezvous session or JMS session.
3. Check the **Use SSL?** checkbox in the Configuration Panel.
4. Click the **Configure SSL...** button to do further configuration.

The SSL configuration options are explained in the online help associated with the session dialog.

Quality of Service

If you have selected Rendezvous as the transport type, then select Quality of Service.

Certified

Guarantees that every certified message reaches its intended recipient in the order sent. The message can be sent across network boundaries and, if a network fails, delivery attempts continue until it succeeds or the message times out. This is called certified message delivery.

If certified message delivery is used, data is stored in a ledger file. The size of the ledger depends on several factors, the most important one is the retention rate of stored data. That is, the ledger grows fastest in response to the cumulative length of undeliverable messages. Ensure that sufficient disk space is available for the expected size of the ledger.

Reliable

Ensures that each multicast or broadcast message is received as long as the physical network and packet recipients are working. It also ensures that the loss of a message is detected.

This option can compensate for brief network failures because it can retransmit a message on request if the first attempt failed. This choice is appropriate when message delivery is expected but some loss can be tolerated.

Distributed Queue

Distributed Queue delivers a message to one-of-many service listeners (workers). It contains features of both Certified Messaging and Fault Tolerance.

Wire Format

XML Message

The XML Message wire format conforms to specifically constructed and fully compliant XML Schema (XSD) based on the existing definition of the ActiveEnterprise schema.

For the XML Message wire format, when carriage returns are passed through the adapter, they are converted to line feeds. This behavior is as per the W3C specifications.

ActiveEnterprise Message

The ActiveEnterprise Message is available only for the Rendezvous transport.

Control information for validation is sent in the message. If no control information is included, an exception is returned to the subscription service. ActiveEnterprise standard wire format provides class information and packing rules for the TIBCO Adapter SDK set of data types. This format allows ActiveEnterprise components to perform extra validation on messages sent or received.

See *TIBCO Adapter SDK Programmer's Guide* for details about the control information generated and sent with ActiveEnterprise messages.

Connection Factory Type

For JMS transport, there are two kinds of connection factories.

Topic

A message published to a topic is broadcast to one or more subscribers. All messages published to the topic are received by all services that have subscribed to the topic. This messaging model is known as publish-subscribe.

Queue

A message sent to a queue is consumed by one and only one receiver. Each message has only one receiver though multiple receivers may connect to the queue. The first receiver to access the queue gets the message. The other receivers do not. This messaging model is known as point-to-point.

Delivery Mode

For JMS transport, there are two groups of delivery modes.

CI Publication Service, IB Publication Service, and Request-Response Invocation Service

- Persistent — In general, a message marked as persistent will be available to a JMS client even if the EMS server goes down.

  Messages sent with the persistent delivery mode are always written to persistent storage, except when they are published to a topic that has no durable subscribers. When a topic has no durable subscribers, there are no subscribers that need messages resent in the event of a server failure. Therefore, messages do not need to be saved, and performance is improved because disk I/O is not required.

- Non-Persistent — A message marked as non-persistent will not be available to a JMS client if the EMS server goes down.

Subscription Service, Message Subscription Service, and Request-Response Service

- Durable — In general, a message marked as durable will be available to a JMS client even if the EMS server goes down.
- Non-Durable — A message marked as non-durable will not be available to a JMS client if the EMS server goes down.

See *TIBCO Enterprise Message Service User's Guide* for more information about the semantics for this field.

Chapter 6 Deploying and Starting an Adapter Using TIBCO Administrator

This chapter provides an overview about deploying, starting, stopping, and monitoring adapter services using the TIBCO Administrator.

Topics

Creating an EAR File in TIBCO Designer

The Enterprise Archive file (EAR) contains information on what you wish to deploy. This could be one or more adapter services, one or more TIBCO ActiveMatrix BusinessWorks process engines, or both.

Building an archive creates the EAR file, which you can then deploy from TIBCO Administrator. If you make changes to the business processes or adapter services included in the archive, you need to rebuild the archive. Saving the project does not affect the archive.

To create an EAR file in TIBCO Designer, follow these steps:

1. Configure the adapter services.
2. Select the project in the Project Panel.
3. Drag the **Enterprise Archive** icon from the General Palettes Panel to the Design Panel.
4. Select the Enterprise Archive you have just created in the Project Panel.

   If there are any configured adapter services in your project, an Adapter Archive resource becomes available in the Palettes panel.
5. Drag the **Adapter Archive** icon from the Palettes panel to the Design Pane.
6. Configure the adapter archive in the Configuration Panel. Click the **Browse resources** button to select the adapter instance in the Adapter field and then click the **Apply** button.
7. Select the Enterprise Archive in the Project Panel, and then click the **Build Archive** button in the Configuration Panel to create the archive file.

See Also

See the *TIBCO Designer User's Guide* for more information about this procedure. The guide is available from the Designer **Help** menu.

Deploying the Project

Before deploying a project, the machine on which the adapter is installed must be part of a TIBCO administration domain. After you have installed the TIBCO Administration Server, any machine on which you install TIBCO Runtime Agent (required by an adapter) can be added to the administration domain. The TIBCO software installed on the machine is then visible and accessible via the TIBCO Administrator GUI.

When you deploy a project, startup scripts and other information about the different components are sent to the machines to which the components were assigned. The project data store and TIBCO Administration Server are updated with the deployed components.

To deploy a project:

1. Import the EAR file into TIBCO Administrator.
   a. Start TIBCO Administrator. Log into the domain.
   b. In the left panel, select **Application Management**.
   c. Click the **New Application** button.
   d. In the Upload EAR File dialog, browse to select the EAR file. Click the **OK** button.
2. Assign adapter archives in the EAR file to adapters installed in the administration domain and likewise assign process archives to process engines.
3. In the New Application Configuration dialog, uncheck the **Quick Configure** checkbox, and then click the **Save** button.
4. Specify startup options for each adapter service.
5. In the Configuration Builder, click the top level application name, and then perform following tasks:
   a. Change the values in the Advanced tab if necessary.
   b. Click the **Save** button.
   c. In the Configuration Builder, select the adapter archive, and then click the **Add to Additional Machines** button.
   d. Select the machine and click the **OK** button.
   e. Click the **Save** button.
6. In the Configuration tab, click the **Deploy** button, and then click the **OK** button.
7. Once the deployment is complete, click the **Application Processes** button under the application. Select the adapter and the TIBCO ActiveMatrix BusinessWorks engine and click the **Start Selected** button.

See Also

See the *TIBCO Administrator User's Guide* for an introduction to the TIBCO administration domain and detailed information about the above steps.

See the *TIBCO Administrator Server Configuration Guide* for fault tolerance information.

Starting or Stopping the Adapter

The TIBCO Administrator Application Management module allows you to start, and stop deployed applications.

Starting the Adapter

To start an adapter service from the module:

1. In the Administrator GUI left-hand pane, expand **Application Management** > *ApplicationName* > **Service Instances**.
2. In the Service Instance panel, check the checkbox next to the adapter service.
3. Click the **Start Selected** button.

   The status changes from Stopped to Starting up to Started.

Stooping the Adapter

To stop the adapter service, click the **Stop Selected** button.

See Also

See the *TIBCO Administrator User's Guide* for more information.

Monitoring the Adapter

TIBCO Administrator offers a number of monitoring options.

- Specify alerts and TIBCO Hawk rulebases for each machine in the domain.
- Specify alerts and Hawk rulebases for each adapter service.
- View the log for each adapter service.

See Also

See the *TIBCO Administrator User's Guide* for information about configuring the above monitoring options.

Chapter 7 Configuring Advanced Topics

This chapter describes advanced topics such as modifying connection parameters, defining a TIBCO Hawk session and setting encoding options among others.

Topics

Password Handling

At design-time, the adapter uses a password to connect to the backend application and fetch metadata. At runtime, the adapter uses a password to connect to the back-end application and interoperate with it.

If you plan to run the adapter locally, define the runtime password value to be a global variable. Before starting the adapter, include the runtime password as client variable in the adapter's .tra file and obfuscate it using obfuscate tool. For example, if the password value is defined as %%myPassword%%, create a global variable named myPassword in the global variables section with no value and include the following entry in the adapter's .tra file:

```
tibco.clientVar.myPassword
```

If you plan to deploy the adapter using TIBCO Administrator 5.1, check the Service property of the global variable in the global variables section. Before deploying the adapter, go to the **Advanced** tab of the adapter archive and set the password value under the Runtime Variables section.

Do not set the password to type Password in the global variables section for Version AE Version 4.0 or AE Version 5.0 or any intermediate version.

Regeneration differences between adapters:

- Default subjects are not regenerated to reflect the new instance name when a service is moved.
- Manually changed certified messaging and certified messaging queue ledger file names are regenerated to defaults when a service is moved, or copied and pasted to a new instance.
- If a service associated with a custom session is moved, or copied and pasted, the custom session is not moved, or copied and pasted. The session is regenerated as a default session.

Modifying DTA Rendezvous Connection Parameters

You can modify the TIBCO Rendezvous connection properties used by the design-time adapter. The properties can be modified in the adpsft8DTA.tra properties file *or* in the adpsft8DTA.dat project. Both files are located in the bin directory.

Modifying the Properties File

The adpsft8DTA_RV.tra properties file contains properties that specify, for example, the pathname to the project where configuration information for the design-time adapter is defined, the location of the directories where trace files and the certified messaging ledger file are stored, and so on. Properties specified in the adpsft8DTA_RV.tra properties file overwrite the same properties specified in the project.

Use the following steps to specify custom Rendezvous connection properties for the design-time adapter.

1. Change directory to the bin directory. For example, on Microsoft Windows:
   ```
   cd C:\tibco\adapter\adpsft8\version_number\bin
   ```
2. Using a text editor, open the adpsft8DTA_RV.tra properties file.
3. Add or edit the following properties:

   ```
   tibco.clientVar.RvDaemon
   tibco.clientVar.RvNetwork
   tibco.clientVar.RvService
   ```

   See the TIBCO Rendezvous documentation for correct values to use for the parameters.
4. Restart the design-time adapter after making these modifications. The changes are not applied until the design-time adapter is restarted.

Modifying Palette Rendezvous Connection Parameters

Use the following steps to modify TIBCO Rendezvous connection parameters for the palette.

1. Open TIBCO Designer.
2. Open an existing project or a new project.
3. Drag and drop the **PeopleSoft Adapter Configuration** icon from the palette panel to the design panel.
4. Click **Global Variables** tab.
5. To modify TIBCO Rendezvous parameters with which the palette connects to the design-time adapter server,
   - Select the required parameters (adpsft8DTARvDaemon, adpsft8DTARvNetwork, adpsft8DTARvService) in the Name list.
   - Enter the value in the Value field and click the **Enter** button.

All subsequent interactions between TIBCO Designer and the design-time adapter will be on these set parameters. See the TIBCO Rendezvous documentation for correct values to use for the parameters.

Modifying the DTA JMS Connection Parameters

You can modify the JMS connection properties used by the design-time adapter. The properties can be modified in the adpsft8DTA_JMS.tra properties file or by modifying the global variables for an adapter instance. The adpsft8DT_JMS.tra file is located in the bin directory.

Modifying the Properties File

The adpsft8DTA_JMS.tra properties file contains properties that specify, for example, the pathname to the project where configuration information for the design-time adapter is defined, the location of the directories where trace files and the certified messaging ledger file are stored, and so on. Properties specified in the adpsft8DTA_JMS.tra properties file overwrite the same properties specified in the project.

Use the following steps to specify custom TIBCO JMS connection properties for the design-time adapter.

1. Change directory to the bin directory. For example, on Microsoft Windows:
   cd TIBCO_HOME\adapter\adpsft8\version_number\bin
2. Using a text editor, open the adpsft8DTA_JMS.tra properties file. Add or edit the following properties:
   tibco.clientVar.JmsProviderUrl *value*
   tibco.clientVar.TerminateSubject v*alue*
   where *value* is a valid JMS Server Provider url or Terminate Subject to stop the DTA. See the *TIBCO Enterprise Message Service Documentation* for correct values to use for the parameters.
3. Restart the design-time adapter after making these modifications. The changes are not applied until the design-time adapter is restarted.

Modifying the DAT File

If you enable the EMS authorization, you MUST add the username and the password in the adpsft8DTA.dat file, otherwise the JMS design-time adapter can not be started successfully.

You should set following values in the file: (Note: there are 2 places in the file)

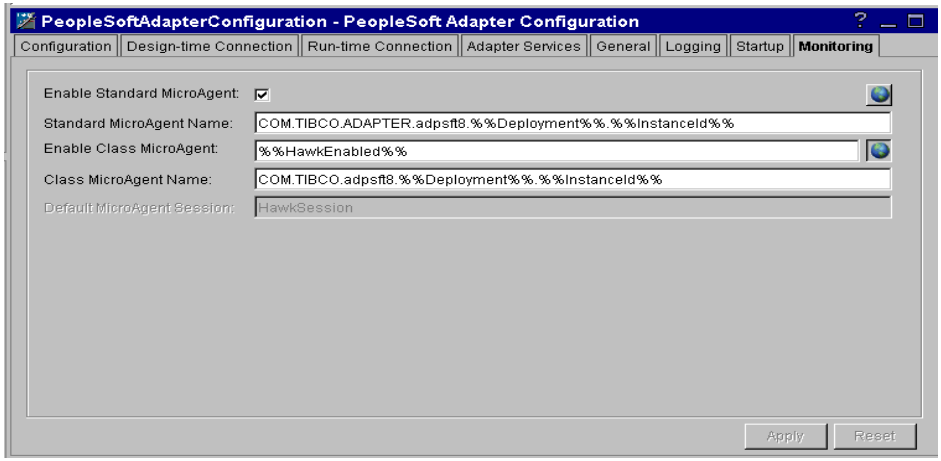
```
<string name="connUsername" value=""/>
<string name="connPassword" value=""/>
```

Defining a TIBCO Hawk Session

To use TIBCO Hawk to monitor the adapter you must first define a TIBCO Rendezvous session. A pre configured default Hawk session is available. You can modify the settings of the pre configured session provided or define a new one. Use the following steps to create a session:

1. In the project tree panel, click the **PeopleSoft Adapter Configuration** icon defined for your adapter configuration.
2. In the **Configuration** tab click the Show All tabs check box, then click the **Monitoring** tab.
3. Use default setting for all fields.
4. Click the **Apply** button.

   The next diagram shows the definition for a **Monitoring** tab. The pre configured session called HawkSession is displayed in this screen.

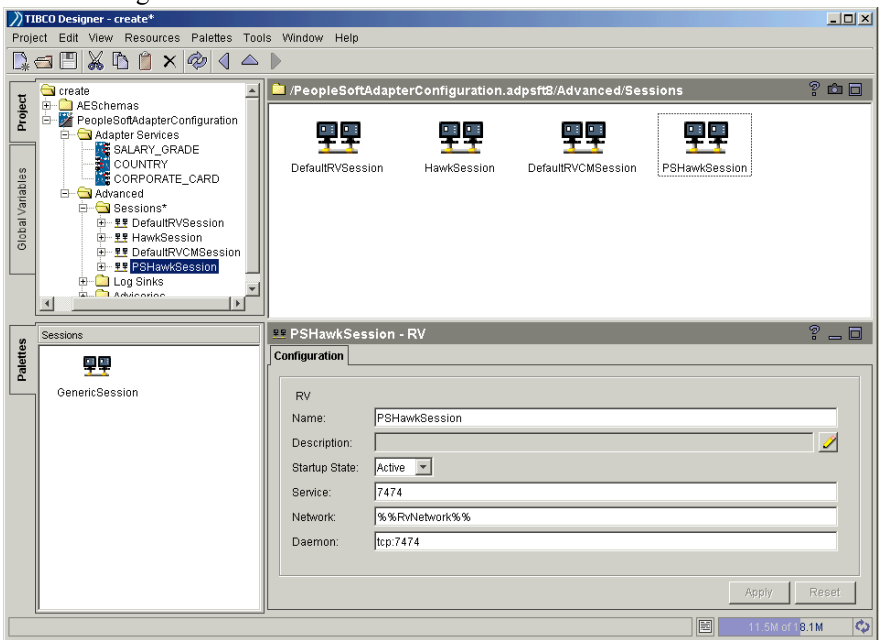


5. Open the Advanced folder for the adapter configuration. Highlight the Sessions folder by clicking on it.
6. Drag the GenericSession icon from the palettes panel to the design panel.
7. In the Session Type field, click the drop-down arrow and choose RV. Click the **Apply** button.
8. In Name, type the name previously assigned in the Default MicroAgent Session field under the **Monitoring** tab.
9. In Service, type **7474** (the default used by TIBCO Hawk).
10. In Daemon, type **tcp:7474** (the default used by TIBCO Hawk).

11. Click the **Apply** button and save the project.

To modify the parameters of the pre configured session, select HawkSession from the Advanced folder in the project panel and modify parameters as required.

The next diagram shows a new hawk session defined.



Using Global Variables

The variable substitution mechanism can override global variables predefined in the project in a restricted manner. Predefined variables can be viewed and set in TIBCO Designer. Variables are specified as %%VARNAME%% and cannot contain any white space.

Variable substitution allows you to accomplish the following.

- Substitute string variables specified in the project at startup time.
- Locally define the value for a variable for a specific project. The local value takes precedence over any global value.
- Specify the value for a variable in a properties file. This overrides the project repository and values set in code, but not variables set on the command line.
- Enforce the pre-defined variables listed in Predefined Global Variables on page 146.

  Variables can be used anywhere in the configuration and will be replaced by the locally-defined adapter instance.

Specifying Variables Using TIBCO Designer

Global variables provide an easy way to set defaults for use throughout your project. There are several ways in which they can be used:

- Define a variable using TIBCO Designer, then override the value for individual applications at deployment time using TIBCO Administrator. You can also override values for predefined variables, unless the GUI does not allow you to make set them later.
- Predefine a variable using TIBCO Designer, then override the value for individual services (for example, publication service or TIBCO ActiveMatrix BusinessWorks process) at deployment time using TIBCO Administrator. The values you specify are then used at runtime. You can also override values for predefined variables, unless the GUI does not allow you to set them later.

For example, you could assign the value 7474 to the predefined global variable RvDaemon. You can then use the variable in different sessions in your adapter. If you wish to change the TIBCO Rendezvous daemon for your adapter, you can globally set it to a different value or override it from the command line.

To use global variables in your project, follow these steps:

1. In the project panel, select the **Global Variables** tab.

The project panel is updated to display all currently defined global variables. Click Open Advanced Editor (pencil icon at the top left corner). You now have these choices:

— To assign or change a variable value, select that region and triple-click the variable. The variable expands so you can change either the variable name or the variable value. Press Enter when you're done.

— To add a new global variable group, click the left most icon at the bottom of the dialog box. Specify the name of the group, then press Enter. With the group icon selected, you can click the abc icon to add variables to the group.

— To add a global variable, click the abc icon. A new global variable item is added to the bottom of the list. Supply the variable name and, optionally, the value. Press Enter when you're done.

The global variable is now displayed in the global variables list.

2. When you want to use the global variable in the fields of a resource, enter the variable name surrounded by %% on both sides.

   When the project is deployed and the configured components are run, all occurrences of the global variable name are replaced with the global variable value (unless it was overridden in a way that had higher precedence).

A number of global variables are predefined. See Predefined Global Variables on page 146 for information. You may add definitions of any variables you need to the predefined variables.

Changing Global Variable Values at Runtime

You can change the value of a global variable when you deploy your project in TIBCO Administrator. See the section on modifying runtime variables in the *TIBCO Administrator User's Guide* for more information on using TIBCO Administrator.

You can also specify values for global variables when starting a process engine on the command line. To do this, specify the following as a command line argument when starting the process engine:

-tibco.clientVar.*variablePathAndName value*

where *variablePathAndName* is the name of the variable you wish to set, including the path to the variable if it is contained in a folder. *value* is the value you wish to set the variable to. For example, if you have a global variable named item1 contained in a folder named myGroup and you wish to set its value to 500, add the following argument to the command line when starting the process engine:

```
-tibco.clientVar.myGroup/item1 500
```

Predefined Global Variables

Table 42 lists and explains the predefined global variables. Some global variables are automatically used within the system when an adapter instance is configured.

Table 42 Predefined Global Variables (Sheet 1 of 4)

Variable	Description
General Global Variables	
Deployment	Defaults to the TIBCO Designer project name. This global variable is used by the system to partially define the subject name defined for a service.
DirLedger	Used by the system when defining the path name of the TIBCO Rendezvous certified messaging ledger file. The default is root installation directory.
DirTrace	Used by the system to partially create the path name for log file used by the adapter. The default is the root installation directory.
Domain	The default value is MyDomain. This value can be any string value. This global variable is used by the system to partially define the subject name defined for a service.
Env	Included for backward compatibility. Do not use.
HawkEnabled	Used by the system to indicate whether TIBCO Hawk is used to monitor the adapter. True indicates that a Hawk microagent is defined for the adapter. False indicates the microagent is not to be used.
JmsProviderUrl	Tells applications where the JMS daemon is located. Setting this value mostly makes sense in early stages of a project, when only one JMS daemon is used.
JmsSslProviderUrl	Specifies where the JMS SSL daemon is located.
RemoteRvDaemon	Used by the system to identify the TIBCO Rendezvous routing daemon. See *TIBCO Rendezvous Administration* for details about specifying the routing daemon name.
RvDaemon	Used by the system to identify the TIBCO Rendezvous daemon parameter. The parameter instructs the transport object about how and where to find the Rendezvous daemon and establish communication. The default value is 7500, which is the default value used by the Rendezvous daemon. See *TIBCO Rendezvous Concepts* for details about specifying the daemon parameter.

Table 42 Predefined Global Variables (Sheet 2 of 4)

Variable	Description
RvNetwork	Used by the system to identify the TIBCO Rendezvous network parameter. Every network transport communicates with other transports over a single network interface. On computers with more than one network interface, the network parameter instructs the TIBCO Rendezvous daemon to use a particular network for all outbound messages from this transport. See *TIBCO Rendezvous Concepts* for details about specifying the network parameter.
RvService	Used by the system to identify the TIBCO Rendezvous service parameter. The Rendezvous daemon divides the network into logical partitions. Each transport communicates on a single service; a transport can communicate only with other transports on the same service. See *TIBCO Rendezvous Concepts* for details about specifying the service parameter.
RvaHost	Used by the system to identify the computer on which the TIBCO Rendezvous agent runs. See *TIBCO Rendezvous Administration* for details about specifying the rva parameters.
RvaPort	Used by the system to identify the TIBCO Rendezvous agent TCP port where the agent listens for client connection requests. See *TIBCO Rendezvous Administration* for details about specifying the rva parameters.
TIBHawkDaemon	Used by the system to identify the TIBCO Hawk daemon parameter. See the *TIBCO Hawk Installation and Configuration* manual for details about this parameter.
TIBHawkNetwork	Used by the system to identify the TIBCO Hawk network parameter. See the *TIBCO Hawk Installation and Configuration* manual for details about this parameter.
TIBHawkService	Used by the system to identify the TIBCO service parameter. See the *TIBCO Hawk Installation and Configuration* manual for details about this parameter.

Table 42 Predefined Global Variables (Sheet 3 of 4)

Variable	Description
TIBCO ActiveMatrix Adapter for PeopleSoft Global Variables	
adpsft8.connection.appserver	Used by the system to identify the computer on which the PeopleSoft application server runs.
adpsft8.connection.login	Used by the system to identify the username to log in the PeopleSoft server.
adpsft8.connection.password	Used by the system to identify the password to log in the PeopleSoft server.
adpsft8.connection.port	Used by the system to identify the PeopleSoft application server port.
adpsft8.message.http.port	Used by the system to identify the message port.
adpsft8.multithread.number	Used by the system to identify the number of connections to be opened with the PeopleSoft application server by the adapter. This variable is applied to the Number Of Threads field in the General Tab when you configure an adapter instance. **See also**: General Tab on page 86.
adpsft8DTAJmsProviderURL	Used by the system to identify the TIBCO EMS server address.
adpsft8DTARvDaemon	Used by the system to identify the TIBCO Rendezvous daemon parameter to connect to the design-time adapter. The parameter instructs the transport object about how and where to find the Rendezvous daemon and establish communication. See *TIBCO Rendezvous Concepts* for details about specifying the daemon parameter.
adpsft8DTARvNetwork	Used by the system to identify the TIBCO Rendezvous network parameter to connect to the design-time adapter. Every network transport communicates with other transports over a single network interface. On computers with more than one network interface, the network parameter instructs the TIBCO Rendezvous daemon to use a particular network for all outbound messages from this transport. See *TIBCO Rendezvous Concepts* for details about specifying the network parameter.

Table 42 Predefined Global Variables (Sheet 4 of 4)

Variable	Description
adpsft8DTARvService	Used by the system to identify the TIBCO Rendezvous service parameter used to connect to the design-time adapter. The Rendezvous daemon divides the network into logical partitions. Each transport communicates on a single service; a transport can communicate only with other transports on the same service. See *TIBCO Rendezvous Concepts* for details about specifying the service parameter.

Setting Encoding Options

See *TIBCO ActiveMatrix Adapter for PeopleSoft Concepts* for an introduction to Internationalization topics such as Unicode and how adapters handle it.

The wire format encoding used for communication between adapters and TIBCO applications is determined by the encoding property set in the project. Configure inter-communication encoding prior to running the adapter so it can handle files in different encoding.

The adapter configuration can be saved in a local or repository server-based project.

- If the adapter configuration is saved in a repository server-based project, inter-communication encoding is determined by the repo.encoding property in the server's config file. Each adapter or TIBCO application that uses the repository server for storing and retrieving configuration data from a project uses this encoding setting when communicating. This assures that all components (including adapters and other TIBCO applications) that use the same repository also use the same encoding value to communicate. The repo.encoding property value can be ISO8859-1 (the default) or UTF-8. If English or other Latin-1 language data is transmitted between adapters, ISO8859-1 should be used. Otherwise use UTF-8.
- If an adapter configuration is saved in a local project, the inter-communication encoding is determined by the encoding property of the local project file. To communicate with other adapters using the same encoding, all adapters and applications must set their local project file encoding property identical. Use the Repository Finder in TIBCO Designer to set the encoding property for a local project. The default encoding is Latin-1.

When a local project is later promoted to a repository server-based project, the encoding property set in the project file is superseded by the server's encoding property.

The encoding property discussed above is the encoding used by the communication between adapters and applications, not the encoding used for the persistent storage of the project files. Project files are always saved using UTF-8.

Configuring a Remote Adapter

If only TIBCO Designer is installed on your computer but the adapter is installed on a remote computer, you can still configure the adapter from your computer, as long as the remote computer has a PeopleSoft client.

To do this:

1. Copy the two TIBCO ActiveMatrix Adapter for PeopleSoft palette files (adpsft8palette.dat and adpsft8palette.jar), located in *TIB_ADPSFT8_HOME*\lib\palettes, from the remote computer to your computer.
2. Go to the *TIBCO_HOME*\Designer\designer_version_number\bin directory and open the designer.tra file. Modify the path specified for the property that enables Designer to find the adapter's palette as shown:

   #application.args -d
   java.property.palettePath

   TIB_ADPSFT8_HOME/lib/palettes

   Save and close the designer.tra file.
3. Open the project in TIBCO Designer. In the project tree panel, select the **PeopleSoft Adapter Configuration** icon and configure it as required. This icon represents the remote adapter configuration.

Running Multiple Design-Time Adapters

A single design-time adapter can support multiple simultaneous connections to the PeopleSoft Application Server and can serve multiple TIBCO Designers simultaneously. If, however, your circumstances require multiple design-time adapters to be running, you can modify adapter software so that another design-time adapter can run using another TIBCO Rendezvous port (for the DTA using TIBCO Rendezvous) or another JMS Provider url (for the DTA using TIBCO JMS).

To do this:

1. If the design-time adapter is running, stop it.
2. Edit the design-time adapter properties file to set the required connection parameters. For details on setting design-time adapter connection parameters see Modifying DTA Rendezvous Connection Parameters on page 139 or Modifying the DTA JMS Connection Parameters on page 141.
3. Open the required project in TIBCO Designer, select the **Global Variables** tab and set the values of the following predefined global variables to those specified in the design-time adapter properties file:
   - adpsft8DTARvDaemon
   - adpsft8DTARvNetwork
   - adpsft8DTARvService
4. Start the design-time adapter and proceed with project configuration on TIBCO Designer using the new instance of design-time adapter.

Multi-threading and Deployment

The adapter maintains a pool of threads allowing the adapter to respond to and process multiple events simultaneously, thereby improving the performance of the adapter. The threads are shared across all the services configured in a particular instance. Each thread creates its own session with the PeopleSoft Application Server. The number of connections can be configured using the Number of Threads field (see General Tab on page 86).

PeopleSoft's Component Interfaces are thread-safe but not instance-safe. Hence, it is advisable not to run multiple instances of the Subscription Service or Request-Response Service if the incoming messages would insert or update the same record.

Do not run more than one adapter instance configured for Publication Service against the same record in a PeopleSoft database, because this may result in race condition when the services are trying to manipulate the same record. However, the adapter instances work well if the Publication Service of each running instance is configured for different component interfaces.

Using the Operation Code Feature

The adapter, running as a Publication Service, is capable of capturing the mode of operation of the outbound transaction. This mode is published out as a property of the outgoing schema. The name of the property is OpCode and its valid values are:

A — Add

U — Update

L — Update All

C — Correction

In a typical business scenario, if a record is updated in a PeopleSoft system A, this update needs to be replicated in another PeopleSoft system B. The OpCode property is published out as a part of the outbound schema from the adapter for System A. The mapping component (TIBCO IntegrationManager, etc.) is used to map the OpCode properties of the inbound and outbound schemas. The adapter for System B, running as a Subscription Service, uses this property as an input for processing the inbound transaction.

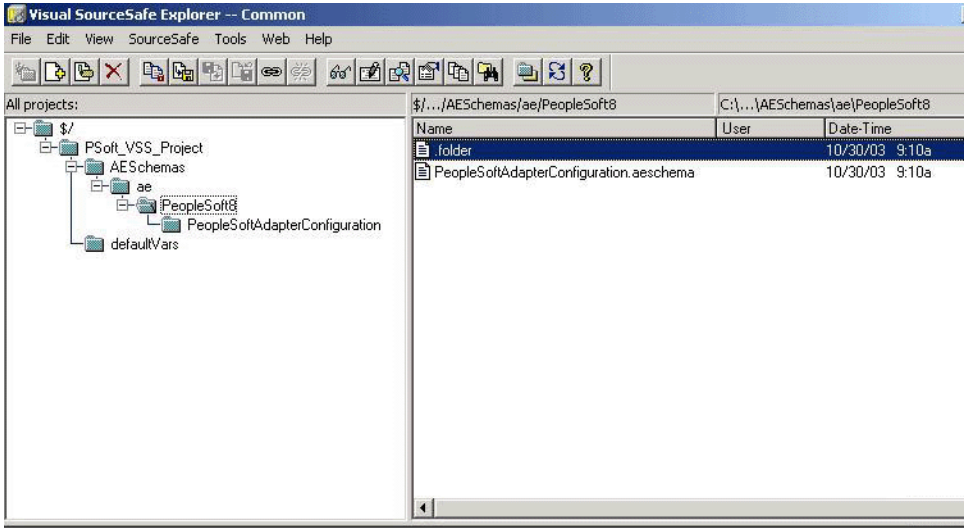
The Operation Code feature is not available for the 4.x adapter. However its presence in the configuration will not affect 4.x adapter functionality.

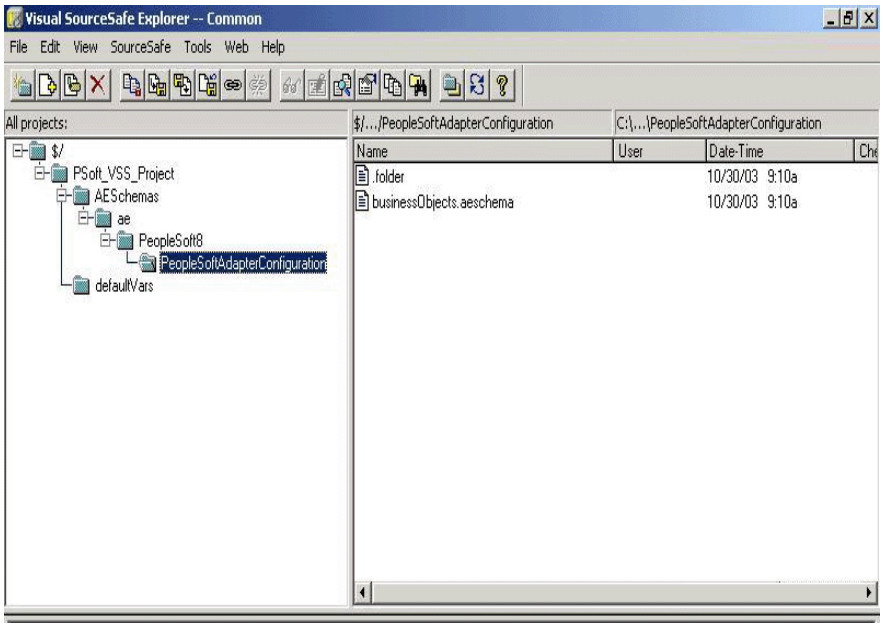
Using the Adapter with a Revision Control System

TIBCO Designer supports revision control systems such as MicroSoft Visual SourceSafe and Perforce. If you are using a revision control system, you must manually add some configured resources to the revision control system and check in the resources when completing the instance configuration.

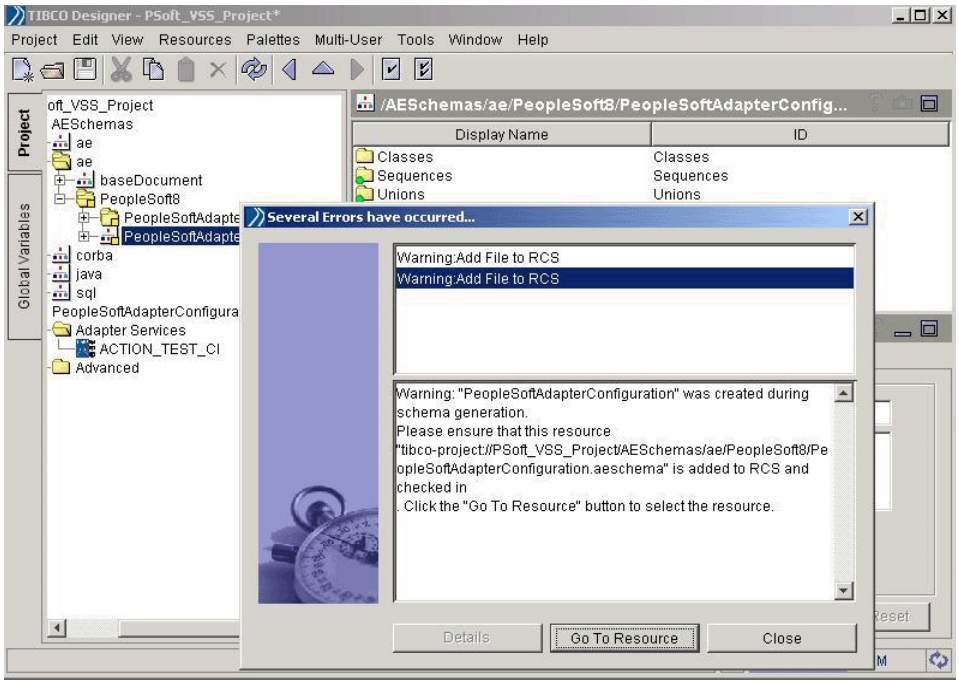
As part of service configuration, the adapter creates schema files in root/AESchemas/ae/PeopleSoft. For example, if you configure a service in an adapter configuration Instance1, the following files are created:

Project_root/AESchemas/ae/PeopleSoft/Instance1.aeschema
Project_root/AESchemas/ae/PeopleSoft/Instance1/businessObjects.aeschema





When the project is saved and a revision control system has been specified, the adapter displays a warning that additional files were created and should be added to the revision control system. This warning appears only when the files are created for the first time. The warning displays a Go To Resource button that helps in navigating to the resource. You should use the Multi-User>Add Resources to RCS menu command to add these files to the revision control system.



For information about how to use the Multi-User feature in TIBCO Designer, see *TIBCO Designer User's Guide*.

Copy, Cut, Paste and Move Operations

To successfully copy and paste a service from adapter *Instance1* to *Instance2*, the adapter configuration and schema files for the *Instance2* must be checked out.

To successfully cut and paste a service from adapter *Instance1* to *Instance2*, the adapter configuration and schema files for both *Instance1* and *Instance2* must be checked out.

To successfully move a service from adapter *Instance1* to *Instance2*, the adapter configuration and schema files for both *Instance1* and *Instance2* must be checked out.

Implementation of Keys in the TIBCO Adapter for PeopleSoft

PeopleSoft Component Interfaces become schemas in the adapter. When applying a PeopleSoft Component Interface to a Subscription Service or a Request-Response Service in the adapter, the fields in the CREATEKEYS (if applicable), GETKEYS and FINDKEYS buckets in every Component Interfaces definition hold a special significance as described below.

FINDKEYS

The adapter exposes the FINDKEYS functionality of PeopleSoft Component Interface technology as a feature which can be used with the adapter's Request-Response Service. If the FINDKEYS values are specified in the incoming request, they take precedence over any GETKEYS or CREATEKEYS values specified. The adapter's Request-Response Service uses the same to query PeopleSoft and return a sequence of FINDKEY keys with values, which satisfy the query criterion, as a reply. Please note that any other part of the incoming request (GETKEYS, CREATEKEYS or PROPERTIES) is ignored.

Fields in FINDKEYS should be a superset of fields in GETKEYS() as the fields under these will decide the query criterion.

GETKEYS

The adapter primarily uses GETKEYS to update a particular record in PeopleSoft. For Request-Response Service, if the FINDKEYS values are not specified in the incoming request, the adapter looks for GETKEYS values. For a Subscription service, the adapter by default looks for GETKEYS and ignores the FINDKEYS completely.

If the GETKEYS values are specified (if not specified, see CREATEKEYS on page 159), the adapter queries PeopleSoft to check if the record exists. If the record exists, the adapter updates that record in PeopleSoft fields with values specified under the PROPERTIES keys.

The GETKEYS keys should be a subset of the FINDKEYS keys. This is to avoid an error scenario wherein the adapter is trying to search a record with a key which is not a part of FINDKEYS in the CI definition.

If the record does not exist, the adapter looks for CREATEKEYS (in such a scenario see CREATEKEYS on page 159).

CREATEKEYS

The adapter primarily uses CREATEKEYS to create a record in PeopleSoft. If neither GETKEYS nor FINDKEYS are specified in the incoming requests (or due to the conditions arising out of the two scenarios described in GETKEYS), the adapter looks for CREATEKEYS in the incoming request.

If specified, the adapter queries PeopleSoft to check if the record already exists. If the record is not found, the adapter creates a new record with the CREATEKEYS fields as primary fields and PROPERTIES keys as values for the non-primary fields. If the record already exists, an error is thrown by the adapter saying CREATEKEYS failed.

The CREATEKEYS should be a subset of the FINDKEYS keys. This is to avoid an error scenario wherein the adapter is trying to search a record with a key which is not a part of FINDKEYS in the CI definition.

Each CI can have multiple levels up to Level 3. In this case, the adapter mandates the occurrence of key fields at all levels in this scenario for performing the CREATE, UPDATE, DELETE or FIND operations successfully at all levels.

In case of the Publication Service (CI based as well as Application Messaging based), the adapter populates the PROPERTIES with the values extracted from the parsed XML (obtained from the TIB_CI_MQUEUE table). The GETKEYS, CREATEKEYS or FINDKEYS hold no significance whatsoever.

Valid Operation Codes for the Adapter

PeopleSoft Component Interface can have multiple levels up to Level 3. The adapter can INSERT, UPDATE or DELETE the records at all these levels. In these case, the key fields should be present at all levels and the user needs to provide the operation code at all levels.

Valid values for OPRN_CODE for CREATEKEYS and GETKEYS scenario are:

- UPDATE — U
- INSERT — I
- DELETE — D

CREATEKEYS Scenarios

For all CREATEKEYS scenarios, specify I as the value for OPRN_CODE for all the records in the request.

GETKEYS Scenarios

1. To update details of an existing record, specify U as the value for OPRN_CODE at all levels.

2. To insert a new record under an existing record, specify I as the OPRN_CODE for the record to be inserted. If the new record to be inserted is not a Level1 record, specify U as the OPRN_CODE for the parent record(s) under which the new record is inserted in the following format:

   ```
   Level1 record    - 'U'
     Level2 record   - 'I'
   ```

3. To delete a record under an existing record, specify D as the OPRN_CODE for the record to be deleted. If the record to be deleted is not a Level1 record, specify U as the OPRN_CODE for the parent record(s) from which the record is to be deleted in the following format:

   ```
   Level1 record    - 'U'
     Level2 record   - 'D'
   ```

4. While inserting a new Level1 record with Level2 and Level3 records under it, specify the value for the OPRN_CODE in the following format:

   ```
   Level1 record    - 'I'
     Level2 record   - 'I'
       Level3 record  - 'I'
   ```

   For some CIs, PeopleSoft by default creates child records while inserting a new record. For example, while inserting a new Level1 record for some CIs, PeopleSoft creates Level2 and Level3 records by default. In such a scenario specify the value for the OPRN_CODE in the following format:

   ```
   Level1 record    - 'I'
     Level2 record   - 'U'
       Level3 record  - 'U'
   ```

Compressing JMS Messages

JMS message compression is a service-level option. It is especially useful when messages are to be stored on the TIBCO Enterprise Message Service server, including persistent queue messages, or topics with durable subscribers. Enabling compression ensures that messages occupy less memory in storage and are handled faster by the TIBCO Enterprise Message Service server. When JMS messages are compressed and stored, they are handled by the server in the compressed form.

The compression option only compresses the body of a message. Headers and properties are never compressed. It is best to enable compression when the message bodies are large and the messages are to be stored on a server.

When messages are not to be stored, compression is not as useful. Compression normally takes time, and therefore the time to send or publish and receive compressed messages is generally longer than the time to send the same messages uncompressed. There is little purpose to message compression for small messages that are not to be stored by the server.

JMS message compression is only available for CI Publication Service, Message Publication Service, and Request-Response Invocation Service.

You can enable or disable this feature for message senders by using the JMS Compress drop-down list in the Configuration tab of a service. See Configuration Tab in the Configuration Options section of each of the three services in Chapter 5, Configuring Adapter Services.

Chapter 8 Monitoring the Adapter Using TIBCO Hawk

This chapter explains how to use TIBCO Hawk microagents to monitor and manage the adapter.

Topics

Overview

TIBCO Hawk is a sophisticated tool for enterprise-wide monitoring and managing of all distributed applications and systems. System administrators can use it to monitor adapters in a wide area network of any size. TIBCO Hawk can be configured to monitor system and adapter parameters and to take actions when predefined conditions occur. These actions include: sending alarms that are graphically displayed in TIBCO Hawk Display, sending email, paging, running executables, or modifying the behavior of a managed adapter.

Unlike other monitoring applications, TIBCO Hawk relies on a purely distributed intelligent agent architecture using Publication or Subscription to distribute alerts. TIBCO Hawk uses TIBCO Rendezvous for all messaging and thus gains the benefits and scalability from the TIBCO Rendezvous features of Publication or Subscription, subject name addressing, interest-based routing, and reliable multicast.

TIBCO Hawk is a purely event-based system that uses alerts. The agents are configured with rules that instruct them on everything from what and how to monitor to what actions to take when problems are discovered. Thus the workload is fully distributed throughout the enterprise. Every agent is autonomous in that it does not depend on other components to perform its functions.

TIBCO Hawk Enterprise Monitor consists of the following components:

The TIBCO Hawk Enterprise Monitor consists of following components:

- **Display** GUI front end that displays alarms and provides editors to create rule bases, create tests, view messages, and invoke microagents to request information or initiate an action.
- **Agents** Intelligent processes that perform monitoring and take actions as defined in rules.
- **Rulebases** Rules that are loaded by agents to determine agent behavior.
- **Application Management Interface (AMI)** Manages network applications via TIBCO Rendezvous and supports communication between a network application and monitoring TIBCO Hawk agents, including the ability to examine application variables, invoke methods, and monitor system performance.
- **Microagents** Feed information back to TIBCO Hawk and expose action methods to rulebases.

Starting TIBCO Hawk Software

The TIBCO Hawk agent can be configured to start automatically during the system boot cycle. See the *TIBCO Hawk Installation and Configuration* guide for information about starting TIBCO Hawk.

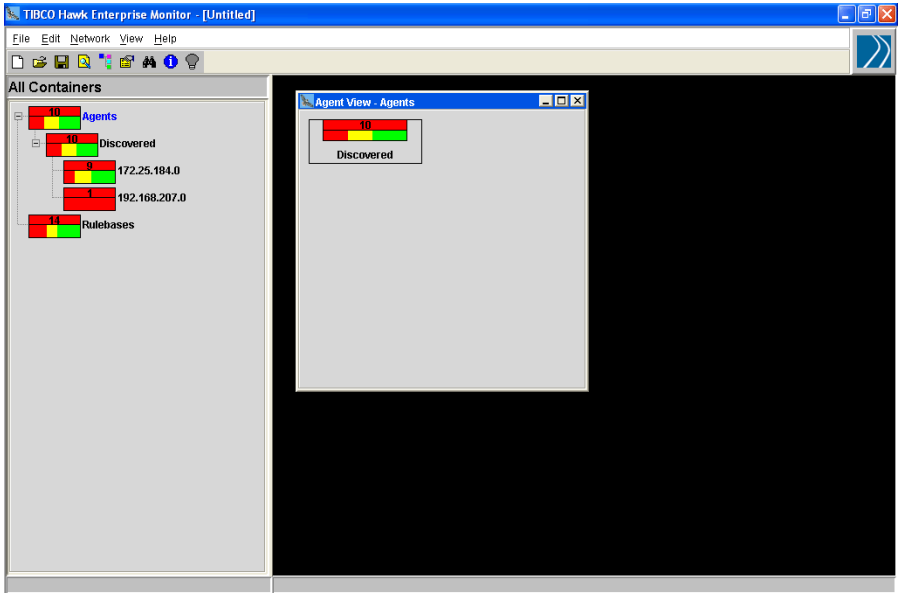
TIBCO Hawk Administrator's Guide explains how to start TIBCO Hawk Display.

The Auto-Discovery Process

After you start an instance of TIBCO Hawk Display, it continually discovers machines running TIBCO Hawk Agents on your network. Container icons are created for each agent, and arranged hierarchically in clusters. By default, agent icons are clustered according to subnets.

At first, the Agents container is empty. Its counter displays a value of zero and, on the right, the Discovered counter is also at zero. Both icons are initially green in color to show that no alerts, or warning messages, are in effect. As agents are discovered, the counters increment to reflect the current number of discovered agents:

Figure 27 TIBCO Hawk Enterprise Monitor



Monitored network nodes are arranged in a hierarchical tree of containers. Clicking a container in the left panel displays nested items on the right.

Icon colors change to reflect the highest level of alert found on discovered agents. For explanations of icon elements and characteristics, see *TIBCO Hawk Administrator's Guide*.

Invoking Microagent Methods

A set of default microagents, platform-specific and platform-independent, is loaded when a TIBCO Hawk Agent is started. When you install and start the TIBCO ActiveMatrix Adapter for PeopleSoft, microagents for the adapter are dynamically added to the local agent.

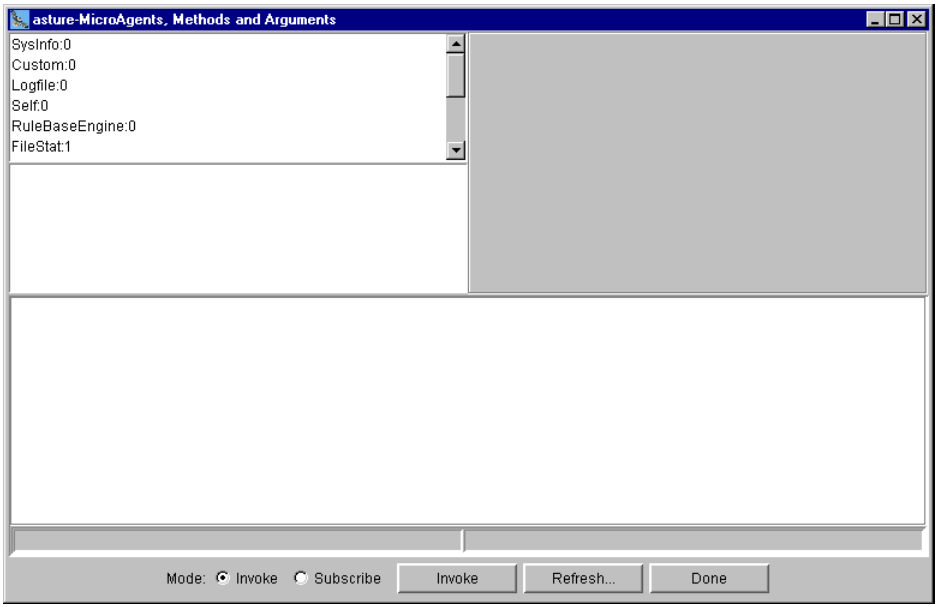
To invoke a microagent method on a TIBCO Hawk Agent, follow these steps:

1. In TIBCO Hawk Display, right-click on the agent icon and select **Get Microagents**.

   If TIBCO Hawk security is implemented on your system and you do not have access to microagents on this agent, an error dialog displays. Select another agent, or contact your system administrator to obtain access.

2. The Microagents, Methods and Arguments dialog displays. The panel on the upper left lists microagents you can access on the current agent.

Figure 28 Microagents, Methods and Arguments Dialog

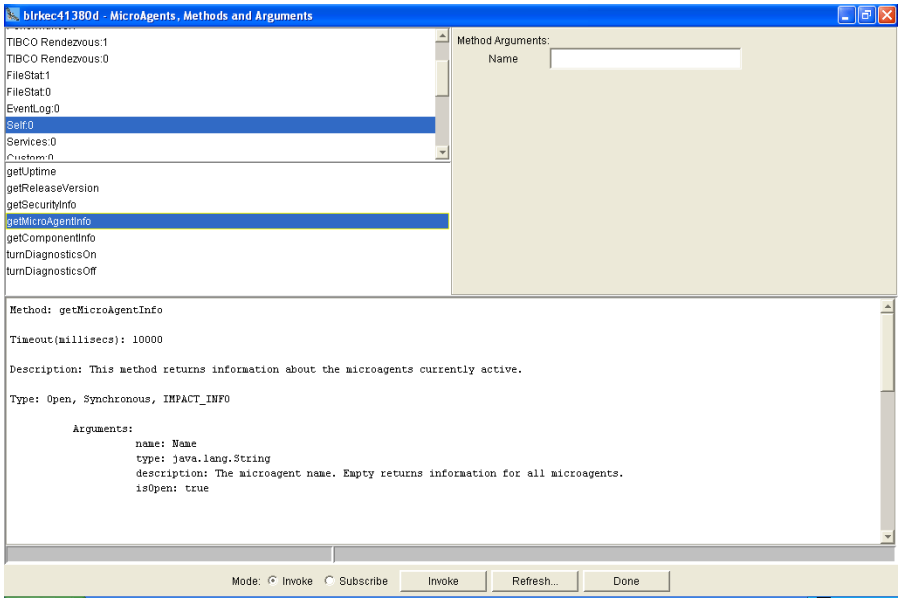


   This dialog has two modes, Invoke and Subscribe. Invoking a method immediately returns a single set of current results. Subscribing provides updates of current results at regular intervals. Radio buttons at the bottom of the dialog control these modes.

3. Click a microagent name, such as **Self**, to display a list of associated methods and text descriptions in the panels below.

4. Click the name of the method to invoke, such as getMicroAgentInfo, as shown in Figure 29.

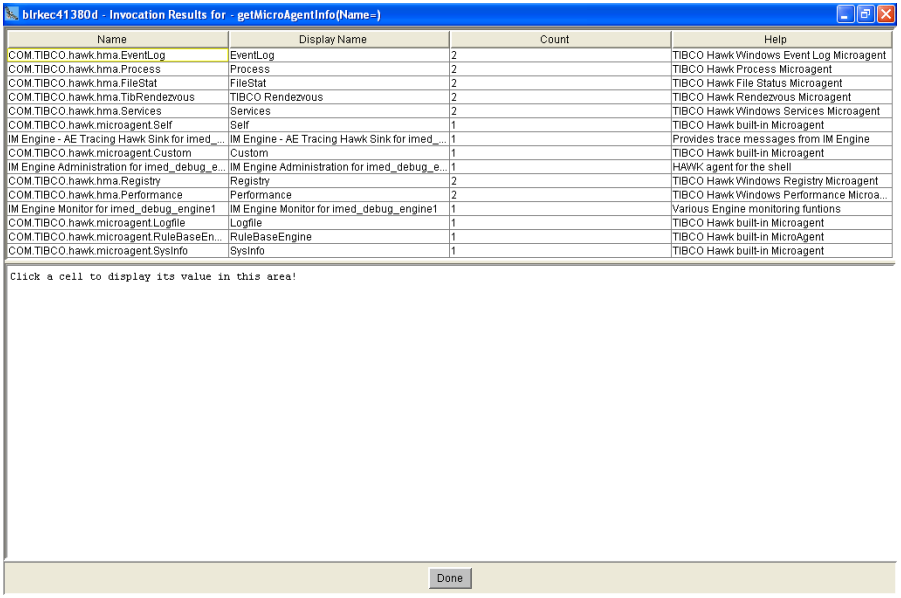
Figure 29 Select Microagent and Method



If the method accepts arguments, fields for each argument display in the upper right panel. Detailed help text displays in the lower panel.

5. Specify any arguments for the method invocation.
6. Verify that the Invoke radio button is selected.
7. Click the **Invoke** button to invoke the selected method. The Invocation Results dialog displays the results returned by the method, as shown in Figure 30.

Figure 30 Invocation Result Dialog



Name	Display Name	Count	Help
COM.TIBCO.hawk.hma.EventLog	EventLog	2	TIBCO Hawk Windows Event Log Microagent
COM.TIBCO.hawk.hma.Process	Process	2	TIBCO Hawk Process Microagent
COM.TIBCO.hawk.hma.FileStat	FileStat	2	TIBCO Hawk File Status Microagent
COM.TIBCO.hawk.hma.TibRendezvous	TIBCO Rendezvous	2	TIBCO Hawk Rendezvous Microagent
COM.TIBCO.hawk.hma.Services	Services	2	TIBCO Hawk Windows Services Microagent
COM.TIBCO.hawk.microagent.Self	Self	1	TIBCO Hawk built-in Microagent
IM Engine - AE Tracing Hawk Sink for imed_...	IM Engine - AE Tracing Hawk Sink for imed_...	1	Provides trace messages from IM Engine
COM.TIBCO.hawk.microagent.Custom	Custom	1	TIBCO Hawk built-in Microagent
IM Engine Administration for imed_debug_e...	IM Engine Administration for imed_debug_e...	1	HAWK agent for the shell
COM.TIBCO.hawk.hma.Registry	Registry	2	TIBCO Hawk Windows Registry Microagent
COM.TIBCO.hawk.hma.Performance	Performance	2	TIBCO Hawk Windows Performance Microa...
IM Engine Monitor for imed_debug_engine1	IM Engine Monitor for imed_debug_engine1	1	Various Engine monitoring funtions
COM.TIBCO.hawk.microagent.Logfile	Logfile	1	TIBCO Hawk built-in Microagent
COM.TIBCO.hawk.microagent.RuleBaseEn...	RuleBaseEngine	1	TIBCO Hawk built-in MicroAgent
COM.TIBCO.hawk.microagent.SysInfo	SysInfo	1	TIBCO Hawk built-in Microagent

8. Click the **Done** button to close the dialog.

These steps describe how to interactively invoke a microagent method and receive a single set of results in TIBCO Hawk Display. You can also use a microagent method as the data source of a TIBCO Hawk rule. Rules automatically receive method results, apply tests to evaluate them, then take action if necessary. For more information on building TIBCO Hawk rules and rule bases, see your *TIBCO Hawk Administrator's Guide*.

Available Microagents

Each adapter has two microagents, a standard TIBCO Hawk microagent named COM.TIBCO.ADAPTER.*xyz* where *xyz* is the adapter configuration name and a custom microagent.

The microagents provide:

- Business level statistics—statistics that report the progress of the adapter as it interacts with PeopleSoft. For example, in a database adapter such statistics might indicate whether objects were successfully or unsuccessfully inserted, updated, or deleted in the database.
- Queries that return information about the state of the adapter. This can be an important tool for seeing the internals of an adapter and debugging it if something appears wrong. For example, methods can return information about threads, internal queues, or connections to the target system. Using these methods, one might be able to identify certain bottlenecks or gauge how successfully an adapter is scaling with respect to the current environment.
- Updates of the adapter runtime parameters. This includes retrieving the current runtime parameters and setting new runtime parameters without restarting the adapter. An example of this is getting and setting the polling interval. Updating a runtime parameter through the Hawk microagent only affects the setting of the instance that is running. It does not make a permanent change of the setting in either the repository or the .tra file.

By default, all microagents are available at runtime.

Custom microagents are deprecated in this release. All business statistics related methods which were part of the custom microagent are now available in the class microagent.

perfMon property value set in the adapter's property file affects the business statistics related methods. If this property is set to on, the adapter does all the performance related calculations. When you invoke the methods, if the perfMon property is set to off, default values are displayed and not the valid values.

You can disallow adding custom methods to the class microagent when deploying the adapter by changing the addCustomHawkMethodstoClassMAgent property value in the adapter's property file. If this property is set to on, custom methods are added to the class microagents. If set to off, these methods are not visible.

Table 43 and Table 44 lists each standard method available for the adapter..

Table 43 Standard Microagent Methods

Method	Description
activateTraceRole()	Activates a mapping of a role to a sink at runtime.
deactivateTraceRole()	Deactivates a mapping of a roles to sinks at runtime.
getAdapterServiceInformation()	Returns information about the services implemented by this adapter.
getComponents()	Returns information about the publisher, subscriber and IODescriptor.
getConfig()	Returns basic configuration information. More specific information is accessed by the more specific methods.
getConfigProperties()	Returns all attributes and elements for the given repository object.
getRvConfig()	Returns information about all TIBCO Rendezvous sessions defined.
getStatus()	Returns general status information, such as the number of TIBCO Rendezvous messages received and published, the number of errors since the last call, the PID of the application, and more.
getTraceSinks()	Returns information about sinks to which traces currently go.
getVersion()	Returns the configuration ID, application name, version, and date for this adapter instance.
_onUnsolictedMsg()	Displays alert messages sent to the current adapter.
preRegisterListener()	Preregisters an anticipated listener.
resetConnectionStatistics( )	Resets all the counts for the connection statistics.
resetThreadStatistics()	Resets all the counts for the thread statistics.
reviewLedger()	Returns information retrieved from the ledger file of a certified messaging session for a publisher adapter.
setThreadNumber()	(Component Interface only) Sets the number of connections to be opened with the PeopleSoft application server by the adapter.

Table 43 Standard Microagent Methods (Cont'd)

Method (Cont'd)	Description (Cont'd)
setTraceSinks()	Adds a role or changes the file limit of a previously specified sink.
stopApplicationInstance()	Stops the running adapter instance.
unRegisterListener()	Unregisters a currently preregistered listener.

Table 44 Class Microagent Methods

Method	Description
getActivityStatisticsBySchemaName()	Returns the total number of objects processed for the given schema by each service that uses the schema.
getActivityStatistics()	Returns the total number of objects processed for all the schemas.
getActivityStatisticsByOperation()	Returns the total number of objects processed for all the schemas by each service that is associated with a specified operation.
getActivityStatisticsByService()	Returns information about the services implemented by this adapter.
getConnectionStatistics()	Returns the state and statistics for all the current connections used by the adapter.
getPerfMonSetting()	Returns the setting of the perfMon option.
getQueueStatistics()	Returns the current count of elements in any internal queue used by the adapter.
getThreadStatistics()	Returns the operation counts of the current threads
getPollingInterval()	Returns the current polling interval setting.
setPollingInterval()	Sets the polling interval for the publication service.

activateTraceRole()

Purpose

Activates a mapping of a role to a sink at runtime. This replaces the now-deprecated setTraceSink() TIBCO Hawk method.

Parameters

Table 45 Input Parameters of activateTraceRole()

Input Parameters	Type	Description
roleName	string	Name of the role to activate.
sinkName	string	Name of the sink for which to activate the role.

deactivateTraceRole()

Purpose Deactivates a mapping of a roles to sinks at runtime.

Parameters

Table 46 Input Parameters of deactivateTraceRole()

Input Parameters	Type	Description
roleName	string	Name of the role to deactivate.
sinkName	string	Name of the sink for which to deactivate the role.

getActivityStatistics()

Purpose

Returns the total number of objects processed for all the schemas, based on the request type. Also, returns the number of success and error objects.

Parameters

Table 47 Input parameter of getActivityStatistics()

Input Parameter	Type	Description
GetSubTotalBy	string	Indicates how to group the subtotals, by Service or Operation.

Returns

Table 48 Returns of getActivityStatistics()

Returns	Type	Description
Name	string	Service name or All Services which represents the final tally of all the services.
Total	integer	Total number of objects processed including both success and failures.
Success	integer	Total number of objects successfully processed.
Failure	integer	Total number of objects that caused an error during processing.
MeasurementInterval	integer	Displays the time (in seconds) since last time the adapter was reset, or if never reset, since the adapter started.

getActivityStatisticsByOperation()

Purpose Returns statistics about one operation.

Parameters

Table 49 Input parameter of getActivityStatisticsByOperation()

Input Parameter	Type	Description
Operation	string	Name of the operation.

Returns

Table 50 Returns of getActivityStatisticsByOperation()

Returns	Type	Description
Operation	string	Name of the operation.
Service Name	string	Name of the service.
Total	integer	Total number of objects processed, both success and failures.
Success	integer	Total number of objects successfully processed.
Failure	integer	Total number of objects that caused an error during processing.
MeasurementInterval	integer	Displays the time (in seconds) since last time the adapter was reset, or if never reset, since the adapter started.
LineIndex	string	Concatenated string of Service Name and Operation separated by a comma.

getActivityStatisticsByService()

Purpose

Returns statistics about the data handled by a given adapter service or all adapter services since the time the adapter was started.

Parameters

Table 51 Input parameter of getActivityStatisticsByService()

Input parameter	Type	Description
Service Name	string	Name of service to get the statistics for. If no service name is given, performance statistics for all services is returned.

Returns

Table 52 Returns of getActivityStatisticsByService()

Returns	Type	Description
Service Name	string	Service name.
Schema Name	string	Name of top level schema processed by this service.
Operation	string	Type of operation this service provides.
Total	integer	Total number of objects processed, both success and failures.
Success	integer	Total number of objects successfully processed.
Failure	integer	Total number of objects that caused an error during processing.
MeasurementInterval	integer	Displays the time (in seconds) since last time the adapter was reset, or if never reset, since the adapter started.
LineIndex	string	Concatenated string of Service Name and Operation separated by a comma.

getAdapterServiceInformation()

Purpose

Returns information about the services implemented by this adapter. The information is a summary of available adapter services.

Parameters

Table 53 Input parameter of getAdapterServiceInformation()

Input Parameter	Type	Description
serviceName	string	Name of the service from which to get information. Default is ALL.

Returns

Table 54 Returns of getAdapterServiceInformation()

Returns	Type	Description
Line	integer	Sequential row number.
ServiceName	string	Name of the service as defined at design-time.
EndpointName	string	Name of the endpoint used for this service.
Type	string	Type of the endpoint, for example, publisher or subscriber.
Quality of Service	string	Quality of service for the endpoint. For example, RVCM or JMS Persistent.
Subject	string	Subject defined for this endpoint.
Class	string	Class associated with the endpoint.
Number of Messages	integer	Number of messages processed for this endpoint.

getComponents()

Purpose

Returns information about the currently active TIBCO Hawk components such as publishers, subscribers, or timers.

Parameters

Table 55 Input Parameters of getComponents()

Input Parameters	Type	Description
Component Name	string	Name of the component. If no value is provided, all components are displayed.
Component Type	string	Any of Publisher, Subscriber, Timer, or IODescriptor. The default value is All.

Returns

Table 56 Returns of getComponents()

Returns	Type	Description
Instance ID	string	Name of this adapter instance as defined at design time.
Adapter Name	string	Name of the adapter.
Component Name	string	Name of the component.
Component Type	string	The name of the TIBCO Adapter SDK class for this component, such as MPublisher, MSubscriber, or MIODescriptorSource. For more information about the class, see your TIBCO Adapter SDK documentation.
Session Name	string	Name of the session.
Description	string	Information about this component, for example, time interval, signal type, validating the publisher or subscriber.

getConfig()

Purpose Retrieves generic configuration information. More specific configuration information is accessed through separate methods.

Returns

Table 57 Returns of getConfig()

Returns	Type	Description
Instance ID	string	Configuration ID of this adapter.
Adapter Name	string	Name of the adapter.
Repository Connection	string	URL of the repository used for adapter instance.
Configuration URL	string	Location of the adapter project; either a file name or configuration URL.
Command	string	Command line arguments used to start the adapter.

getConfigProperties()

Purpose Returns all attributes and elements for the given repository object.

Parameters

Table 58 Input parameter of getConfigProperties()

Input Parameter	Type	Description
Property	string	Name of the property for which elements (tags) and attributes are desired. For example, agentone/startup. If no value is given, all properties are returned.

Returns

Table 59 Returns of getConfigProperties()

Returns	Type	Description
Element Name	string	Repository directory for the property.
Attribute Name	string	Name of the repository object attribute.
Attribute Value	string	Value of the repository object attribute.
Line	integer	Line number in which this property is defined in the project file.

getConnectionStatistics()

Purpose Returns the state and statistics for all the current connections used by the adapter.

Returns

Table 60 Returns of getConnectionStatistics()

Returns	Type	Description
Connection ID	string	Unique identification of a particular connection.
Connection Type	string	Type or key that will match this connection to a thread or queue.
State	string	Current state: UP, RETRYING, POLLING, DOWN, or UNKNOWN. The UNKNOWN state is returned when the perfMon property is set to OFF.
NumRetries	integer	Total number of times this connection had to be reestablished.
TotalNumOperations	integer	Total number of operations processed by this connection since the adapter started.
CurrentNumOperations	integer	Total number of operations processed by this connection since the last reconnection.
NumLostConnections	integer	Total amount of time that this connection has been lost.
MeasurementInterval	integer	Displays the time (in seconds) since last time the adapter was reset, or if never reset, since the adapter started.

getQueueStatistics()

Purpose Returns the current count of elements in any internal queue used by the adapter. This includes the TIBCO Rendezvous event queues automatically spawned by Rendezvous for each adapter.

Returns

Table 61 Returns of getQueueStatistics()

Returns	Type	Description
QueueID	string	Unique identification of a particular queue.
QueueType	string	Type or key that will match this queue to a thread or connection.
QueueCount	integer	Current number of elements in the queue.
MaxQueueSize	integer	Maximum number of elements in the queue.
MeasurementInterval	integer	Displays the time (in seconds) since last time the adapter was reset, or if never reset, since the adapter started.

Returns the current count of elements in any internal queue used by the adapter. This includes the TIBCO Rendezvous event queues automatically spawned by Rendezvous for each adapter.

getRvConfig()

Purpose Returns information about the TIBCO Rendezvous session defined by this adapter.

Parameters

Table 62 Input parameter of getRvConfig()

Input Parameter	Type	Description
Session Name	string	Name of the TIBCO Rendezvous session for which configuration is required. If not given, information about all currently defined sessions is returned. The default is all.

Returns

Table 63 Returns of of getRvConfig()

Returns	Type	Description
Instance ID	string	The configuration ID of this adapter.
Adapter Name	string	Name of the adapter.
Session Name	string	Name of the session.
Service	string	Service parameter for this session.
Daemon	string	Daemon parameter for this session.
Network	string	Network parameter for this session.
Synchronous	boolean	Returns 1 if this is a synchronous session, 0 otherwise.
Session Type	string	Type of session; one of M_RV, M_RVCM, or M_RVCMQ.
Certified Name	string	Name of this certified session.
Ledger File	string	Ledger file for this certified messaging session. Returns the empty string for sessions that are not certified messaging sessions.
CM Timeout	string	Timeout for this certified messaging session. Returns the empty string for sessions that are not certified messaging sessions.

getStatus()

Purpose Retrieves basic status information about the adapter.

This information is fairly limited. Additional methods are provided ingetConfig() on page 180 and getRvConfig() on page 184.

Returns

Table 64 Returns of getStatus()

Returns	Type	Description
Instance ID	string	Configuration ID for this adapter instance.
Adapter Name	string	Name of the adapter.
Uptime	integer	Number of seconds since startup.
Messages Received	integer	Number of TIBCO Rendezvous messages received.
Messages Sent	integer	Number of TIBCO Rendezvous messages published.
New Errors	integer	Number of errors since the last call to this method.
Total Errors	integer	Total number of errors since startup.
Process ID	integer	Process ID of the application.
Host	string	Name of host machine on which this adapter is running.

getThreadStatistics()

Purpose Returns the operation counts of the current threads.

Returns

Table 65 Returns of getThreadStatistics()

Returns	Type	Description
ThreadID	string	Unique identification of a particular thread.
ThreadType	string	Type that tells what part of the adapter this thread belongs to. Valid types include "Publisher", "Subscriber", "RPC", or "Connection".
TaskType	string	One-word description of the tasks this thread processes.
TaskCount	integer	Number of tasks processed by this thread.
MeasurementInterval	integer	Displays the time (in seconds) since last time the adapter was reset, or if never reset, since the adapter started.

getTraceSinks()

Purpose Returns information about sinks to which traces currently go.

Parameters

Table 66 Input Parameters of getTraceSinks()

Input Parameters	Type	Description
Sink Name	string	Name of the sink for which you need information. If no name is specified, information about all sinks is returned. Default is all.
Role Name	string	Name of the role for which you need information for the specified sink or sinks. Default is all.

Returns

Table 67 Returns of getTraceSinks()

Returns	Type	Description
Instance ID	string	Name of this adapter instance as a string.
Adapter Name	string	Name of the application for this sink.
Sink Name	string	Name of the sink.
Sink Type	string	Type of this sink. One of fileSink, rvSink, hawkSink, stderrSink.
Roles	string	Roles this sink supports, as a string. For example “warning, error, debug”.

getVersion()

Purpose Retrieves version information for the current application. Two lines may be returned, one for the TIBCO Adapter SDK, one for the adapter.

Returns

Table 68 Returns of getVersion()

Returns	Type	Description
Instance ID	string	The configuration ID as a string, for example SDK.
Adapter Name	string	Name of the adapter as a string, for example agentone.
Version	string	Version number as a string, for example 1.1.

_onUnsolictedMsg()

Purpose Displays all alert messages sent from the adapter or an error if not successful.

preRegisterListener()

Purpose

Preregisters an anticipated listener. Some sending applications can anticipate requests for certified delivery even before the listening applications start running. In such situations, the sender can preregister listeners, so TIBCO Rendezvous software begins storing outbound messages in the sender's ledger. If the listening correspondent requires old messages, it receives the backlogged messages when it requests certified delivery.

Parameters

Table 69 Input Parameters of preRegisterListener()

Input Parameters	Type	Description
Session Name	string	Name of the session that anticipates the listener.
Publisher Name	string	Name of the component for which the listener should be preregistered.
Listener Session Name	string	Name of the listener to preregister.

Returns

OK if the listener was preregistered successfully, false otherwise.

resetConnectionStatistics( )

Purpose Resets all the counts for the activity statistics.

resetThreadStatistics()

Purpose Resets all the counts for the thread statistics.

reviewLedger()

Purpose

Returns information retrieved from the ledger file of a TIBCO Rendezvous certified messaging session.

Before invoking this method, ensure that the certified messaging publisher adapter has established a certified delivery agreement with its subscriber agents.

Parameters

Table 70 Input Parameters of reviewLedger()

Input Parameters	Type	Description
Session Name	string	Name of the TIBCO Rendezvous session for which ledger information is desired (default is all).
Subject	string	Name of the subject for which ledger information is desired.

Returns

Table 71 Returns of reviewLedger()

Return	Type	Description
Session Name	string	Name of the TIBCO Rendezvous CM session to which this information applies.
Subject	string	Subject name for this session.
Last Sent Message	integer	Sequence number of the most recently sent message with this subject name.
Total Messages	string	Total number of pending messages with this subject name.
Total Size	integer	Total storage (in bytes) occupied by all pending messages with this subject name. If the ledger contains ten messages with this subject name, then this field sums the storage space over all of them.
Listener Session Name	string	Within each listener sub-message, the Listener Session Name field contains the name of the delivery-tracking listener session.

Table 71 Returns of reviewLedger() (Cont'd)

Return	Type	Description
Last Confirmed	string	Within each listener submessage, the Last Confirmed field contains the sequence number of the last message for which this listener session confirmed delivery.
Line	integer	Row number in ledger file.
UnacknowledgedMessages	integer	Number of RVCM messages pending for this listener. The value is computed by subtracting the last sent sequence number from the last acknowledged sequence number.

setThreadNumber()

Purpose (Component Interface only) Sets the number of connections to be opened with the PeopleSoft application server by the adapter.

This method dynamically updates the number of connections at runtime without restarting the adapter.

Note There is a lapse before the connection numbers are updated successfully. This is because the PeopleSoft server needs time to release the old connections and start the new ones.

Parameters

Table 72 Input Parameters of setThreadNumber()

Input Parameters	Type	Description
Thread Number	integer	Must be a positive value.

setTraceSinks()

Purpose Adds a role or changes the file limit of a previously specified sink.

Parameters

Table 73 Input Parameters of setTraceSinks()

Input Parameters	Type	Description
Sink Name	string	Name of the sink for which you want to add a role or change the file limit.
Role Name	string	Name of the role you want to add to this sink (warning, error, debug, or user defined). Default is all.
File Size	integer	Maximum file size for this sink. This parameter is ignored if the sink specified by sinkName is not a file sink.

Returns OK if successful or an error if not successful.

stopApplicationInstance()

Purpose Stops the specified adapter by calling the internal stop() method.

Returns OK if successful or an error if not successful.

unRegisterListener()

Purpose Unregisters a currently preregistered listener.

Parameters

Table 74 Input Parameters of unRegisterListener()

Input Parameters	Type	Description
Session Name	string	Name of the session that anticipates the listener.
Publisher Name	string	Name of the component for which the listener should be preregistered.
Listener Session Name	string	Name of the listener to unregister.

Returns True if the listener was unregistered successfully, false otherwise.

getActivityStatisticsBySchemaName()

Purpose

Returns the total number of objects processed for the given schema by each service that uses the schema. Also, returns the number of success and error objects.

Parameters

Table 75 Input parameter of getActivityStatisticsBySchema()

Input Parameter	Type	Description
Schema Name	string	Name of the schema.

Returns

Table 76 Returns of getActivityStatisticsBySchema()

Returns	Type	Description
Service Name	string	Name of the service that is associated with the specified schema.
Total	string	Total number of objects processed for this schema for a Publication Service. Total number of objects received for this schema for a Subscription Service.
Success	string	Number of objects that were successfully identified for this schema, which will be published or written to a file.
Failure	string	Number of objects that were identified for this schema but were not published because the header of the schema failed validation for a Publication Service, or was written to a file because the schema was not associated with a subscriber for a Subscription Service.

getPerfMonSetting()

Purpose Returns the setting of the perfMon option.

Returns

Table 77 Returns of getPerfMonSetting()

Returns	Type	Description
Setting	string	Value of the perfMon option.

getPollingInterval()

Purpose Returns the current polling interval setting.

Returns

Table 78 Return of getPollingInterval()

Return	Type	Description
PollingInterval	integer	Polling interval in milliseconds.

setPollingInterval()

Purpose Sets the polling interval for the Publication Service.

Parameters

Table 79 Input Parameters of setPollingInterval()

Input Parameters	Type	Description
PollingInterval	integer	Polling interval in milliseconds.
ServiceName	string	Name of service where the polling interval is set.

Appendix A Frequently Asked Questions

This appendix lists answers to the frequently asked questions.

Topics

Frequently Asked Questions

The frequently asked questions are listed in this section.

What is the TIBCO Runtime Agent?

The TIBCO Runtime Agent provides the runtime environment for TIBCO ActiveEnterprise components, that is, all the shared libraries including third-party libraries.

Can TIBCO Designer be brought from a UNIX command-line?

No. TIBCO Designer is a GUI based tool and a UNIX GUI environment is mandatory to run it. It cannot be brought up from a terminal.

Why does the connection to the Design-Time Adapter fail?

Ensure that the Design-Time Adapter has been started. Check the Design -Time Connection parameters specified.

When starting the adapter, what if the repository is not found?

Start the repository server before starting the adapter. If you are starting a remote repository ensure that repository server is installed on the remote location. Ensure that a properly configured .dat file is available in the path specified (local or remote). Ensure that the repourl has been specified accurately in the adapter's .tra file.

Why does the adapter startup fail?

Either the repository file (.dat) is not placed in the *install_path*\tibco\repository\remoterepos directory, or the .dat file is not properly configured. Ensure that the repourl syntax has been specified accurately in the adapter's .tra file. Ensure that the path specified for the .tra file is correct.

Why does the adapter startup fail, even after specifying the appropriate DAT file?

You must start the repository server before you start the adapter. If it is a remote repository ensure that the repourl syntax has been specified accurately in the adapter's .tra file. Ensure that the path specified for the .tra file is correct.

When saving an adapter configuration to the project, if an error occurs where is it logged?

TIBCO Designer error messages are logged to the files stderr.log and designer.log under the *TIBCO_HOME*\Designer*ver*\logs directory.

When an error occurs in a Subscription Service adapter service, where is it displayed?

Errors that occur in a request-response operation are sent to the client. Errors that occur in a subscription operation are logged to a trace file. The log file path and name is set in the .tra file corresponding to the adapter instance. All logs are sent to *install_path*\adapter*adaper name**version*\logs unless otherwise specified.

Why does the adapter fail to respond to a request?

The subject name may be inconsistent. The subject name to which the adapter listens may be different from that of the subject name of the client.

Why does the adapter fail to respond to a request after successfully receiving it?

The adapter may fail to respond due to various reasons like errors resulting from class mismatch, records not being available in the target application or, connectivity problems with the target application.

Appendix B Trace Messages

This appendix explains the trace messages that are logged to a location specified at configuration time.

Topics

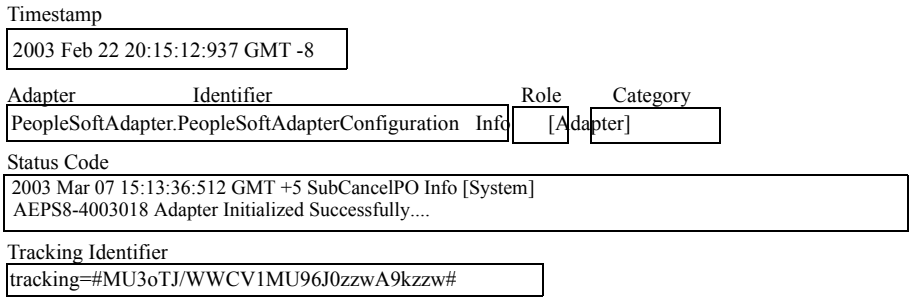
Overview

Trace messages provide information about adapter activities. The messages are logged to the console where the runtime adapter was started and to a log file. Trace messages can also be redirected to TIBCO Hawk Display, or sent to other applications using the TIBCO Rendezvous transport.

Each trace message can include the following fields:

<Timestamp> <Adapter Identifier> <Role> <Category> <Status Code> <Tracking Identifier>

The above fields are explained in Trace Message Fields, page 212. The following diagram shows an example trace message and calls out the fields.



Example Trace Messages

The following trace messages were written during a session where TIBCO ActiveMatrix Adapter for PeopleSoft received an object from TIBCO Adapter for R/3 and then processed the object.

The first message indicates that TIBCO Adapter for PeopleSoft has started successfully. The timestamp indicates when the adapter started, and the role indicates that the trace message is informational, which means the activity is normal for the adapter. The category is identified, and the corresponding status code is displayed.

2003 Mar 07 15:13:36:512 GMT +5 SubCancelPO Info [System] AEPS8-4003018 Adapter Initialized Successfully....

The second trace message indicates that the adapter received an object (in this case a Business Event).

2003 Mar 07 15:52:24:740 GMT +5 SubCancelPO Info [Adapter] AEPS8-4003005 Received an Event.

The third trace message indicates that the adapter is processing the event with the name FROM_SAP_CANCEL_PO.

2003 Mar 07 15:52:25:501 GMT +5 SubCancelPO Info [Adapter] AEPS8-4003006 Processing Business Event FROM_SAP_CANCEL_PO.

The fourth trace message indicates that the adapter has successfully processed the event FROM_SAP_CANCEL_PO.

2003 Mar 07 15:52:33:833 GMT +5 SubCancelPO Info [Adapter] AEPS8-4003031 Finished Processing..: FROM_SAP_CANCEL_PO.

Trace Message Fields

Each trace message includes the following fields:

Table 80 Tracing Fields (Sheet 1 of 3)

Field Name	Description
Timestamp	Timestamp of occurrence. For example, 2003 Feb 22 20:14:51:718 GMT -8.
Adapter Identifier	Name of the adapter that wrote the trace message. This is a combination of the adapter acronym and adapter configuration name. For example, the application identifier, adpsft8.publisher1 identifies a TIBCO Adapter for PeopleSoft service named publisher1.
Role	A role can be: • Info. Indicates normal adapter operation. No action is necessary. A tracing message tagged with Info indicates that a significant processing step was reached and has been logged for tracking or auditing purposes. Only info messages preceding a tracking identifier are considered significant steps. • Warn. An abnormal condition was found. Processing will continue, but special attention from an administrator is recommended. • Error. An unrecoverable error occurred. Depending on the error severity, the adapter may continue with the next operation or may stop altogether. • Debug. A developer-defined tracing message. In normal operating conditions, debug messages should not display. When configuring the adapter you define what roles should or should not be logged. For example, you may decide not to log Info roles to increase performance.

Table 80 Tracing Fields (Sheet 2 of 3)

Field Name	Description
Category	One of the following: • Adapter. The adapter is processing an event. • Application. The adapter is interacting with PeopleSoft. • Configuration. The adapter is reading configuration information. • Database. The adapter is interacting with a database. • DTA. (Design-time adapter) The trace message if from the DTA. • Metadata. The adapter is retrieving metadata from PeopleSoft. • Palette. The adapter is interacting with the palette. • Publisher Service. The publication service is reporting this trace message. • Request-Response Client Service. The request-response invocation service is reporting this trace message. • Request-Response Server. The request-response service is reporting this trace message. • Shutdown. The adapter is shutting down. • Startup. The adapter is starting. • Subscription Service. The subscription service is reporting this trace message. • System. This category is not linked to a specific event process. The trace message may be related to a Microsoft Windows service related messages, memory allocation, file system error, and so on. • TibRvComm. The adapter is communicating with TIBCO Rendezvous. • XML. The adapter is parsing XML documents.
Status Code	Unique code for the message and description. Status codes are identified by a unique number and description. If a trace message includes an error or warn role, the status code documentation includes a resolution. See Status Messages on page 215 for details.
Tracking Identifier	A unique identifier that is "stamped" on each message by the originating adapter. The tracking identifier remains in effect from a message's beginning to its completion as it is exchanged by TIBCO applications. If the adapter is the termination point of the message, the tracking identifier is not displayed in the trace message. You cannot modify the tracking identifier format or configure what information is displayed.

Table 80 Tracing Fields (Sheet 3 of 3)

Field Name	Description
Application Information	Application-specific information added to the tracking info to trace the message back to its source. Set initially by the originating adapter and carried forward. It is augmented by each intermediate component.

Status Messages

In environments where multiple applications are used simultaneously, the possible status of messages increases as well. This chapter lists the various messages in numerical order.

Resolutions are provided wherever possible for error and warning messages. If there is no resolution provided, or if you need additional help, contact TIBCO Support at http://support.tibco.com.

Message		Category	Resolution
AEPS8-3400100	**PSDTA ready to serve requests from Designer....**		
	Information	Metadata	Indicates normal adapter operation. No action necessary.
AEPS8-3400101	**Established connection to application server with parameters: opr %1, server %2.**		
	Information	Metadata	Indicates normal adapter operation. No action necessary.
AEPS8-3400102	**Sending discovery message to find other running instances of PSDTA on subject %1, service %2.**		
	Information	Metadata	Indicates normal adapter operation. No action necessary.
AEPS8-3400103	**Assuming master status.**		
	Information	Metadata	Indicates normal adapter operation. No action necessary.
AEPS8-3400104	**Received Reply to Discovery Request.**		
	Information	Metadata	Indicates normal adapter operation. No action necessary.
AEPS8-3400105	**SaveOperation successfully saved %1 publication service to PeopleSoft database.**		
	Information	Metadata	Indicates normal adapter operation. No action necessary.

Message		Category	Resolution
AEPS8-3400106	**Advisory Message %1**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-3400107	**The current adapter instance skipped the event %1 with sequence number %2 as it is locked**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-3400200	**An instance of PSDTA is already available on %1.**		
	Error	Metadata	Change DTA RV Service value
AEPS8-3400400	**Connection to the app server failed with the following parameters : ID %1, server and port %2.**		
	Error	Metadata	Check connection parameters to the application server
AEPS8-3400401	**Invalid Parameter used with reply.set or request.get**		
	Error	Metadata	Make sure the schemas in the repository are configured properly.
AEPS8-3400403	**Error while getting the list of CIs, check PeopleSoft Project'**		
	Error	Metadata	Check permissions to TIB CIs
AEPS8-3400404	**Error while appending Business component name to sequence.**		
	Error	Metadata	Make sure the Design-time adapter is up.
AEPS8-3400405	**Connection params %1 may be invalid or appserver may be down.**		
	Error	Metadata	Check connection parameters to the application server
AEPS8-3400406	**PeopleSoft generated a JOAException**		
	Error	Metadata	Check if the PeopleSoft Application Server and the database are up.

Message		Category	Resolution
AEPS8-3400407	**Error while getting the list CI fields, check PeopleSoft Project.**		
	Error	Metadata	Check PeopleSoft project
AEPS8-3400408	**SDK operation error in getCIImpl.java.**		
	Error	Metadata	Make sure that the Design Time Adapter is up.
AEPS8-3400409	**A Component Interface does not exist for specified name %1.**		
	Error	Metadata	Check if specified CI exists in PeopleSoft system
AEPS8-3400410	**SDK operation error in saveOperation.java.**		
	Error	Metadata	Make sure that the Design Time Adapter is up.
AEPS8-4001015	**No Record Exists for the Specified Get Keys.**		
	Information	Application	Indicates normal adapter operation. No action necessary.
AEPS8-4001016	**Record Exists for the Specified Create Keys.**		
	Information	Application	Indicates normal adapter operation. No action necessary.
AEPS8-4003000	**Initializing Adapter....**		
	Information	System	Initializing Adapter....
AEPS8-4003001	**Loading Information From Repository.**		
	Information	Configuration	Loading Information From Repository...
AEPS8-4003002	**Connecting to Application Server.**		
	Information	Application	Connecting to Application Server.
AEPS8-4003003	**Registering hawk methods.**		
	Information	Configuration	Registering hawk methods.

Message		Category	Resolution
AEPS8-4003004	**Shutting down Adapter.**		
	Information	System	Shutting down Adapter.
AEPS8-4003005	**Received an Event.**		
	Information	Adapter	Received an Event.
AEPS8-4003006	**Processing Business Event %1**		
	Information	Adapter	Processing Business Event
AEPS8-4003007	**Processing Event[TEST MODE] %1**		
	Information	Adapter	Processing Event[TEST MODE]
AEPS8-4003008	**Received an RPC event.**		
	Information	Adapter	Received an RPC event.
AEPS8-4003009	**Processing an RPC event %1.**		
	Information	Adapter	Processing an RPC event %1.
AEPS8-4003010	**Incoming Business event has both GET and CREATE Keys specified, GETKEYS will take precedence.**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4003011	**No Records Found For GETKEY Value(s), will Create Record using CREATEKEY Value(s).**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4003012	**Successfully Created Keys.**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4003013	**Calling Set Data for %1 and value is %2**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.

Message		Category	Resolution
AEPS8-4003014	**Retrieving Base Configuration Parameters.**		
	Information	Configuration	Indicates normal adapter operation. No action necessary.
AEPS8-4003015	**Connection to Application Server succeeded with the following parameters :%1: %2,oprID : %3**		
	Information	Application	Indicates normal adapter operation. No action necessary.
AEPS8-4003016	**Re-establishing connection to Application Server due to a previous error.**		
	Information	Application	Indicates normal adapter operation. No action necessary.
AEPS8-4003018	**Adapter Initialized Successfully....**		
	Information	System	Indicates normal adapter operation. No action necessary.
AEPS8-4003019	**Adapter Initialized Successfully in Test Mode.....**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4003050	**Processing for the event %1 failed due to unavailability of JMS session.**		
	Information	Adapter	Check if the JMS server is up
AEPS8-4003051	**Established connection to app server with parameters - server : %1, oprId : %2 for Publisher.**		
	Information	Application	Indicates normal adapter operation. No action necessary.
AEPS8-4003052	**Re-Established connection to app server with parameters - server : %1,oprId : %2 for Publisher.**		
	Information	Application	Indicates normal adapter operation. No action necessary.

Message		Category	Resolution
AEPS8-4003053	**Processing the event %1 with tracking Id %2**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4003054	**Processing of the data for the event %1 failed. Mqueue record status has NOT been set to E.**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4003055	**Processing of the data for the event %1 failed. Mqueue record status has been set to E.**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4003056	**Event %1 with tracking Id %2 was processed successfully. The record status has been set to P**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4003057	**Processing of the event %1 with sequence number %2 failed. The record has been stamped with guide %3 and record status has been set to E.**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4003058	**Queue Poller Polled Successfully...**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4003059	**Parsing the XML data from Mqueue table : Key name is %1 And Key Value is %2**		
	Information	Xml	Indicates normal adapter operation. No action necessary.
AEPS8-4003061	**The timer interval is %1**		
	Information	Configuration	Indicates normal adapter operation. No action necessary.

Message		Category	Resolution
AEPS8-4003062	**0 is an invalid value for timer interval, overriding the same with %1**		
	Information	Configuration	Indicates normal adapter operation. No action necessary.
AEPS8-4003063	**Registering %1 as Publisher...**		
	Information	Configuration	Indicates normal adapter operation. No action necessary.
AEPS8-4003064	**No CI publishers found....**		
	Information	Configuration	Indicates normal adapter operation. No action necessary.
AEPS8-4003065	**Disconnected from Application Server.**		
	Information	Application	Indicates normal adapter operation. No action necessary.
AEPS8-4003066	**%1 %2**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4003067	**No AM publishers found....**		
	Information	Configuration	Indicates normal adapter operation. No action necessary.
AEPS8-4003020	**Retrieving Subscriber Component Parameters**		
	Information	Configuration	Indicates normal adapter operation. No action necessary.
AEPS8-4003021	**Registering %1 as Subscriber**		
	Information	Configuration	Indicates normal adapter operation. No action necessary.
AEPS8-4003022	**Registering %1 as RPC Server**		
	Information	Configuration	Indicates normal adapter operation. No action necessary.

Message		Category	Resolution
AEPS8-4003023	**Sending Data on Explicit Subject: %1**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4003024	**Registering hawk methods.**		
	Information	Configuration	Indicates normal adapter operation. No action necessary.
AEPS8-4003025	**Retrieving List of BusinessEvent subscriptions.**		
	Information	Configuration	Indicates normal adapter operation. No action necessary.
AEPS8-4003026	**No Events Configured For this Subscriber.**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4003027	**Send Reply to RPC Event... %1**		
	Information	Adapter	Send Reply to RPC Event.
AEPS8-4003028	**Send Reply to RPC Event[TEST MODE]... %1**		
	Information	Adapter	Send Reply to RPC Event[TEST MODE]...
AEPS8-4003029	**Hawk Agents registered Successfully**		
	Information	Configuration	Indicates normal adapter operation. No action necessary.
AEPS8-4003030	**No Hawk agent in the repository**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4003031	**Finished Processing..: %1**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.

Message		Category	Resolution
AEPS8-4003032	**Processing %1 Failed**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4003033	**Caught Base Error %1**		
	Information	Application	Indicates normal adapter operation. No action necessary.
AEPS8-4003034	**Received shutdown event**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4002000	**Failed to find Error Message %1 in %2**		
	Warning	Configuration	Unjar the package that has the message bundle to see if the message code is there
AEPS8-4002001	**Business Event%1 is not Configured.**		
	Error	Adapter	Configure a service for the event
AEPS8-4002002	**Incoming Business event in has no Tracking Info.**		
	Warning	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4002003	**Advisory Message %1**		
	Warning	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4001000	**Instance Name is Null.**		
	Error	System	Unjar the package that has the message bundle to see if the message code is there
AEPS8-4001001	**Could not load information from Repository.**		
	Error	System	Make sure that the repository is not corrupt. Use the 'Validate for deployment' option in the TIBCO Designer to validate the sanctity of the repository.

Message		Category	Resolution
AEPS8-4001002	**Could not establish connection to CI Agent.**		
	Error	System	Check connection parameters to the application server
AEPS8-4001004	**Could not Create Event Processor**		
	Error	System	Make sure that the repository is not corrupt. Use the 'Validate for deployment' option in the TIBCO Designer to validate the sanctity of the repository.
AEPS8-4001005	**Failed to Create MInstance from incoming Event.**		
	Error	Adapter	Ensure that Message Conversion/Wire Format is set to AEMessage.
AEPS8-4001006	**Incoming Message has its BusinessEvent Name as NULL.**		
	Error	Adapter	Specify Event name in the message
AEPS8-4001007	**Sending Data on Reply Address %1 Failed.**		
	Error	Adapter	Check if the Reply Address specified in the request is correct.
AEPS8-4001008	**Sending Data on Error Address %1 Failed.**		
	Error	Adapter	Check if the Reply Address specified in the request is correct.
AEPS8-4001009	**Failed to Create Reply Business Document.**		
	Error	Adapter	Check if the Reply Address specified in the request is correct.
AEPS8-4001010	**Incoming Message is not in the Expected format.**		
	Error	Adapter	Check message format
AEPS8-4001011	**The %1 is not in the CLASSPATH**		
	Error	Application	Ensure that Component Interface class is generated using buldCI.bat, and the files are in CLASSPATH

Message		Category	Resolution
AEPS8-4001012	**An Error has Occurred while invoking API GetComponent() on CI %1**		
	Error	Application	This error could be due to one of the following
AEPS8-4001013	**Primary Key field %1 cannot be NULL**		
	Error	Adapter	Specify the key values in the message
AEPS8-4001014	**A call to Find() method before %1 operation failed.**		
	Error	Application	Check permissions on the Component Interfaces included with TIB Project.
AEPS8-4001017	**CREATE KEYS failed.**		
	Error	Application	Check if a record already exists for the given Create Keys, or if the data provided for creation is invalid.
AEPS8-4001018	**Neither GET/CREATE Keys is Specified in the message.**		
	Error	Application	Specify GET/CREATE keys in the message
AEPS8-4001019	**Find operation Failed on %2**		
	Error	Application	Test the above operation for the CI in PeopleSoft TestCI tool.
AEPS8-4001020	**getPropertyByName(%1) operation Failed on %2**		
	Error	Application	Test the above operation for the CI in PeopleSoft TestCI tool.
AEPS8-4001021	**%1 operation Failed on %2**		
	Error	Application	Test the above operation for the CI in PeopleSoft TestCI tool.
AEPS8-4001022	**getPropertyByName (%1) operation Failed on %2**		
	Error	Application	Test the above operation for the CI in PeopleSoft TestCI tool.
AEPS8-4001023	**%1 operation Failed on %2**		
	Error	Application	Test the above operation for the CI in PeopleSoft TestCI tool.

Message		Category	Resolution
AEPS8-4001024	**%1 operation Failed on %2**		
	Error	Application	Test the above operation for the CI in PeopleSoft TestCI tool.
AEPS8-4001025	*********Error**********		
	Error	Application	Check the permissions granted to Component Interfaces imported with TIB Project.
AEPS8-4001028	**Stack Trace %1**		
	Error	Adapter	Tracing out an exception.
AEPS8-4001030	**User Id cannot be NULL.**		
	Error	Application	Specify a valid PeopleSoft User Id in the configuration
AEPS8-4001032	**Server Name cannot be NULL.**		
	Error	Application	Specify a valid PeopleSoft server name in the configuration
AEPS8-4001033	**Port Number cannot be NULL.**		
	Error	Application	Specify a valid port number in the configuration
AEPS8-4001034	**Operator Password cannot be NULL**		
	Error	Application	Specify a valid PeopleSoft password in the configuration.
AEPS8-4001035	**Incoming Message has PROPERTIES field as NULL.**		
	Error	Application	Check the Properties value in the message.
AEPS8-4001036	**Caught MException in PS8Adapter::main().**		
	Error	Application	The adapter could not start up. See the accompanying stack trace.
AEPS8-4001037	**Caught Exception in PS8Adapter::main().**		
	Error	Application	The adapter could not start up. See the accompanying stack trace.

Message		Category	Resolution
AEPS8-4001038	**Failed to Disconnect from application server.**		
	Error	Application	Check if the PeopleSoft Application Server is up.
AEPS8-4001039	**Disconnected from Application Server.**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4001040	**Error Creating %11**		
	Error	Application	Check if the service has been configured properly.
AEPS8-4001041	**Error Creating %1**		
	Error	APPLICATION	Check if the service has been configured properly.
AEPS8-4001042	**Error Creating %1**		
	Error	APPLICATION	Check if the service has been configured properly.
AEPS8-4001043	**%1 is a KEY field and cannot be NULL**		
	Error	Application	Specify a valid value for the field.
AEPS8-4001044	**Method not Found %1.%2(%3)**		
	Error	Application	Check the generated PeopleSoft APIs.
AEPS8-4001045	**Failed to Connect to Appserver with Following Parameters %1:%2, OprID %3**		
	Error	Application	Check connection parameters to the application server.
AEPS8-4001046	**%1.. %2**		
	Error	Adapter	Could not confirm the Data Event. Please restart the adapter.
AEPS8-4001047	**%1.%2(%3) in setProperty(), unknown Data Type %3**		
	Error	Adapter	Check the type of attributes in the incoming message.

Message		Category	Resolution
AEPS8-4001048	**Field/Direction Info is not loaded for Record %1**		
	Error	Adapter	Please mention the direction info for all fields in the RPC Service schema.
AEPS8-4001049	**[%2]Error Occurred While Loading Direction Information for Record %1**		
	Error	Adapter	Please mention the direction information for all fields in the RPC Service schema.
AEPS8-4001051	**User Id cannot be null**		
	Error	Application	Specify valid user id in the configuration.
AEPS8-4001052	**Password cannot be null**		
	Error	Application	Specify valid password in the configuration.
AEPS8-4001053	**Application server port cannot be null**		
	Error	Application	Specify valid port in the configuration.
AEPS8-4001054	**PeopleSoft application server name cannot be null**		
	Error	Application	Specify valid server name in the configuration.
AEPS8-4001055	**Could not connect to app server with parameters - server : %1,oprId : %2 for Publisher.**		
	Error	Application	Check connection parameters to the application server.
AEPS8-4001056	**Could not establish session with the application server**		
	Error	Application	Check application server.
AEPS8-4001057	**Failed to disconnect from the application server with parameters - server : %1,oprId : %2 for Publisher.**		
	Error	Application	Check if the PeopleSoft Application Server is up.
AEPS8-4001059	**Processing of the event %1 failed.**		
	Error	Adapter	Please check if the Publication Service is configured properly and the PeopleSoft Application Server and the Database are up.

Message		Category	Resolution
AEPS8-4001060	**Configuration for the publisher %1 doesn't exist in the repository'**		
	Error	Adapter	Check the publisher configuration
AEPS8-4001061	**Exception occurred in loadCIClass: %1**		
	Error	Adapter	Ensure that the services are configured properly in the repository.
AEPS8-4001062	**Exception occurred in loadClass: %1**		
	Error	Adapter	Ensure that the services are configured properly in the repository.
AEPS8-4001063	**NullPointerException occurred in loadData for the class %1. The error message is : %2**		
	Error	Adapter	Ensure that the services are configured properly in the repository.
AEPS8-4001064	**Exception occurred in getpsRepositoryInterface: %1**		
	Error	Adapter	Please make sure that the repository is not corrupt. Reconfigure if required.
AEPS8-4001065	**Function get(): Key cannot be null**		
	Error	Adapter	Please make sure that the repository is not corrupt. Reconfigure if required.
AEPS8-4001066	**Exception occurred in startTestTimer: %1**		
	Error	Adapter	Ensure that the Publication Service is configured properly.
AEPS8-4001067	**Exception occurred in startTimer: %1**		
	Error	Adapter	Ensure that the Publication Service is configured properly.
AEPS8-4001068	**Exception occurred while updating the Tib Status : %1**		
	Error	Adapter	Ensure that the PeopleSoft Application Server and Database are up.

Message		Category	Resolution
AEPS8-4001069	**Exception occurred in getEventsFromQueue : %1**		
	Error	Adapter	Ensure that the PeopleSoft Application Server and Database are up.
AEPS8-4001070	**Error occurred while trying to update the event: %1 with sequence number : %2 with transition status. The error message is : %3**		
	Error	Adapter	Ensure that the PeopleSoft Application Server and Database are up.
AEPS8-4001071	**Dump of tracking information for the exception**		
	Error	Adapter	Used for tracking.
AEPS8-4001072	**Advisory Message %1**		
	Error	Adapter	Used to trace out advisories.
AEPS8-4001073	**No subscribers found...**		
	Information	Configuration	Indicates normal adapter operation. No action necessary.
AEPS8-4001074	**The XML string data is malformed. Error : %1**		
	Error	Adapter	Check if the XML string in the TIB_CI_MQUEUE table is intact.
AEPS8-4001075	**Could not create PROPERTIES MInstance.**		
	Error	Adapter	Ensure that the service is configured properly.
AEPS8-4001076	**Could not create XML parser.**		
	Error	Adapter	Make sure the memory allocated to the JVM is sufficient.
AEPS8-4001077	**The incoming request has MInstance as null.**		
	Error	Adapter	Check incoming request
AEPS8-4001078	**%1**		
	Error	Application	Used to trace out PeopleSoft errors.

Message		Category	Resolution
AEPS8-4001079	**Exception occurred in loadMSGClass: %1**		
	Error	Adapter	Ensure that the services are configured properly in the repository
AEPS8-4001080	**Exception occurred in startAppMsgPub: %1**		
	Error	Adapter	Ensure that the services are configured properly in the repository
AEPS8-4001081	**HTTP Listener for Application Messaging Publisher started on port %1...**		
	Information	Configuration	Indicates normal adapter operation. No action necessary.
AEPS8-4001082	**Received a message post from PeopleSoft...**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4001083	**Received a ping from PeopleSoft...**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4001084	**Received an invalid request...**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEPS8-4001085	**The HTTP Listener could not be started as the port %1 is already in use**		
	Error	Adapter	Change the port in the repository and restart the adapter.
AE_ADPSFT8_CONN_1	**Reconnect attempt %1.**		
	Information	Application	Indicates normal adapter operation. No action necessary.
AE_ADPSFT8_CONN_2	**Reconnect succeeded on attempt %1.**		
	Information	Application	Indicates normal adapter operation. No action necessary.

Message		Category	Resolution
AE_ADPSFT8_CONN_3	**The request received could not be processed due to connection errors. Error reply sent back.**		
	Error	Adapter	Ensure that the PeopleSoft Application Server and Database are up.
AE_ADPSFT8_CONN_4	**Adapter stopping due to persistent connection errors. Please check the PeopleSoft Application Server and restart adapter.**		
	Error	Adapter	Ensure that the PeopleSoft Application Server and Database are up.
AE_ADPSFT8_CONN_5	**Subscription services suspended due to reconnect failure.**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AE_ADPSFT8_CONN_6	**Connection re-established; suspended services reactivated.**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AE_ADPSFT8_CONN_7	**Operation did not succeed due to connection error in service %1. The operation will be reattempted.**		
	Information	Adapter	Indicates normal adapter operation. No action necessary.
AEADPSFT8-960005	**DTA connection error has occurred. Authentication failed for app server with connection parameters : ID %1, server and port %2.**		
	Error	Metadata	Recheck authentication parameters. Also, verify that the target system supports the requested authentication mechanism. Please see User Guide for details on the specification of connection parameters.
AEADPSFT8-960006	**DTA error. An error %1 has occurred while interfacing with target application %2**		
	Error	Metadata	Please verify whether the server is running.

Message		Category	Resolution
AEADPSFT8-960 008	**DTA error. Request received from DTA client. Not able to download requested schema %1 from target application PS**		
	Error	Metadata	Please check memory, disk space and other resources that target application API may be dependent on.
AEADPSFT8-960 009	**DTA error. Request received from DTA client. Not able to download requested schema %1 from target application PeopleSoft AppServer.**		
	Error	Metadata	Check to see whether the data/schema exists on target application or server.
AEADPSFT8-960 017	**DTA error. Shutdown of DTA caused exception %1.**		
	Error	Adapter	Please contact customer support for further assistance.
AEADPSFT8-960 014	**DTA error. Received discovery request but missing attribute(s): %1.**		
	Error	Adapter	Please check if the palette and DTA are of the same version. Contact customer support for further assistance.
AEADPSFT8-910 011	**Startup Error. Duplicate instance %1 detected.**		
	Error	Adapter	Please verify your repository settings for duplicate adapter instance name. See User Guide.
AEADPSFT8-910 010	**Startup Error. Failed to load properties file from path %1 for Application %2 Error Message %3.**		
	Error	Adapter	Please verify that the locale is set to en_US on your m/c.
AEADPSFT8-910 008	**Startup Error.Received target application error with the target application PeopleSoft. The Connection pool size is %1**		
	Error	Adapter	Please verify your repository settings for validity of connection parameters. See User Guide.
AEADPSFT8-910 005	**Startup Error. Unable to create a connection with the target application using connection parameters : ID %1, server and port %2.**		
	Error	Adapter	Please verify your repository settings. See User's Guide.

Message		Category	Resolution
AEADPSFT8-930 001	**Publication error. Publication service %1 with publishing on subject %2 encountered connection error while trying to connect to target application PeopleSoft Appserver. Connection parameters are Appserver= %3 port= %4 userid= %5 password= %6, and the number of retry efforts is %7.**		
	Error	Adapter	Check the target application and make sure it is up and running. Check the connection parameters for right syntax and values. Please see user guide for details on how to specify connection parameters.
AEADPSFT8-930 003	**Publication error. Publication service %1 with publishing subject as %2 received event from target application PeopleSoft Appserver. It failed while converting event to Minstance as it could not get the class description for %3. Repository URL is %4 and the Configuration URL is %5.**		
	Error	Adapter	Please verify the configuration of the publication service and check that the schema/class definitions are present in the repository. Please see User Guide for details on how to configure a Publication service
AEADPSFT8-930 007	**Publication error. Publication service %1 with publication subject %2 received event from target application but could not create the business document %3. The target application is PeopleSoft Appserver, the Repository URL is %4 and the Configuration URL is %5**		
	Error	Adapter	Verify the configuration of the publication service and check that the schema definition for the MbusinessDocument maps properly to the event received from the target application. Please see User Guide for details on how to configure a Publication service
AEADPSFT8-930 008	**Publication error. Publication service %1 with publication subject %2 received SDK Exception %3 while converting the event received from target application to Business Document. The exception occurred while setting the attribute %4 with value of %5 for Business Document %6. The target application is PeopleSoft AppServer, the Repository URL is %7 and Configuration URL is %8.**		
	Error	Adapter	Please verify the configuration of the publication service and check that the schema definition for the MbusinessDocument maps properly to the event received from the target application. Please see User Guide for details on how to configure a Publication service

Message		Category	Resolution
AEADPSFT8-930 014	**Publication error. Publication service %1 with publication subject %2 received error while sending event over the wire. The Publish endpoint details are %3**		
	Error	Adapter	Please verify the configuration of the publication service and check that the schema definition for the MbusinessDocument maps properly to the event received from the target application. Please see User Guide for details on how to configure a Publication service
AEADPSFT8-940 001	**Request-Response service %1 listening on %2 received an unexpected null incoming request. The Repository URL is %3 and the Configuration URL is %4.**		
	Error	Adapter	Please check the configuration of the application that is requesting the event and make sure that it matches the inbound event definition for the above Request-Response service. Please see User Guide for details on configuration of Request-Response service
AEADPSFT8-940 005	**Request-Response error. Request-Response service %1 failed to deserialize the received MServerRequest to MInstance: Received event on subject %2, SDK exception = %3. The Repository URL is %4 and the Configuration URL is %5**		
	Error	Adapter	Please check the configuration of the application that is requesting the event and make sure that it matches the inbound event definition for the above Request-Response service. Please see User Guide for details on configuration of Request-Response service.
AEADPSFT8-940 007	**Request-Response error. Error in incoming data for RPC service: %1 on subject: %2. Missing mandatory parameter %3 for RPC input class.**		
	Error	Adapter	Ensure that the incoming request has the "Name" specified.
AEADPSFT8-940 008	**Request-Response error. Connection error in invocation of RPC service:%1 on subject:%2. Connection parameters are AppServerName=%3 ,Port=%4 , UserId=%5 ,Passwd=%6 .**		
	Error	Adapter	Check if the end application is up and running. Also verify the connection parameters that are specified in the repository.

Message		Category	Resolution
AEADPSFT8-940 009	**Request-Response error. Request-Response failed due to target application invocation error.**		
	Error	Adapter	Please check the target application command and the parameters and make sure they are valid. Probably they can cut and paste the command on a target application GUI and verify that it succeeds. Please augment this paragraph depending on your target application.
AEADPSFT8-940 010	**Request-Response error. Request-Response service %1 listening on subject %2 failed to create Reply Business Object Error %3.**		
	Error	Adapter	Check the target application command and the parameters and make sure they are valid. Probably they can cut and paste the command on a target application GUI and verify that it succeeds. Please augment this paragraph depending on your target application. Please check the connection time out parameter in configuration file.
AEADPSFT8-990 001	**Shutdown error. Failed to deactivate the %1 timer. SDK exception = %2**		
	Error	Adapter	Restart the adapter.
AEADPSFT8-990 002	**Shutdown error. SDK cleanup exception = %1**		
	Error	Adapter	Check the configuration of the application that is publishing the event and make sure that it matches the inbound event definition for the above subscription service. Please see User Guide for details on configuration of subscription service
AEADPSFT8-990 005	**Shutdown error. Error in disconnecting from target application.**		
	Error	Adapter	Ensure that the PeopleSoft Application Server and the database are up.

Message		Category	Resolution
AEADPSFT8-920 001	**Subscription error. Subscription service %1 listening on subject %2 received an unexpected event. The Repository URL is %3 and the Configuration URL is %4.**		
	Error	Adapter	Check the configuration of the application that is publishing the event and make sure that it matches the inbound event definition for the above subscription service. Please see User Guide for details on configuration of subscription service.
AEADPSFT8-920 002	**Subscription error. Subscription service %1 listening on subject %2 failed to deserialize the event received. The Repository URL is %3 and the Configuration URL is %4.**		
	Error	Adapter	Check the configuration of the application that is publishing the event and make sure that it matches the inbound event definition for the above subscription service. Please see User Guide for details on configuration of subscription service.
AEADPSFT8-920 003	**Subscription error. Subscription service %1 listening on subject %2 received inbound event with null data. The Repository URL is %3 and the Configuration URL is %4.**		
	Error	Adapter	Make sure that the incoming event has data.
AEADPSFT8-920 005	**Subscription error. Subscription service %1 listening on subject %2 could not find the tracking data. The Repository URL is %3 and the Configuration URL is %4.**		
	Error	Adapter	Check the configuration of the application that is publishing the event and make sure that it matches the inbound event definition for the above subscription service. Please see User Guide for details on configuration of subscription service.
AEADPSFT8-920 007	**Subscription error. Subscription service %1 listening on subject %2 could not get the class description. The Repository URL is %3 and the Configuration URL is %4.**		
	Error	Adapter	Please check the repository configuration for this service. Please see User Guide for details on how to configure, run and test the subscription service.

Message		Category	Resolution
AEADPSFT8-920 008	**Subscription error. Subscription service %1 listening on subject %2 could not find the mandatory property %3. The Repository URL is %4 and the Configuration URL is %5.**		
	Error	Adapter	Check the configuration of the application that is publishing the event and make sure that it matches the inbound event definition for the above subscription service. Please see User Guide for details on configuration of subscription service.
AEADPSFT8-920 010	**Subscription error. Subscription service %1 listening on subject %2 received event with missing attributes in class. The Repository URL is %3 and the Configuration URL is %4.**		
	Error	Adapter	Check the configuration of the application that is publishing the event and make sure that it matches the inbound event definition for the above subscription service. Please see User Guide for details on configuration of subscription service.
AEADPSFT8-920 014	**Subscription error. Subscription service %1 listening on subject %2 could not process the inbound event due to connection error against target application PS.**		
	Error	Adapter	Check the target application and make sure it is up and running. Check the validity of the connection parameters. Please see User Guide for details on how to specify connection parameters. Please see User Guide for details on Connection Management.
AEPS8-4001086	**AEPS8_MORE_THAN_ONE_RECORD_EXISTS_FOR_GETKEYS. More than one record exists for the given GETKEYS.**		
	Error	Application	Specify the correct GETKEYS.
AEPSFT-100001	**Palette error/Adapter Configuration names must have only alphanumeric characters with no embedded spaces and can be up to 80 characters long.**		
	Error	CONFIG	Please type in a valid name. Adapter Configuration names can only have alphanumeric characters and can be up to 80 characters long.

Message		Category	Resolution
AEPSFT-100002	**Palette error/The [%1] must be greater than [%2], and less than [%3].**		
	Error	CONFIG	The value specified must be greater than or equal to 0, and less than or equal to 65535.
AEPSFT-100003	**Palette Error/Names of adapters of the same type must be unique.**		
	Error	CONFIG	Specify a unique name for the adapter instance
AEPSFT-100004	**Connection Retry Mechanism Warning/This adapter version does not support connection retry mechanism. The values configured in the Runtime Connection tab will be ignored**		
	Warning	CONFIG	Indicates normal adapter operation. No action necessary.
AEPSFT-100005	**Application Messaging Publisher/This adapter version %1 does not support Application Messaging, but an Application Messaging Publisher was found.**		
	Warning	CONFIG	Indicates normal adapter operation. No action necessary.
AEPSFT-100006	**JMS Service Configured/This adapter version %1 does not support JMS services, but one was found.**		
	Warning	CONFIG	Indicates normal adapter operation. No action necessary.
AEPSFT-100007	**XML Wire Format found/This adapter version %1 does not support XML Wire Format**		
	Warning	CONFIG	XML wire format is supported by versions 5.x and above. In order to use it change version to 5.0 or 5.1
AEPSFT-100008	**Mandatory Field Missing/The field [%1] is a mandatory field.**		
	error	CONFIG	Please specify a value for the field.
AEPSFT-100009	**Palette error/The field [%1] must have only numeric values.**		
	Error	CONFIG	Specify a valid numeric value for the field.

Message		Category	Resolution
AEPSFT-100010	**Palette Error/Could not bind to PeopleSoft Application Server.The entered machine name %1'inthe'%2'fielddoesnotexist.'**		
	Error	CONFIG	Please enter a valid value for the field.
AEPSFT-100011	**Invalid Service name:/Service name can only contain alphanumeric characters with no embedded spaces and cannot exceed maximum length of 80 characters.**		
	Error	CONFIG	Please type in a valid name. Adapter Configuration names can only have alphanumeric characters and can be up to 80 characters long.
AEPSFT-100012	**Invalid Subject/The subject specified is invalid.**		
	error	CONFIG	Specify a valid subject name for the service.
AEPSFT-100013	**Palette Error/Selected Reference does not refer an EndPoint.Please select a valid EndPoint Reference.**		
	Error	CONFIG	Select a valid endpoint reference.
AEPSFT-100014	**Missing configuration data/No message has been selected.**		
	Error	CONFIG	Please select a Message using Fetch Message...
AEPSFT-100015	**Missing configuration data/No Component Interface has been selected.**		
	Error	CONFIG	Please select a Component Interface using Fetch Interface...
AEPSFT-100016	**Get Schema failed/The schema was not fetched for the service.Please ensure that the aeschema file is writable.**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the Instance.aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-100017	**Cannot Delete/The resource could not be deleted.Please ensure that the aeschema file is writable.**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the Instance.aeschema and businessObjects.aeschema files for this instance are checked out.

Message		Category	Resolution
AEPSFT-100018	**Cannot Paste Service/The service could not be pasted.Please ensure that the aeschema file is writable.**		
	Error	CONFIG	Ensure that the Schema folders for this instance in which this service is present are writable. Ensure that the Instance.aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-100019	**Cannot Rename/The adapter configuration could not be renamed.Please ensure that the aeschema file is writable.**		
	error	CONFIG	Please select a Component Interface using Fetch Interface...
AEPSFT-100020	**Global Variables File Read-Only**		
	Error	CONFIG	Check out the Global variables file.
AEPSFT-100021	**Global Variable files needs to be checked out in order to successfully create the adapter.**		
	Error	CONFIG	Check out the Global variables file.
AEPSFT-100022	**Error During Rename: Read-Only File**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the Instance.aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-100023	**The resource %1 could not be renamed. Rename requires the "%2" must be checked out. Please checkout the resource and try renaming again. You can select the resource to be checked out by clicking the "Go To Resource" button.**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the Instance.aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-100024	**Error During Delete: Read-Only File**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the Instance.aeschema and businessObjects.aeschema files for this instance are checked out.

Message		Category	Resolution
AEPSFT-100025	**The resource "%1" could not be deleted. Delete requires that "%2" must be checked out. Please checkout the resource and try deleting again. You can select the resource to be checked out by clicking the "Go To Resource" button.**		
	error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the Instance.aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-100026	**Error: Read-Only File**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the Instance.aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-100027	**The operation on Resource " %1 " could not be completed.The operation requires that " %2 " must be checked out.Please ensure that the file is checked out.You can select the resource to be checked out by clicking the "Go To Resource" button**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the Instance.aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-100028	**Warning: Add File to RCS**		
	Warning	CONFIG	Ensure that the resources that are created on this operation are checked into the RCS.
AEPSFT-100029	**Warning: "%1" was created during schema generation.**		
	Warning	CONFIG	Ensure that the resources that are created on this operation are checked into the RCS.
AEPSFT-100030	**Error During Move: Read-Only File**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the Instance.aeschema and businessObjects.aeschema files for this instance are checked out.

Message		Category	Resolution
AEPSFT-100031	**The resource %1 could not be moved. Move requires that " %2 " must be checked out. Please checkout the resource and try moving again. You can select the resource to be checked out by clicking the "Go To Resource" button.**		
	error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the Instance.aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-100032	**Invalid Value/Please specify a valid integer as value for the [%1] field.**		
	Error	CONFIG	Specify a valid integer as a value for the field.
AEPSFT-100034	**Could not bind to the PeopleSoft Application Server.The entered machine name in the "adpsft8.connection.appserver" global variable does not exist.\n The value entered will get reset to the original value only on save.**		
	Warning	CONFIG	Save the repository.
AEPSFT-110001	**DTA Connection Failure/The Design Time Connection has failed.**		
	Error	DTA	Verify if the Design-time adapter is up and running
AEPSFT-110002	**Class Not Found/Could not find the Class.Error: %1. Error during connection to DTA.**		
	Error	DTA	Ensure that the psjoa.jar is in the path and is compatible with the PeopleTools version being used.
AEPSFT-110003	**DTA Connection Successful/The Design-Time Adapter Connection is successful.**		
	Information	DTA	Indicates normal adapter operation. No action necessary.
AEPSFT-110004	**Connection Successful/Connection parameters are valid.A test connection is successful.**		
	Information	DTA	Indicates normal adapter operation. No action necessary.
AEPSFT-110005	**Palette Error/Connection to Design-Time Adapter is not established.**		
	Warning	DTA	Ensure that the palette-DTA connection is established.

Message		Category	Resolution
AEPSFT-110006	**Save Failed/Publication Service : %1 could not be saved into PeopleSoft System.Error: %2.**		
	error	DTA	Ensure that the DTA and application server are up and running and that the user has full permissions on the CI's included with the Project.
AEPSFT-110007	**Palette Error/Unable to initialize DTA client.DTA client instance could not be initialized with repository file.Error: %1.**		
	Error	DTA	Ensure that the palette dat is in the lib/palettes directory.
AEPSFT-110008	**Palette error/DTA client request has timed out.Please check whether DTA server is running.**		
	Error	DTA	Check whether the design-time adapter is running.
AEPSFT-110009	**DTA DisConnection Failure/The Design Time disconnect has failed with the parameters: \nApplication Server: %1, User Id: %2, Port: %3.**		
	Error	DTA	Ensure that the parameters passed for the connection are valid.
AEPSFT-120001	**Duplicate Service/There cannot be two services configured for the same Message [%1] in a PeopleSoftAdapterConfiguration resource.**		
	Error	SRVC	Configure the message under a different instance or configure a different message in this instance.
AEPSFT-120002	**Duplicate Service/There cannot be two services configured for the same Component Interface [%1] in a PeopleSoftAdapterConfiguration resource.**		
	Error	SRVC	Configure the CI under a different instance or configure a different CI in this instance.
AEPSFT-120003	**Palette Error/Get Schema Failed.%1.**		
	Error	SRVC	Ensure that the design-time adapter is running.
AEPSFT-120004	**Invalid Service Name/The Message Name cannot be blank. Please select a valid Message by using Fetch Message.**		
	error	SRVC	Please select a valid message by using Fetch Message.

Message		Category	Resolution
AEPSFT-120005	**Invalid Service name/For a given Adapter Configuration, only one Service can be created for a particular Message and the Message cannot be Blank**		
	Error	SRVC	Ensure that for a given Adapter Configuration, only one Service is created for a particular Message and the Message field is not blank.
AEPSFT-120006	**Invalid Message/The Message %1' does not exist in the PeopleSoft System. Please select Message by using Fetch Message.'**		
	Error	SRVC	Select a valid message by using the Fetch Message button.
AEPSFT-120007	**Invalid Message/Failed to Verify Message in PeopleSoft System. Please Check the Connection to the PeopleSoft System.**		
	Error	SRVC	Check the connection to PeopleSoft System. Ensure that the design-time adapter is up and running.
AEPSFT-120008	**Invalid Service Name/The Component Interface Name cannot be blank. Please select a valid Component Interface by using Fetch Interface.**		
	Error	SRVC	Select a valid CI by using the Fetch Interfaces button.
AEPSFT-120009	**Invalid Service name/For a given Adapter Configuration, only one Service can be created for a particular Component Interface and the Component Interface cannot be Blank**		
	Error	SRVC	Ensure that for a given adapter configuration, only one Service is created for a particular CI and the CI field is not blank.
AEPSFT-120010	**Invalid Component Interface / The CI %1' does not exist in the PeopleSoft System. Please select CI by using' Fetch Interface."**		
	Error	SRVC	Please select a CI using the Fetch Interface button.
AEPSFT-120011	**Invalid Component Interface/Failed to Verify Component Interface in PeopleSoft System. Please Check Connection to PeopleSoft System.**		
	error	SRVC	Check the connection to the PeopleSoft System. Ensure that the design-time adapter is up and running.

Message		Category	Resolution
AEPS8-4003050	**AEPS8_PUB_JMS_SERVER_UNAVAILABLE. Processing for the event %1 failed due to unavailability of JMS session.**		
	Information	Adapter	Bring up the JMS server and restart the adapter.
AEPSFT-100001	**Palette error/Adapter Configuration names must have only alphanumeric characters with no embedded spaces and can be up to 80 characters long.**		
	Error	CONFIG	Please type in a valid name.Adapter Configuration names can only have alphanumeric characters and can be up to 80 characters long.
AEPSFT-100002	**Palette error/The [%1] must be greater than [%2], and less than [%3].**		
	Error	CONFIG	The value specified must be greater than or equal to 0, and less than or equal to 65535.
AEPSFT-100003	**Palette Error/Names of adapters of the same type must be unique.**		
	Error	CONFIG	Specify a unique name for the adapter instance
AEPSFT-100004	**Connection Retry Mechanism Warning/This adapter version does not support connection retry mechanism. The values configured in the Runtime Connection tab will be ignored**		
	Warning	CONFIG	Indicates normal adapter operation. No action necessary.
AEPSFT-100005	**Application Messaging Publisher/This adapter version %1 does not support Application Messaging, but an Application Messaging Publisher was found.**		
	Warning	CONFIG	Indicates normal adapter operation. No action necessary.
AEPSFT-100006	**JMS Service Configured/This adapter version %1 does not support JMS services, but one was found.**		
	Warning	CONFIG	Indicates normal adapter operation. No action necessary.
AEPSFT-100007	**XML Wire Format found/This adapter version %1 does not support XML Wire Format**		
	Warning	CONFIG	XML wire format is supported by versions 5.x and above. In order to use it change version to 5.0 or 5.1

Message		Category	Resolution
AEPSFT-100008	**Mandatory Field Missing/The field [%1] is a mandatory field.**		
	Error	CONFIG	Please specify a value for the field.
AEPSFT-100009	**Palette error/The field [%1] must have only numeric values.**		
	Error	CONFIG	Specify a valid numeric value for the field.
AEPSFT-100010	**Palette Error/Could not bind to PeopleSoft Application Server. The entered machine name %1'in the'%2'field does not exist.'**		
	Error	CONFIG	Please enter a valid value for the field.
AEPSFT-100011	**Invalid Service name:/Service name can only contain alphanumeric characters with no embedded spaces and cannot exceed maximum length of 80 characters.**		
	Error	CONFIG	Please type in a valid name.Adapter Configuration names can only have alphanumeric characters and can be up to 80 characters long.
AEPSFT-100012	**Invalid Subject/The subject specified is invalid.**		
	Error	CONFIG	Specify a valid subject name for the service.
AEPSFT-100013	**Palette Error/Selected Reference does not refer an EndPoint. Please select a valid EndPoint Reference.**		
	Error	CONFIG	Select a valid endpoint reference.
AEPSFT-100014	**Missing configuration data/No message has been selected.**		
	Error	CONFIG	Please select a Message using Fetch Message...
AEPSFT-100015	**Missing configuration data/No Component Interface has been selected.**		
	Error	CONFIG	Please select a Component Interface using Fetch Interface...
AEPSFT-100016	**Get Schema failed/The schema was not fetched for the service. Please ensure that the aeschema file is writable.**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the instance .aeschema and businessObjects.aeschema files for this instance are checked out.

Message		Category	Resolution
AEPSFT-100017	**Cannot Delete/The resource could not be deleted. Please ensure that the aeschema file is writable.**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the instance .aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-100018	**Cannot Paste Service/The service could not be pasted. Please ensure that the aeschema file is writable.**		
	Error	CONFIG	Ensure that the Schema folders for this instance in which the service is present, are writable. Ensure that the instance .aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-100019	**Cannot Rename/The adapter configuration could not be renamed. Please ensure that the aeschema file is writable.**		
	Error	CONFIG	Please select a Component Interface using Fetch Interface...
AEPSFT-100020	**Global Variables File Read-Only**		
	Error	CONFIG	Check out the Global variables file.
AEPSFT-100021	**Global Variable files needs to be checked out in order to successfully create the adapter.**		
	Error	CONFIG	Check out the Global variables file.
AEPSFT-100022	**Error During Rename: Read-Only File**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the instance .aeschema and businessObjects.aeschema files for this instance are checked out.

Message		Category	Resolution
AEPSFT-100023	**The resource %1 could not be renamed. Rename requires the "%2" must be checked out. Please checkout the resource and try renaming again. You can select the resource to be checked out by clicking the "Go To Resource" button.**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the instance .aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-100024	**Error During Delete:Read-Only File**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the instance .aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-100025	**The resource "%1" could not be deleted. Delete requires that "%2" must be checked out. Please checkout the resource and try deleting again. You can select the resource to be checked out by clicking the "Go To Resource" button.**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the instance .aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-100026	**Error: Read-Only File**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the instance .aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-100027	**The operation on Resource " %1 " could not be completed.The operation requires that " %2 " must be checked out.Please ensure that the file is checked out.You can select the resource to be checked out by clicking the "Go To Resource" button**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the instance .aeschema and businessObjects.aeschema files for this instance are checked out.

Message		Category	Resolution
AEPSFT-100028	**Warning: Add File to RCS**		
	Warning	CONFIG	Ensure that the resources that are created on this operation are checked into the RCS.
AEPSFT-100029	**Warning: "%1" was created during schema generation.**		
	Warning	CONFIG	Ensure that the resources that are created on this operation are checked into the RCS.
AEPSFT-100030	**Error During Move: Read-Only File**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the instance .aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-100031	**The resource %1 could not be moved. Move requires that " %2 " must be checked out. Please checkout the resource and try moving again. You can select the resource to be checked out by clicking the "Go To Resource" button.**		
	Error	CONFIG	Ensure that the Schema folders for this instance are writable. Ensure that the instance .aeschema and businessObjects.aeschema files for this instance are checked out.
AEPSFT-110001	**DTA Connection Failure/The Design Time Connection has failed.**		
	Error	DTA	Verify if the Design-time adapter is up and running
AEPSFT-110002	**Class Not Found/Could not find the Class.Error: %1. Error during connection to DTA.**		
	Error	DTA	Ensure that the psjoa.jar is in the path and is compatible with the PeopleTools version being used.
AEPSFT-110003	**DTA Connection Successful/The Design-Time Adapter Connection is successful.**		
	Information	DTA	Indicates normal adapter operation. No action necessary.

Message		Category	Resolution
AEPSFT-110004	**Connection Successful/Connection parameters are valid. A test connection is successful.**		
	Information	DTA	Indicates normal adapter operation. No action necessary.
AEPSFT-110005	**Palette Error/Connection to Design-Time Adapter is not established.**		
	Warning	DTA	Ensure that the palette-DTA connection is established.
AEPSFT-110006	**Save Failed/Publication Service : %1 could not be saved into PeopleSoft System.Error: %2.**		
	Error	DTA	Ensure that the DTA and application server are up and running and that the user has full permissions on the CI's included with the Project.
AEPSFT-110007	**Palette Error/Unable to initialize DTA client. DTA client instance could not be initialized with repository file.Error: %1.**		
	Error	DTA	Ensure that the palette dat is in the lib/palettes directory.
AEPSFT-120001	**Duplicate Service/There cannot be two services configured for the same Message [%1] in a PeopleSoftAdapterConfiguration resource.**		
	Error	SRVC	Configure the Message under a different instance or configure a different message in this instance.
AEPSFT-120002	**Duplicate Service/There cannot be two services configured for the same Component Interface [%1] in a PeopleSoftAdapterConfiguration resource.**		
	Error	SRVC	Configure the CI under a different instance or configure a different CI in this instance.
AEPSFT-120003	**Palette Error/Get Schema Failed.%1.**		
	Error	SRVC	Please ensure that the DTA is up and running.
AEPSFT-120004	**Invalid Service Name/The Message Name cannot be blank. Please select a valid Message by using Fetch Message.**		
	Error	SRVC	Please select a valid Message by using Fetch Message.

Message		Category	Resolution
AEPSFT-120005	**Invalid Service name/For a given Adapter Configuration, only one Service can be created for a particular Message and the Message cannot be Blank**		
	Error	SRVC	Please ensure that for a given adapter configuration, only one Service is created for a particular Message and the Message field is not blank.
AEPSFT-120006	**Invalid Message/The Message %1' does not exist in the PeopleSoft System. Please select Message by using Fetch Message.'**		
	Error	SRVC	Please select a valid message by using the Fetch Message button.
AEPSFT-120007	**Invalid Message/Failed to Verify Message in PeopleSoft System. Please Check the Connection to the PeopleSoft System.**		
	Error	SRVC	Check the connection to the PeopleSoft System. Ensure that the DTA is up and running.
AEPSFT-120008	**Invalid Service Name/The Component Interface Name cannot be blank. Please select a valid Component Interface by using Fetch Interface.**		
	Error	SRVC	Select a valid CI by using the Fetch Interface button.
AEPSFT-120009	**Invalid Service name/For a given Adapter Configuration, only one Service can be created for a particular Component Interface and the Component Interface cannot be Blank**		
	Error	SRVC	Ensure that for a given Adapter Configuration, only one Service is created for a particular CI and the CI field is not blank.
AEPSFT-120010	**Invalid Component Interface/The CI %1'does not exist in the PeopleSoft System. Please select CI by using 'FetchInterface.’'**		
	Error	SRVC	Please select a CI using the Fetch Interface button.
AEPSFT-120011	**Invalid Component Interface/Failed to Verify Component Interface in PeopleSoft System. Please Check Connection to PeopleSoft System.**		
	Error	SRVC	Check the Connection to the PeopleSoft System. Ensure that the DTA is up and running.

Message		Category	Resolution
AEPS8-4001087	**Startup Warning. Password decryption was unsuccessful.**		
	Warning	Adapter	Password could not be decrypted and hence will be used as-is. This is a warning. No action required.
AEPS8-4003050	**AEPS8_PUB_JMS_SERVER_UNAVAILABLE. Processing for the event %1 failed due to unavailability of JMS session.**		
	Information	Adapter	Bring up the JMS server and restart the adapter.
AEPS8_620001	**Activated Worker Threads for PeopleSoft IB Message processing.**		
	Information	Adapter	If any of the IB Services are configured, the Worker thread for processing IB message should be started.
AEPS8_620002	**Error while building PeopleSoft IB message.**		
	Information	Adapter	Verify that Schema for the configured message is right.
AEPS8_620003	**Java JNDI Naming Error for Message Subscriber.**		
	Information	Adapter	Verify that the JNDI URL specified for Message Subscriber is correct.
AEPS8_620004	**Unable to send Message over JMS.**		
	Information	Adapter	Verify that the respective Topic or Queue is present in the JMS Server.
AEPS8_620005	**Invalid HTTP Url please configure valid URL of PeopleSoft IB Subscriber.**		
	Information	Adapter	Configure the valid HTTP URL for Message Subscriber.
AEPS8_620006	**Invalid HTTP Network please check whether IB Server is up and running.**		
	Information	Adapter	Check whether the IB Server is up and running.
AEPS8_620007	**Error while reading and writing to the IO Stream.**		
	Information	Adapter	The Subscriber must have been configured with a wrong HTTP URL. Provide the right URL and restart the adapter.

Message		Category	Resolution
AEPS8_620008	**Error Parsing HTTP Response XML.**		
	Information	Adapter	The Subscriber must have been configured with a wrong HTTP URL. Provide the right URL and restart the adapter.
AEPS8_620009	**%1 Service not interested in the message %2.**		
	Information	Adapter	The message sent by IB is different from the one configured for Subscription. Send a message similar to the one configured.
AEPS8_620010	**%1 Event Added on the worker queue.**		
	Information	Adapter	The Event received from PeopleSoft IB is added on the Queue for further processing.
AEPS8_620101	**Registering %1 as RPC Client...**		
	Information	Adapter	If RPC Client is configured, the log should show that the Request-Response Invocation Service has been registered.
AEPS8_620102	**Unhandled Exception while processing rpcclient.**		
	Information	Adapter	Could not handle the exception. Restart the adapter.
AEPS8_620103	**Thread interrupted while putting the job on the Queue.**		
	Information	Adapter	Indicates normal adapter operation. No Action required.
AEPS8_620104	**Ping executed with error for rpcclient.**		
	Information	Adapter	Could not confirm the Data Event. Restart the adapter.
AEPS8_620105	**rpcclient timeout error.**		
	Information	Adapter	Change the timeout property in the **SubscriberOptions** tab, and check whether the RPC-Client process is up and running.

Message		Category	Resolution
AEPS8_620106	**Error while processing XML message for rpcclient.**		
	Information	Adapter	Verify that the right message structure has been sent to the RPC-Client Service. Monitor the message in PeopleSoft for more information.
AEPS8_620107	**Error while sending reply for rpcclient.**		
	Information	Adapter	Verify whether the JMS Server is running.
AEPS8_620108	**Error while getting PeopleSoft IB Message for RPCClient.**		
	Information	Adapter	Verify that the right message structure has been sent to the RPC-Client Service. Monitor the message in PeopleSoft for more information.
AEPS8_620152	**Started processing for rpcclient.**		
	Information	Adapter	Indicates normal adapter operation. No action required.
AEPS8_620153	**Ended processing for rpcclient successfully.**		
	Information	Adapter	Indicates normal adapter operation. No action required.
AEPS8_620154	**Job added on the Queue for rpcclient.**		
	Information	Adapter	Indicates normal adapter operation. No action required.
AEPS8_620301	**Error sending IB Request xml data to PeopleSoft IB for messagesubscriber.**		
	Information	Adapter	Could not confirm the Data Event. Verify that the JMS Server is running, and restart the adapter.
AEPS8_620302	**UnHandled Exception while processing message subscriber.**		
	Information	Adapter	Could not handle the exception. Restart the adapter.
AEPS8_620351	**Started processing for message subscriber.**		
	Information	Adapter	Indicates normal adapter operation. No action required.

Message		Category	Resolution
AEPS8_620352	**Ended processing for message subscriber successfully.**		
	Information	Adapter	Indicates normal adapter operation. No action required.
AEPS8_620501	**UnHandled Exception while processing message publisher.**		
	Information	Adapter	Could not handle the exception. Restart the adapter.
AEPS8_620551	**Started processing for message publisher.**		
	Information	Adapter	Indicates normal adapter operation. No action required.
AEPS8_620552	**Ended processing for message publisher successfully.**		
	Information	Adapter	Indicates normal adapter operation. No action required.

Appendix C Troubleshooting

This appendix lists troubleshooting information.

Topics

Running adpsft8.exe failed

Symptom 1

When I run adpsft8.exe from a command prompt it returned an error stating "connection <n>.dat failed" as follows:

```
com.tibco.sdk.MException: Operation error: connection myRepo.dat
failed.
  at com.tibco.sdk.properties.MRepoPropertiesRegistry.<init>
  (MRepoPropertiesRegistry.java:100)
  at com.tibco.sdk.properties.MRepoPropertiesRegistry.<init>
  (MRepoPropertiesRegistry.java:51)
  at com.tibco.sdk.MApp.connectToRepo(MApp.java:363)
  at com.tibco.sdk.MDefaultApp.start(MDefaultApp.java:242)
  at com.tibco.sdk.MApp.start(MApp.java:191)
  at com.tibco.adapter.ps.PS8Adapter.main(PS8Adapter.java:37)
Caught MException in PS8Adapter::main().
```

Probable Cause

The connection to the specified repository failed because the adapter could not locate the repository.

Solution

If you specified a remote repository for the tibco.repourl property in the .tra file make sure the applicable repository server is up. If you specified a local repository file in the *<repositoryInstance>* parameter, make sure the path is correct and the file is not corrupted.

Symptom 2

When I run adpsft8.exe from a command prompt it returned an error stating "transport is null" as follows:

```
2001 Sep 20 17:16:23:922 ps8Adapter.inst Error [Adapter]   AEPS8-4001028 Stack Trace
java.lang.IllegalArgumentException:    transport is null
  at com.tibco.tibrv.TibrvListener.init(TibrvListener.java:67)
  at om.tibco.tibrv.TibrvListener.<init>(TibrvListener.java:58)
  at com.tibco.tibrv.TibrvCmListener.<init>
  (TibrvCmListener.java:37)
  at com.tibco.sdk.events.pubsub.MRvcmSubscriber.listen
  (MRvcmSubscriber.java:173)
  at com.tibco.sdk.events.pubsub.MRvSubscriber.activate
  (MRvSubscriber.java:125)
  at com.tibco.sdk.events.MSubscriber.activate
  (MSubscriber.java:239)
  at com.tibco.sdk.internal.MStartup.activateComponent
  (MStartup.java:148)
  at com.tibco.sdk.MDefaultApp.activateComponents
```

```
(MDefaultApp.java:557)
at com.tibco.sdk.MDefaultApp.start(MDefaultApp.java:366)
at com.tibco.sdk.MApp.start(MApp.java:191)
at com.tibco.adapter.ps.PS8Adapter.main(PS8Adapter.java:37)
```

Probable Cause

The adapter failed during initialization when it was trying to set up the RVCM transport. The failure occurred because the adapter was not able to create a ledger. This happens when another adapter configuration is running and has already locked a ledger file with the same name.

Solution

If you did not intend to have more than one adapter configuration running concurrently:

1. Start TIBCO Designer.
2. Open up the repository you have saved.
3. In the project tree panel, select the adapter configuration you are trying to start.
4. Change the ledger file name found under Advanced/Sessions.

If you do want to have more than one adapter configuration running concurrently, run the adapter configuration in another directory. For example, create a subdirectory under *TIBCO_HOME*\adapter\adpsft8\version_number\bin and call it myInstance. Copy adpsft8.exe and adpsft8.tra files. Modify the property application .args to reflect the correct path of the .tra file.

adpsft8.bat to *TIBCO_HOME*\adapter\adpsft8\version_number\bin\myInstance and run the adapter from that location.

Symptom 3

When I run adpsft8.exe from a command prompt it returned an error stating "Failed to Connect to Appserver with Following Parameters" as follows:

```
2001 Sep 20 17:48:33:571 ps8Adapter.inst Info [Application]   AEPS8-4003002 Connecting to Application Server..
Jolt Session Pool cannot provide a connection to the appsever.    This appears to be because there is no available
application   server domain.
Jolt Session Pool cannot provide a connection to the appsever.    This appears to be because there is no available
application   server domain.
[Thu Sep 20 17:48:36 PDT 2001] bea.jolt.ServiceException: Invalid   Session
Application Server last connected
2001 Sep 20 17:48:36:856 ps8Adapter.inst Error [Adapter]   AEPS8-4001028 Stack Trace  com.tibco.sdk.MException:
Failed to   Connect to Appserver with Following Parameters stan-dt:9050,   OprID VP1
   at com.tibco.adapter.ps.AdapterException.<init>
   (AdapterException.java:24)
   at com.tibco.adapter.ps.ComponentInterfaceAgent.<init>
   (ComponentInterfaceAgent.java:121)
   at com.tibco.adapter.ps.ComponentInterfaceAgent.getCIA
   (ComponentInterfaceAgent.java:69)
   at com.tibco.adapter.ps.JAdapterCore.onInitialization
```

```
(JAdapterCore.java:105)
at com.tibco.sdk.MDefaultApp.onInitialization
(MDefaultApp.java:528)
at com.tibco.sdk.MDefaultApp.start(MDefaultApp.java:346)
at com.tibco.sdk.MApp.start(MApp.java:191)
at com.tibco.adapter.ps.PS8Adapter.main(PS8Adapter.java:37)
2001 Sep 20 17:48:36:936 ps8Adapter.inst Error [Application]    AEPS8-4001036 Caught MException in
PS8Adapter::main().
```

Probable Cause

The system is unable to locate a PeopleSoft Application Server domain. Either the application server is down or the TIBCO Repository stored an invalid application server host name and/or port number.

Solution

Double-check all the connection parameters (operator ID, password, application server name, and port number) in the repository. Verify that the database is up by login 2 tier using a PeopleSoft client. Verify that the application server is up and that the JSL process is alive and the JSL port matches the one stored in the repository.

Symptom 4

When I run adpsft8.exe from a command prompt it returned an error stating "Failed to Connect to Appserver with Following Parameters" as follows:

```
2001 Sep 20 17:58:00:346 ps8Adapter.inst Error [Adapter]   AEPS8-4001028 Stack Trace  com.tibco.sdk.MException:
Failed to   Connect to Appserver with Following Parameters stan-dt:9050,   OprID VP2
at com.tibco.adapter.ps.AdapterException.<init>
(AdapterException.ja  va:24)
at com.tibco.adapter.ps.ComponentInterfaceAgent.<init>
(ComponentInterfaceAgent.java:121)
at com.tibco.adapter.ps.ComponentInterfaceAgent.getCIA
(ComponentInterfaceAgent.java:69)
at com.tibco.adapter.ps.JAdapterCore.onInitialization
(JAdapterCore.java:105)
at com.tibco.sdk.MDefaultApp.onInitialization
(MDefaultApp.java:528)
at com.tibco.sdk.MDefaultApp.start(MDefaultApp.java:346)
at com.tibco.sdk.MApp.start(MApp.java:191)
at com.tibco.adapter.ps.PS8Adapter.main(PS8Adapter.java:37)
2001 Sep 20 17:58:00:346 ps8Adapter.inst Error [Application]    AEPS8-4001036 Caught MException in
PS8Adapter::main().
```

Probable Cause

The operator ID or password is invalid. A second possible cause is that the database is down but the PeopleSoft Application Server is up. A third possible cause is the wrong version of the PSJOA.JAR file is used. The PSJOA.JAR should belong to the same version of PeopleTools as the file being used by the BEA Tuxedo application server.

Solution

Double-check all the connection parameters (operator ID, password, application server name, and port number) in the repository. Verify that the database is up by login 2 tier using a PeopleSoft client. Verify that the application server is up and that the JSL process is alive and the JSL port matches the one stored in the repository.

Verify that the versions of the PeopleTools libraries being used by the adapter and the application server are the same.

Symptom 5

When I run adpsft8.exe from a command prompt it returned an error stating "NoClassDefFoundError: com/tibco/tibrv/*" as follows:

```
Exception in thread "main" java.lang.NoClassDefFoundError:   com/tibco/tibrv/TibrvException
   at com.tibco.sdk.MApp.<init>(MApp.java:88)
   at com.tibco.adapter.ps.JAdapterCore.<init>
   (JAdapterCore.java:72)
   at com.tibco.adapter.ps.PS8Adapter.main(PS8Adapter.java:35)
```

Probable Cause

The tibrvj.jar file is not correctly identified.

Solution

Add the path to tibrvj.jar to the environment variable CLASSPATH. By default this file is found in *TIBCO_HOME*\tra\version_number.

Symptom 6

When I run adpsft8.exe from a command prompt it returned an error stating "Substitution variable … does not exist" as follows:

```
Processing /tibco/private/adapter/PeopleSoft/inst/ps8Adapter ...
com.tibco.sdk.MException: Invalid assoc key: startup.Substitution variable HawkEnabled does not exist
   at com.tibco.sdk.properties.MRepoProperties.get
   (MRepoProperties.java:242)
   at com.tibco.sdk.properties.MRepoProperties.get
   (MRepoProperties.java:232)
   at com.tibco.sdk.serializer.MPropertyBasedDeserializer.internalRead
   (MPropertyBasedDeserializer.java:147)
   at com.tibco.sdk.serializer.MPropertyBasedDeserializer.readOptional
   (MPropertyBasedDeserializer.java:235)
   at com.tibco.sdk.serializer.MPropertyBasedDeserializer.readOptional
   (MPropertyBasedDeserializer.java:226)
   at com.tibco.sdk.serializer.MConfigDeserializer.readConfig
   (MConfigDeserializer.java:49)
   at com.tibco.sdk.serializer.MConfigDeserializer.readAnySupportedType
   (MConfigDeserializer.java:33)
   at com.tibco.sdk.serializer.MPropertyBasedDeserializer.readAny
```

```
(MPropertyBasedDeserializer.java:202)
at com.tibco.sdk.serializer.MPropertyBasedDeserializer.deserialize
(MPropertyBasedDeserializer.java:33)
at com.tibco.sdk.MDefaultApp.start(MDefaultApp.java:281)
at com.tibco.sdk.MApp.start(MApp.java:191)
Caught MException in PS8Adapter::main().
```

Probable Cause

The repository is missing a Hawk Enable global variable.

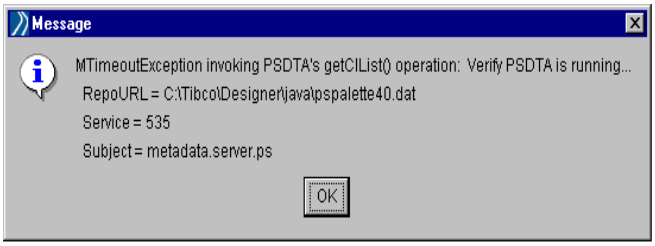
Solution

Start TIBCO Designer, then open the affected repository and add the missing global variable.

Clicking on the Fetch Interface button returns an MTimeoutException

Symptom

While configuring an adapter service, I clicked **Fetch Interface …** and encountered following error:



Probable Cause

Either the TIBCO design-time adapter has not been started, or you have not granted permission to use TIB_CI_COMPINTFC.

Solution

1. Start the design-time adapter.
2. Log into PeopleSoft, go to the Maintain Security screen, and add TIB_CI_COMPINTFC to the list of Component Interfaces your operator class can use. Make sure full access is granted.

When the adapter is running there is a registration collision

Symptom

The following message appears on the adapter console:

```
{ADV_CLASS="ERROR" ADV_SOURCE="RVCM"   ADV_NAME="REGISTRATION.COLLISION.PS8CM"
name="PS8CM"   confl_inbox="_INBOX.0A606495.1
 FD3BAA860E776030.1" confl_addr=10.96.100.149}
```

Probable Cause

Another TIBCO product is using the same RVCM name. As indicated in the message above, PS8CM is an RVCM name already being used on 10.96.100.149. An RVCM collision could cause thrashing (see TIBCO Rendezvous documentation) and compromise the quality of service.

Solution

Rename the RVCM session that the adapter configuration is using.

The adapter prints a stacktrace at each polling interval

Symptom

The following message repeats at each polling interval:

```
 bea.jolt.ApplicationException: TPESVCFAIL - application level   service failure
    at bea.jolt.JoltRemoteService.decodeCALL(JoltRemoteService.java:405)
    at bea.jolt.JoltRemoteService.call(JoltRemoteService.java:323)
    at psft.pt8.net.NetReqRepSvc.sendRequest(NetReqRepSvc.java:376)
    at psft.pt8.net.NetService.requestService(NetService.java:144)
    at psft.pt8.joa.JOAService.joaRequestService(JOAService.java:49)
    at psft.pt8.joa.CISessionSvc.getComponent(CISessionSvc.java:31)
    at psft.pt8.joa.CI.getComponent(CI.java:29)
    at psft.pt8.joa.Session.getComponent(Session.java:46)
    at com.tibco.adapter.ps.PublisherEventHandler.getEventsfromQueue
    (PublisherEventHandler.java:102)
    at com.tibco.adapter.ps.PublisherEventHandler.onEvent
    (PublisherEventHandler.java:72)
    at com.tibco.sdk.events.EventHandoff.run(MEventSource.java:141)
    at java.lang.Thread.run(Unknown Source)
Cannot trace non MException or MRuntimeException class
2001 Sep 21 00:15:13:676 ps8Adapter.inst Info [Application] AEPS8-4003052 "Re-Established connection to app
server with
parameters - server : shsu-lt:9050,oprId : VP1 for Publisher."
```

Probable Cause

The adapter uses the TIB_MQUEUE_DATA_CI and TIB_MQUEUE_SRCH_CI Component Interface to poll the TIB_CI_MQUEUE table. If the login account has not been granted permission to use this Component Interface, then you will get this error. These objects can be found by using a PeopleSoft client and opening up the TIB_PS8_ADAPTER project.

Solution

1. Login to PeopleSoft.
2. Open the Maintain Security screen.
3. Select the operator class corresponding to the operator ID the adapter is using.
4. Add TIB_MQUEUE_DATA_CI and TIB_MQUEUE_SRCH_CI to the list of Component Interfaces.
5. Make sure full permission is granted, then save the changed list.

The adapter is not publishing data that has been entered

Symptom

After completing the configuration for an adapter configuration with a CI Publication Service, the configuration is saved to a repository instance. But when a PeopleSoft client is used to enter data, no entry is added to the TIB_CI_MQUEUE table. Thus the adapter configuration does not publish any data.

Probable Cause

While using TIBCO Designer to save the adapter configuration containing the CI Publication Service, it throws a error. When you save the configuration information to a TIBCO repository instance, a set of code checks to see if data needs to be saved to the PeopleSoft database. Saving data to the PeopleSoft database will need to be done if there is a CI PUBLICATION SERVICE configured. If the data is not saved to a PeopleSoft database, the publisher will not work correctly.

Solution

1. Check to see if permission has been granted to use the Component Interface you have configured, TIB_PUB_COMPINTFC (used by saveOperation() to save data to the PeopleSoft database), TIB_MQUEUE_DATA_CI (used by the publisher to retrieve queue records), TIB_MQUEUE_SRCH_CI (used by the publisher to retrieve queue records), and TIB_CI_COMPINTFC (used to read Component Interface definitions). Make sure the correct operator class is chosen and full access is granted.
2. Use TIBCO Designer and modify any parameter to cause the entire configuration to be "dirty".
3. Save the "dirty" configuration to the TIBCO Repository. If the data is correctly saved to PeopleSoft database you will see the following log message:

```
2001 Sep 21 00:43:17:607 psoftDesignTimeAdapter.psdta Info   [Metadata] AEPS8-3400
105 SaveOperation successfully saved ACCOUNT_TYPE publication   service to People Soft database
```

4. Make sure the TIB_CI_ADAPTER_WRK shadow work page has been inserted into the component the adapter will publish data in.

The adapter printed an error message immediately after receiving a business event

Symptom

As soon as the adapter receives a data message it prints out the following error message:

```
2001 Sep 21 01:09:09:131 ps8Adapter.sub Info [Adapter]   AEPS8-4003005 Received an Event.
com.tibco.sdk.MException: Incoming Message has its  BusinessEvent   Name as NULL.
  at com.tibco.adapter.ps.AdapterException.<init>
  (AdapterException.java:22)
  at com.tibco.adapter.ps.SubscriberEventHandler.onEvent
  (SubscriberEventHandler.java:115)
  at com.tibco.sdk.events.pubsub.MRvDataReceiver.dispatch
  (MRvDataReceiver.java:292)
  at com.tibco.sdk.events.pubsub.MRvDataReceiver.onData
  (MRvDataReceiver.java:156)
  at com.tibco.sdk.events.pubsub.MBaseRvDataReceiver.onMsg
  (MBaseRvDataReceiver.java:81)
  at com.tibco.tibrv.TibrvEvent.invoke(TibrvEvent.java:160)
  at com.tibco.tibrv.TibrvImplQGroupC.natDispatch(Native Method)
  at com.tibco.tibrv.TibrvImplQGroupC.dispatch
  (TibrvImplQGroupC.java:67)
  at com.tibco.tibrv.TibrvQueueGroup.dispatch
  (TibrvQueueGroup.java:163)
  at com.tibco.sdk.MDefaultDispatcher.run(MDefaultDispatcher.java:26)
  at java.lang.Thread.run(Unknown Source)
```

Probable Cause

The name of the business event was left blank.

Solution

Fill in the business event name with the name of the Component Interface. If you do not use the Component Interface name as the business event name, the adapter will assume that your business event is not configured. Case matters: enter in the Component Interface name exactly as it appears in your schema or in PeopleSoft.

While processing, the adapter failed to set a value in the date field

Symptom

While the adapter was processing a message, no value was set in the date field, resulting in the following error message:

```
2001 Sep 21 01:16:37:216 ps8Adapter.sub Info [Adapter] AEPS8-4003013   Calling Set Data for EFFDT and value is 1900/01/01
2001 Sep 21 01:16:37:446 ps8Adapter.sub Info [Application] AEPS8-4003033   Caught Base Error TPESVCFAIL - application level service failure
com.tibco.sdk.MException: setEffdt operation Failed on   PeopleSoft.Generated.CompIntfc.ProductProductTbl
   at com.tibco.adapter.ps.AdapterException.<init>
   (AdapterException.java:24)
   at com.tibco.adapter.ps.ComponentInterfaceAgent.setProperty
   (ComponentInterfaceAgent.java:245)
   at com.tibco.adapter.ps.PSEventProcessor.setProperties
   (PSEventProcessor.java:424)
   at com.tibco.adapter.ps.PSEventProcessor.setProperties
   (PSEventProcessor.java:561)
   at com.tibco.adapter.ps.PSEventProcessor.processMessage
   (PSEventProcessor.java:251)
   at com.tibco.adapter.ps.SubscriberEventHandler.onEvent
   (SubscriberEventHandler.java:159)
   at com.tibco.sdk.events.pubsub.MRvDataReceiver.dispatch
   (MRvDataReceiver.java:292)
   at com.tibco.sdk.events.pubsub.MRvDataReceiver.onData
   (MRvDataReceiver.java:156)
   at com.tibco.sdk.events.pubsub.MBaseRvDataReceiver.onMsg
   (MBaseRvDataReceiver.java:81)
   at com.tibco.tibrv.TibrvEvent.invoke(TibrvEvent.java:160)
   at com.tibco.tibrv.TibrvImplQGroupC.natDispatch(Native Method)
   at com.tibco.tibrv.TibrvImplQGroupC.dispatch
   (TibrvImplQGroupC.java:67)
   at com.tibco.tibrv.TibrvQueueGroup.dispatch(TibrvQueueGroup.java:163)
   at com.tibco.sdk.MDefaultDispatcher.run(MDefaultDispatcher.java:26)
   at java.lang.Thread.run(Unknown Source)
```

Probable Cause

The message has the wrong date format.

Solution

The correct date format is MM/dd/YYYY.

Data processing caused a GetComponent() API message error

Symptom

While a message was being processed by the adapter, the following error message occurred:

```
 2001 Sep 20 18:36:37:889 ps8Adapter.inst Info [Application]   AEPS8-4003033 Caught Base Error TPESVCFAIL -
application level service   failure
 com.tibco.sdk.MException: An Error has Occured while invoking API   GetComponent() on CI PRODUCT
    at com.tibco.adapter.ps.AdapterException.<init>
    (AdapterException.java:24)
    at com.tibco.adapter.ps.ComponentInterfaceAgent.getCIObject
    (ComponentInterfaceAgent.java:201)
    at com.tibco.adapter.ps.PSEventProcessor.processMessage
    (PSEventProcessor.java:840)
```

Probable Cause

Most likely permission has not been granted for the adapter to use the required Component Interface. Another probable cause is that the Component Interface does not exist in the database.

Solution

Use the PeopleTools Maintain Security function to grant the operator class the permission to use the Component Interface, in this case PRODUCT. Make sure full access is granted. The operator class should be the one the operator ID belongs to. For example, the operator class for VP1 is ALLPNLS.

Data successfully received and processed is not reflected in the table

Symptom

The adapter prints out an INFO message saying it has finished processing the event. Use a PeopleSoft client to check the new data, but it does not reflect what was sent in through the adapter.

Probable Cause

The record you are inserting the data into has a related language record and instead of the data going into the expected record it went into the related language record.

Solution

Check how the related language record is formatted and how it relates to the actual record. Open the actual record in PeopleSoft, then select **File > Object Properties**. Select the **Use** tab and blank out the related language record from the record definition, then save this change. For more important information about this solution, see your PeopleSoft documentation.

Check the applicable PeopleSoft documentation to understand how related language records are used. If you are certain that the related language record is not needed:

1. Login to PeopleSoft.
2. Select **File > Open** then open the record.
3. Select **File > Object Properties**, then select the **Use** tab.
4. Blank out the entry for the related language record.
5. Save the change.

If the audit options are turned ON, follow the steps mentioned below:

Open the actual record in PeopleSoft, then select **File > Object Properties**. Select the **Use** tab and blank out the related language record from the record definition, then save this change. For more important information about this solution, see your PeopleSoft documentation.

Check the applicable PeopleSoft documentation to understand how audit options are used. If you are certain that the audit records are not required follow the steps mentioned below:

1. Login to PeopleSoft.
2. Select **File > Open** then open the record
3. Select **File > Object Properties**, then select the **Use** tab.

4. Blank out the entry for **Add**, **Change** and **Delete** in Audit Options.
5. Save the change.

A successfully processed record has extra rows in the database

Symptom

The adapter successfully processes a message. The data appears correctly in the database. However, there is an extra row at the child level.

Probable Cause

The adapter does not trim the extra rows at the child level. Therefore, if a record has two rows at the child level but the incoming data has one row, then one row will be updated (as long as the keys match). When the user logs into PeopleSoft the user will still see two rows. The following example illustrates this situation:

Example Suppose a particular PRODUCT has two rows, one is effective dated with 01/01/1900, the other is effective dated with 09/24/2001. The incoming data specifies the same PRODUCT with only one child row effective dated with 09/24/2001. The data processes successfully and in the database you will see that PRODUCT with two effective dated rows.

Solution

If you want the remaining rows to be deleted, you need to issue a delete command with the keys for that row. Applying this requirement to the example above, you would specify EFFDT='01/01/1900' and set OPRN_CODE='D'.

The palette cannot connect to the DTA

Symptom

The palette cannot connect to the DTA after giving the various connection parameters and clicking **Connect**.

Probable Cause

The DTA is not up.

Or

The connection parameters given in the palette are incorrect.

Solution

In order to connect to the DTA, please ensure the following:

1. Ensure that the application server is running.
2. If the design-time adapter has been started successfully. the following would be displayed:
   2002 Jun 25 10:27:47:995 GMT -8 psoftDesignTimeAdapter.psdta Info [Metadata] AEPS8-3400100 PSDTA ready to serve requests from Designer.... 2002 Jun 25 10:27:48:015 GMT -8 psoftDesignTimeAdapter.psdta Info [Metadata] AEPS8-3400102 Sending discovery message to find other running instances of PSDTA on subject metadata.server.ps, service 12345. 2002 Jun 25 10:28:07:844 GMT -8 psoftDesignTimeAdapter.psdta Info [Metadata] AEPS8-3400103 Assuming master status.
3. Check the Design -Time Connection parameters specified. Specify correct values for the following:
   - PeopleSoft operator ID
   - Password
   - PeopleSoft application server name
   - JOLT listener port number

Connection to PeopleSoft failed

Symptom

The adapter displays the following message and exits:

```
Processing /tibco/private/adapter/PeopleSoft/pub/ps8Adapter ...
com.tibco.sdk.MException: Invalid url: /startup/startComponent.
    at com.tibco.sdk.properties.MRepoProperties.getCount(MRepoProperties.jav
a:283)
    at com.tibco.sdk.serializer.MPropertyBasedDeserializer.readAllOfFrom(MPr
opertyBasedDeserializer.java:179)
    at com.tibco.sdk.serializer.MPropertyBasedDeserializer.readAllOfFrom(MPr
opertyBasedDeserializer.java:171)
    at com.tibco.sdk.serializer.MPropertyBasedDeserializer.readAllOf(MProper
tyBasedDeserializer.java:165)
    at com.tibco.sdk.serializer.config.MStartUpDeserializer.readStartup(MSta
rtUpDeserializer.java:45)
    at com.tibco.sdk.serializer.config.MStartUpDeserializer.readAnySupported
Type(MStartUpDeserializer.java:25)
    at com.tibco.sdk.serializer.MPropertyBasedDeserializer.readAny(MProperty
BasedDeserializer.java:201)
    at com.tibco.sdk.serializer.MPropertyBasedDeserializer.deserialize(MProp
ertyBasedDeserializer.java:32)
    at com.tibco.sdk.serializer.MPropertyBasedDeserializer.readAny(MProperty
BasedDeserializer.java:198)
    at com.tibco.sdk.serializer.MPropertyBasedDeserializer.internalRead(MPro
pertyBasedDeserializer.java:157)
    at com.tibco.sdk.serializer.MPropertyBasedDeserializer.readOptional(MPro
pertyBasedDeserializer.java:234)
    at com.tibco.sdk.serializer.MPropertyBasedDeserializer.readOptional(MPro
pertyBasedDeserializer.java:225)
    at com.tibco.sdk.serializer.MConfigDeserializer.readConfig(MConfigDeseri
alizer.java:49)
    at com.tibco.sdk.serializer.MConfigDeserializer.readAnySupportedType(MCo
nfigDeserializer.java:33)
    at com.tibco.sdk.serializer.MPropertyBasedDeserializer.readAny(MProperty
BasedDeserializer.java:201)
    at com.tibco.sdk.serializer.MPropertyBasedDeserializer.deserialize(MProp
ertyBasedDeserializer.java:32)
    at com.tibco.sdk.MDefaultApp.start(MDefaultApp.java:284)
    at com.tibco.sdk.MApp.start(MApp.java:184)
    at com.tibco.adapter.ps.PS8Adapter.main(PS8Adapter.java:43)
Caught MException in PS8Adapter::main().
```

Probable Cause

The PeopleSoft connection password has not been specified in the adpsft8.tra file.

Solution

Remove the comment the following line in the adpsft8.tra file:

```
#tibco.clientVar.adpsft8.connection.password <password>
```

and specify the PeopleSoft connection password in place of <password>.

’Method not found’ error displayed by the Adapter

Symptom

The adapter displays the message Method not found

Probable Cause

The PeopleTools version mentioned in the adapter configuration is different from the PeopleTools version to which the adapter connects to.

Solution

Check if the version of Peopletools used, corresponds with the PeopleTools specified in the **Configuration** tab while configuring the adapter.

Appendix D Migrating PeopleSoft Data for Adapter Configuration

This appendix describes the procedure to migrate PeopleSoft data for an adapter configuration, from one database to another. Database migration scripts are provided with the installation to carry out the migration.

Topics

Migrating PeopleSoft Data for Adapter Configuration

Database migration scripts are provided to allow you to migrate PeopleSoft data for your adapter configuration, from one database to another. This utility allows you to maintain your configuration data in one repository and extract to other databases as required. For instance, you can migrate data from a development environment to a production environment instead of repeating the process of preparing PeopleSoft Component Interfaces and other adapter specific components in the production environment. The scripts provided migrate the following data:

- Component Interfaces
- Access Rights for the Component Interfaces
- PanelGroup Information (where Publisher Work Panel is attached)
- Access Rights for attached Work Panel
- TIB table entries for Publisher Services

The migration process broadly involves the following steps. An export script and an import script are provided along with the installation. Run the export script on the source database to extract data for a specified Operation Class Id and Component Interface(s). The output is generated in a .dat file, which is placed in a specified location. Login to the target database, and run the import script. The migration process is complete.

No migration is required for Application Messaging as there is no information persisted in the database.

Script File Location

The following database migration scripts and a sample export script are available in the *TIB_ADPSFT8_HOME*\scripts directory:

tibexport.dms (Export Script)

tibimport.dms (Import Script)

tibexport_sample.dms (Sample Export Script)

Adapter Configuration Migration

The migration procedure can be divided into the following three parts:

Exporting Adapter Configuration Data

Use the following steps to carry out the export procedure:

1. Go to the *TIB_ADPSFT8_HOME*\scripts directory and open the tibexport.dms script using a text editor like notepad.
2. Globally replace the following with appropriate values, enclosed in single quotes:

You can see the sample export script tibexport_sample.dms located in the scripts directory.

— %CLASSID%
This is the Operation Class Id. For example, replace %CLASSID% with 'ALLPNLS'

— %CI_NAME%
This is the name of the Component Interface(s). For example replace %CI_NAME% with 'ACTIVITY','COUNTRY','PRODUCT_TBL'

The values specified in the tibexport.dms script *must* be enclosed in single quotes. If data for multiple Component Interfaces is to be extracted use comma separators. Do not include spaces after the comma.

3. Set the name and location of the output .dat file generated by the tibexport.dms file in either of the following ways:

- Modify the SET OUTPUT parameter in the tibexport.dms file
  The default output file name is tibmigration.dat.
  The default location is *PS_HOME*\data directory.
- Use PeopleTools 8 Configuration Manager. To do this:
  a. Open Configuration Manager, then click the **Profile** tab.
  b. In the **Profile** tab, select the client configuration being used (usually named "default") then click the **Edit** button.
  c. In the Edit Profile window select the **Common** tab. In the Data Mover Directories block specify the path for the output directory and the log file.

If the SET OUTPUT parameter has been modified in the tibexport.dms file. This setting will override the location specified in Configuration Manager. You can use Configuration Manager only to specify locations and not file names.

4. Modify the name and location of the log file, if required. You can do this in either of the following ways:
   — Modify the SET LOG parameter in the tibexport.dms file.
   The default name is tibmigration_export.log.
   The default location is *TIB_ADPSFT8_HOME*\scripts.
   — Use PeopleTools 8 Configuration Manager to specify the location of the log file. For details see step 3.
5. Save the modified tibexport.dms script file with a new name. For example, tibexport_new.dms.
6. Launch PeopleSoft Data Mover and log into the source database.
7. Run the modified export script file, for example, tibexport_new.dms in PeopleSoft Data Mover.
8. A .dat file, tibmigration.dat containing the adapter configuration data is generated in the location specified in step 3.

Importing Adapter Configuration Data

Use the following steps to carry out the import procedure:

1. Set the name and location of the .dat file to be imported by the tibimport.dms file in either of the following ways:
   — Modify the SET INPUT parameter in the tibimport.dms file.
   The default output file name is tibmigration.dat.
   The default location is *PS_HOME*\data directory.
   — Use PeopleTools 8 Configuration Manager. To do this:
   a. Open Configuration Manager, then select the **Profile** tab.
   b. In the **Profile** tab, select the client configuration being used (usually named "default") then click the **Edit** button.
   c. In the Edit Profile screen select the **Common** tab. In the Data Mover Directories block specify the path for the input directory and the log file.
2. Modify the name and location of the log file, if required. You can do this in either of the following ways:
   — Modify the SET LOG parameter in the tibimport.dms file.
   The default name is tibmigration_import.log.
   The default location is *TIB_ADPSFT8_HOME*\scripts.

3. Use PeopleTools 8 Configuration Manager to specify the location of the log file.

If the SET INPUT parameter has been modified in the tibimport.dms file. This setting will override the location specified in Configuration Manager. You can use Configuration Manager only to specify locations and not file names.

4. Set the name and location of the log file if required. You can do this in either of the following ways:
   — Modify the SET LOG parameter.
   The default name is tibmigration_import.log.
   The default location is *TIBCO_HOME*\adapter\adpsft8\version_number\scripts.
   — Use PeopleTools 8 Configuration Manager.
5. Go to the *TIB_ADPSFT8_HOME*\scripts directory and run the tibimport.dms script. The migration procedure is complete.

Verification

To verify that the migration has been successful do the following:

— Ensure that a .dat file, tibmigration.dat has been generated in the specified directory.

— Check the log files for errors. The default log files, tibmigration_export.log and tibmigration_import.log are located in the *TIB_ADPSFT8_HOME*\scripts directory by default, unless you have specified otherwise.

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