

IBM Security Identity Manager  
Version 6.0

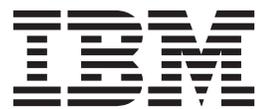
*PeopleTools Adapter Installation and  
Configuration Guide*





IBM Security Identity Manager  
Version 6.0

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Configuration Guide*



**Note**

Before using this information and the product it supports, read the information in Appendix E, "Notices," on page 49.

**Edition notice**

**Note:** This edition applies to version 6.0 of IBM Security Identity Manager (product number 5724-C34) and to all subsequent releases and modifications until otherwise indicated in new editions.

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# Contents

<b>Figures</b> . . . . .	<b>v</b>
--------------------------	----------

<b>Tables</b> . . . . .	<b>vii</b>
-------------------------	------------

<b>Preface</b> . . . . .	<b>ix</b>
--------------------------	-----------

About this publication . . . . .	ix
Access to publications and terminology . . . . .	ix
Accessibility . . . . .	x
Technical training. . . . .	x
Support information. . . . .	x

## **Chapter 1. PeopleTools Adapter Installation and Configuration Guide . . . 1**

Overview of the adapter . . . . .	1
Features of the adapter . . . . .	1
Architecture of the adapter . . . . .	1
Supported configurations . . . . .	2

## **Chapter 2. Planning to install the adapter . . . . . 3**

Preinstallation roadmap . . . . .	3
Installation roadmap. . . . .	3
Prerequisites . . . . .	4
Installation worksheet for the adapter . . . . .	5
Downloading the software for the PeopleTools adapter . . . . .	5

## **Chapter 3. Installing the adapter . . . . . 7**

Verifying the Dispatcher installation . . . . .	7
Installing the adapter . . . . .	7
Modifying the PRG_USR_PROFILE record . . . . .	8
Loading the PeopleTools Project for IBM Security Identity Manager . . . . .	8
Loading the component interfaces . . . . .	9
Setting the component interface security . . . . .	9
PeopleSoft resource-specific JAR files . . . . .	10
Generating the CompIntfc.jar file . . . . .	11
psjoa.jar file . . . . .	12
JDBC type 4 driver JAR file . . . . .	12
Verifying the installation . . . . .	13
Starting, stopping, and restarting the PeopleTools adapter service . . . . .	13
Importing the adapter profile into the IBM Security Identity Manager server . . . . .	14
Deploying the ID type subform. . . . .	15
Verifying the adapter profile installation. . . . .	15
Creating an adapter user account . . . . .	15
Creating a service . . . . .	16

## **Chapter 4. Taking the first steps after installation . . . . . 21**

Configuring the adapter . . . . .	21
Customizing the adapter profile . . . . .	21

Edit adapter profiles on the UNIX or Linux operating system . . . . .	22
Managing passwords when restoring accounts. . . . .	23
Installing the language pack for the PeopleTools adapter. . . . .	23
Verifying that the PeopleTools adapter is working correctly . . . . .	23

## **Chapter 5. Troubleshooting the adapter errors . . . . . 25**

Techniques for troubleshooting problems . . . . .	25
Warning and error messages. . . . .	27

## **Chapter 6. Upgrading the adapter . . . . . 31**

Upgrading the connector . . . . .	31
Upgrading the Dispatcher . . . . .	31
Upgrading the existing adapter profile . . . . .	31

## **Chapter 7. Uninstalling the PeopleTools adapter . . . . . 33**

Uninstalling the adapter from the IBM Tivoli Directory Integrator server . . . . .	33
Removing the adapter profile from the IBM Security Identity Manager server . . . . .	33

## **Chapter 8. Reinstalling the adapter . . . . . 35**

## **Appendix A. Adapter attributes . . . . . 37**

Attributes by adapter actions . . . . .	38
System Login Add . . . . .	38
System Login Change . . . . .	38
System Login Delete . . . . .	38
System Login Suspend . . . . .	38
System Login Restore . . . . .	39
System Change Password . . . . .	39
Test . . . . .	39
Reconciliation . . . . .	39

## **Appendix B. Conventions used in this publication . . . . . 41**

Typeface conventions . . . . .	41
Operating system-dependent variables and paths. . . . .	41
Definitions for ITDI_HOME and ISIM_HOME directories . . . . .	42

## **Appendix C. Support information . . . . . 43**

Searching knowledge bases . . . . .	43
Obtaining a product fix . . . . .	44
Contacting IBM Support . . . . .	44

## **Appendix D. Accessibility features for IBM Security Identity Manager . . . . . 47**

**Appendix E. Notices . . . . . 49**      **Index . . . . . 53**

---

## Figures

- |    |  |   |    |  |   |
|----|--|---|----|--|---|
| 1. | The architecture of the PeopleTools Adapter      | 2 | 3. | Example of multiple server configuration | 3 |
| 2. | Example of a single server configuration . . . . | 2 |    |  |   |



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## Tables

1. Preinstallation roadmap . . . . .	3	8. Add request attributes for AIX, HPUX, Linux, and Solaris. . . . .	38
2. Installation roadmap . . . . .	3	9. Change request attributes . . . . .	38
3. Prerequisites to install the adapter . . . . .	4	10. Delete request attributes . . . . .	38
4. Required information to install the adapter . . . . .	5	11. Suspend request attributes . . . . .	39
5. Specific warning and error messages and actions . . . . .	27	12. Restore request attributes . . . . .	39
6. General warning and error messages and actions . . . . .	28	13. System change password request attributes . . . . .	39
7. Attributes, OIDs, descriptions and corresponding PeopleTools attributes . . . . .	37	14. Test attributes. . . . .	39
		15. Reconciliation request attributes. . . . .	39



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## Preface

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### About this publication

This installation guide provides the basic information that you need to install and configure the IBM® Security Identity Manager PeopleTools Adapter. The adapter enables connectivity between the IBM Security Identity Manager server and the managed resource.

IBM Security Identity Manager was previously known as Tivoli® Identity Manager.

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### Access to publications and terminology

This section provides:

- A list of publications in the “IBM Security Identity Manager library.”
- Links to “Online publications.”
- A link to the “IBM Terminology website.”

#### IBM Security Identity Manager library

For a complete listing of the IBM Security Identity Manager and IBM Security Identity Manager Adapter documentation see the IBM Security Identity Manager Information Center.

#### Online publications

IBM posts product publications when the product is released and when the publications are updated at the following locations:

##### IBM Security Identity Manager Information Center

The [http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/index.jsp?topic=/com.ibm.isim.doc\\_6.0/ic-homepage.htm](http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/index.jsp?topic=/com.ibm.isim.doc_6.0/ic-homepage.htm) site displays the information center welcome page for this product.

##### IBM Security Information Center

The <http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/index.jsp> site displays an alphabetical list of and general information about all IBM Security product documentation.

##### IBM Publications Center

The <http://www-05.ibm.com/e-business/linkweb/publications/servlet/pbi.wss> site offers customized search functions to help you find all the IBM publications you need.

#### IBM Terminology website

The IBM Terminology website consolidates terminology for product libraries in one location. You can access the Terminology website at <http://www.ibm.com/software/globalization/terminology>.

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## Accessibility

Accessibility features help users with a physical disability, such as restricted mobility or limited vision, to use software products successfully. With this product, you can use assistive technologies to hear and navigate the interface. You can also use the keyboard instead of the mouse to operate all features of the graphical user interface.

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## Technical training

For technical training information, see the following IBM Education website at <http://www.ibm.com/software/tivoli/education>.

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## Support information

IBM Support provides assistance with code-related problems and routine, short duration installation or usage questions. You can directly access the IBM Software Support site at <http://www.ibm.com/software/support/probsub.html>.

Appendix C, “Support information,” on page 43 provides details about:

- What information to collect before contacting IBM Support.
- The various methods for contacting IBM Support.
- How to use IBM Support Assistant.
- Instructions and problem-determination resources to isolate and fix the problem yourself.

**Note:** The **Community and Support** tab on the product information center can provide additional support resources.

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# Chapter 1. PeopleTools Adapter Installation and Configuration Guide

This installation guide provides the basic information that you need to install and configure the PeopleTools Adapter. The adapter enables connectivity between the IBM Security Identity Manager server and the managed resource.

---

## Overview of the adapter

The PeopleTools Adapter enables communication between the IBM Security Identity Manager server and the PeopleSoft server.

An adapter provides an interface between a managed resource and the IBM Security Identity Manager server. Adapters might reside on the managed resource. The IBM Security Identity Manager server manages access to the resource by using your security system. Adapters function as trusted virtual administrators on the target platform. They perform tasks, such as creating, suspending, and restoring user accounts, and other administrative functions that are performed manually. The adapter runs as a service, independently of whether you are logged on to the IBM Security Identity Manager server.

---

## Features of the adapter

The adapter automates user account management tasks.

The adapter automates the following tasks:

- Reconciling user accounts and support data, such as languages, currency code, roles, and permission lists.
- Adding, modifying, and deleting user accounts
- Modifying user account attributes
- Modifying user account password
- Checking the connection between the PeopleSoft Application Server and IBM Security Identity Manager

---

## Architecture of the adapter

You must install the following components for the adapter to function correctly.

The adapter requires the following components:

- The Dispatcher
- The IBM Tivoli Directory Integrator connector
- The IBM Security Identity Manager adapter profile

You must install the Dispatcher and the adapter profile; however, the Tivoli Directory Integrator connector might already be installed with the base Tivoli Directory Integrator product.

Figure 1 on page 2 describes the components that work together to complete the user account management tasks in a Tivoli Directory Integrator environment.

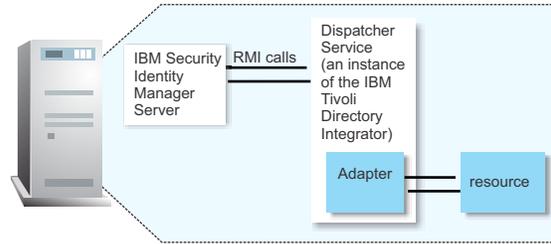


Figure 1. The architecture of the PeopleTools Adapter

For more information about Tivoli Directory Integrator, see the *Quick Start Guide* at <http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/index.jsp?topic=/com.ibm.itim.doc/welcome.htm>.

## Supported configurations

The adapter supports both single server and multiple server configurations.

The fundamental components in each environment are:

- The IBM Security Identity Manager server
- The IBM Tivoli Directory Integrator server
- The managed resource
- The adapter

The adapter must reside directly on the server running the Tivoli Directory Integrator server.

### Single server configuration

In a single server configuration, install the IBM Security Identity Manager server, the Tivoli Directory Integrator server, and the PeopleTools Adapter on one server to establish communication with the PeopleSoft Application Server. The PeopleSoft Application Server is installed on a different server as described Figure 2.



Figure 2. Example of a single server configuration

### Multiple server configuration

In multiple server configuration, the IBM Security Identity Manager server, the Tivoli Directory Integrator server, the PeopleTools Adapter, and the PeopleSoft Application Server are installed on different servers. Install the Tivoli Directory Integrator server and the PeopleTools Adapter on the same server as described Figure 3 on page 3.

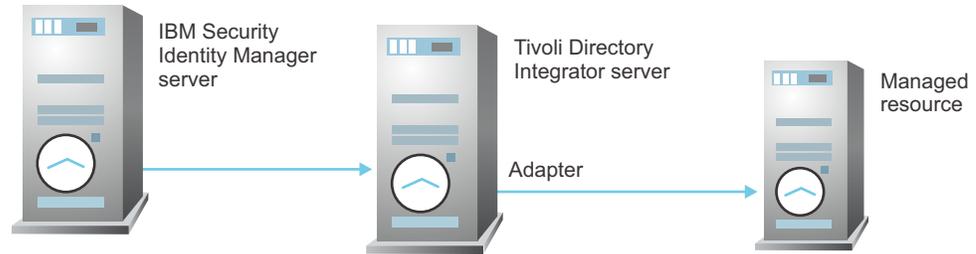


Figure 3. Example of multiple server configuration

## Chapter 2. Planning to install the adapter

Installing and configuring the adapter involves several steps that you must complete in an appropriate sequence. Review the road maps before you begin the installation process.

### Preinstallation roadmap

Before you install the adapter, you must prepare the environment.

Before you install the adapter, you must prepare the environment by performing the tasks that are listed in Table 1.

Table 1. Preinstallation roadmap

Task	For more information
Obtain the installation software.	Download the software from Passport Advantage® website. See “Downloading the software for the PeopleTools adapter” on page 5.
Verify that your environment meets the software and hardware requirements for the adapter.	See “Prerequisites” on page 4.
Obtain the necessary information for the installation and configuration.	See “Installation worksheet for the adapter” on page 5.

### Installation roadmap

To install the adapter, complete the various sequential tasks.

Complete the task listed in the following table.

Table 2. Installation roadmap

Task	For more information
Verify the Dispatcher installation.	See “Verifying the Dispatcher installation” on page 7.
Install the adapter.	See “Installing the adapter” on page 7.
Verify the installation.	See “Verifying the installation” on page 13.

Table 2. Installation roadmap (continued)

Task	For more information
Import the adapter profile.	See "Importing the adapter profile into the IBM Security Identity Manager server" on page 14.
Verify the profile installation.	See "Verifying the adapter profile installation" on page 15.
Create an adapter user account.	See "Creating an adapter user account" on page 15.
Create a service.	See "Creating a service" on page 16.
Configure the adapter.	See "Configuring the adapter" on page 21.

## Prerequisites

Verify that your environment meets all the prerequisites before installing the adapter.

Table 3 identifies the software and operating system prerequisites for the adapter installation.

Ensure that you install the adapter on the same workstation as the IBM Tivoli Directory Integrator server.

Table 3. Prerequisites to install the adapter

Prerequisite	Description
Tivoli Directory Integrator server	Version 7.1 fix pack 5 or later Version 7.1.1
IBM Security Identity Manager server	Version 6.0
PeopleSoft Enterprise	Version 9.0 Version 9.1
PeopleTools Software	Versions 8.50 Version 8.51 Version 8.52
System Administrator Authority	To complete the adapter installation procedure, you must have system administrator authority.
Tivoli Directory Integrator adapters solution directory	A Tivoli Directory Integrator adapters solution directory is a Tivoli Directory Integrator work directory for IBM Security Identity Manager adapters. For more information, see, the <i>Dispatcher Installation and Configuration Guide</i> .

You can install the adapter on all platforms that are supported by IBM Tivoli Directory Integrator 7.1. For information about the prerequisites and supported operating systems for Tivoli Directory Integrator, see the *IBM Tivoli Directory Integrator 7.1: Administrator Guide*.

---

## Installation worksheet for the adapter

The following table identifies the information that you need before installing the adapter.

Table 4. Required information to install the adapter

Required information	Description	Value
Tivoli Directory Integrator Home Directory	The <i>ITDI_HOME</i> directory contains the <i>jars/connectors</i> subdirectory that contains files for the adapters. For example, the <i>jars/connectors</i> subdirectory contains the files for the UNIX adapter.	<b>Windows:</b> <ul style="list-style-type: none"><li>for version 7.1: <i>drive</i>\Program Files\IBM\TDI\V7.1</li></ul> <b>UNIX:</b> <ul style="list-style-type: none"><li>for version 7.1: <i>/opt/IBM/TDI/V7.1</i></li></ul>
Solution Directory	See the <i>Dispatcher Installation and Configuration Guide</i> .	<b>Windows:</b> <ul style="list-style-type: none"><li>for version 7.1: <i>drive</i>\Program Files\IBM\TDI\V7.1\<i>timsol</i></li></ul> <b>UNIX:</b> <ul style="list-style-type: none"><li>for version 7.1: <i>/opt/IBM/TDI/V7.1/timsol</i></li></ul>

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## Downloading the software for the PeopleTools adapter

Download the software from your account at the IBM Passport Advantage website.

Go to IBM Passport Advantage.

See the *IBM Security Identity Manager Download Document* for instructions.



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## Chapter 3. Installing the adapter

All the Tivoli Directory Integrator-based adapters require the Dispatcher for the adapters to function correctly.

If the Dispatcher is installed from a previous installation, do not reinstall it unless there is an upgrade to the Dispatcher. See “Verifying the Dispatcher installation.”

After verifying the Dispatcher installation, you might need to install the Tivoli Directory Integrator connector. Depending on your adapter, the connector might already be installed as part of the Tivoli Directory Integrator product and no further action is required.

---

### Verifying the Dispatcher installation

If this installation is the first Tivoli Directory Integrator-based adapter installation, you must install the Dispatcher before you install the adapter.

You must install the dispatcher on the same Tivoli Directory Integrator server where you want to install the adapter.

Obtain the dispatcher installer from the IBM Passport Advantage website, [http://ww.ibm.com/software/howtobuy/passportadvantage/pao\\_customers.htm](http://ww.ibm.com/software/howtobuy/passportadvantage/pao_customers.htm). For information about Dispatcher installation, see the *Dispatcher Installation and Configuration Guide*.

---

### Installing the adapter

You must install the connector to establish communication between the adapter and the Dispatcher. The adapter uses the IBM Tivoli Directory Integrator PeopleSoft connector. This connector is not available with the base Tivoli Directory Integrator product.

#### Before you begin

Make sure that you do the following tasks:

- Verify that your site meets all the prerequisite requirements. See “Prerequisites” on page 4.
- Obtain a copy of the installation software. See “Downloading the software for the PeopleTools adapter” on page 5.
- Obtain system administrator authority. See “Prerequisites” on page 4.
- Verify that the Dispatcher is installed.

#### Procedure

1. Create a temporary directory on the workstation where you want to install the adapter.
2. Extract the contents of the compressed file in the temporary directory.
3. Copy the `PeopleSoftConnector.jar` file from the adapter package to the `ITDI_HOME/jars/connectors` directory.
4. Restart the Dispatcher service.

## What to do next

After you finish the installing the adapter software, modify the PRG\_USR\_Profile record.

---

## Modifying the PRG\_USR\_PROFILE record

Use the PeopleSoft Application Designer to modify PRG\_USER\_PROFILE record.

### Procedure

- 1.
2. Log in to the PeopleTools Application Designer by using the PeopleTools account of the adapter.
3. From the **File** menu, click **Open**. The Open Definition dialog window is displayed.
4. Select **Record** from the Definition drop-down listbox.
5. Type PRG in the **Name** field and click **Open**. A list of matching records is displayed in the **Definitions matching selection criteria** pane.
6. Select **PRG\_USR\_PROFILE** and click the **Open**. The record is opened in the Application Designer.
7. From within the **Record Fields** tabbed pane, right-click the **OPRID** table entry and click **View PeopleCode** from the right-click menu. The PeopleCode window opens.
8. Select **SaveEdit** from the PeopleCode Event drop-down listbox. The following PeopleCode is displayed in the PeopleCode edit pane.

```
If %OperatorId <> PRG_USR_PROFILE.OPRID Then
  If %Panel = Panel.PURGE_USR_PROFILE Then
    Warning MsgGet(48, 122, "Select OK to confirm deletion of User Profile or
      select Cancel.")
  End-If;
Else
  Error MsgGet(48, 109, "Message not found.");
End-If;
```

9. Replace the existing PeopleCode with the following code.

```
If %OperatorId <> PRG_USR_PROFILE.OPRID Then
  If %CompIntfcName <> "ENROLE_DELETE" Then
    If %Panel = Panel.PURGE_USR_PROFILE Then
      Warning MsgGet(48, 122, "Select OK to confirm deletion of User Profile or
        select Cancel.")
    End-If;
  End-If
Else
  Error MsgGet(48, 109, "Message not found.");
End-If;
```

10. From the File menu, click **Save** to save the record.

## What to do next

Load the PeopleTools Project for IBM Security Identity Manager.

---

## Loading the PeopleTools Project for IBM Security Identity Manager

The adapter software provides a compressed file that contains the PeopleTools project file. This file provides component interfaces that must be imported into the PeopleTools Application Designer.

## About this task

The Project file PT850\_COMPONENT.zip for PeopleTools 8.50, PeopleTools 8.51, and PeopleTools 8.52 is provided with the IBM Security Identity Manager PeopleTools Adapter software that contains component interfaces. These interfaces are in the ENROLE\_AGENT subdirectory. This subdirectory is imported into the PeopleTools Application Designer as a PeopleTools Project.

Loading the IBM Security Identity Manager-specific PeopleTools project is a two-part procedure.

1. The project must be copied into the PeopleTools system. See “Loading the component interfaces.”
2. The project security must be set. The following two sections provide detailed procedures on how to load the PeopleTools project for IBM Security Identity Manager. See “Setting the component interface security.”

## Loading the component interfaces

You must import the ENROLE\_AGENT directory into the PeopleTools Application Designer as a PeopleTools Project.

### Procedure

1. From the PT850\_COMPONENT.zip file, extract ENROLE\_AGENT and its contents into a temporary directory on your file system.
2. Log in to the PeopleTools Application Designer in two-tier mode by using the PeopleTools account of the adapter.
  - a. Click **Start > Programs > Peopletools8.5x > Configuration Manager**
  - b. Select the appropriate database type (for example, if the PeopleSoft is configured with oracle, select ORACLE).
  - c. Specify the server name, database name, and other details for the database type, if not already specified.
  - d. Click **OK**.
3. Copy the ENROLE\_AGENT project.
  - a. Log on to the PeopleTools Application Designer.
  - b. From the **Tools** menu, select **Copy Project** and then select **From File** from the submenu. The Copy Project from File dialog window is displayed.
  - c. Browse to the directory where you extracted ENROLE\_AGENT. ENROLE\_AGENT is displayed in the **Projects:** list area.
  - d. Ensure that ENROLE\_AGENT is highlighted and click **Select**. The ENROLE\_AGENT project is loaded. A second dialog window is displayed.
  - e. Ensure that Component Interfaces is highlighted and click **Copy**. The component interfaces are loaded into PeopleTools.
4. Exit the PeopleTools Application Designer.

## Setting the component interface security

You must add components to the permissions list to set security for the PeopleTools project.

### Procedure

1. Log in to the PeopleSoft web interface by using the PeopleTools account of the adapter.

2. From the PeopleSoft menu tree, navigate to **PeopleTools > Security > Permissions & Roles > Permission Lists**.
3. Search for the **ALLPAGES** permission list link. The Permission List component is displayed.
4. Click the **Component Interface** tab and add the following Component Interfaces to the list:
  - ENROLE\_CCODE
  - ENROLE\_DELETE
  - ENROLE\_LANGS
  - ENROLE\_PERM
  - ENROLE\_ROLES
  - ENROLE\_USERS
  - ENROLE\_OPRALIAS
5. Set Full Access for each method of the component interfaces added in the previous step.
6. Save your changes.

### What to do next

Obtain and generate the PeopleSoft resource-specific JAR files.

---

## PeopleSoft resource-specific JAR files

The PeopleTools Adapter uses Java™ APIs to communicate and perform operations such as add, delete, modify, and search on the PeopleSoft resource.

To use these functions the PeopleTools Adapter requires following jars:

#### **CompIntfc.jar**

The Java API JAR file for the ENROLE\_AGENT Component Interface project.

#### **psjoa.jar**

This file is created during the PeopleTools installation. The path to the psjoa.jar file must be set to the ITDI CLASSPATH variable.

#### **psft.jar**

To create a psft.jar file:

1. Go to the workstation where PeopleTools is installed.
2. Locate the PSKeyStore.class file which is present in the pshttp folder of PeopleTools. It is located in the web server installation directory. On a Windows installation it is in *PeopleSoft\_Home\webserv\PIA\_DOMAIN\applications\peoplesoft\PORTAL\WEB-INF\classes\psft\pt8\pshttp* directory. For example:
 

```
E:\PS\PT845\webserv\peoplesoft_84512\applications\peoplesoft\PORTAL\WEB-INF\classes\psft\pt8\pshttp.
```
3. Copy pshttp folder to a temporary folder containing folder structure as psft\pt8. For example,
 

```
C:\Temp\psft\pt8\pshttp
```
4. Go to command prompt and locate the temp folder containing psft/pt8/pshttp folder structure. For example,
 

```
C:\Temp
```
5. Create psft.jar by using the following command on command prompt.
 

```
jar -cvf psft.jar psft
```

After the command is successfully completed, a JAR file psft.jar is created in the temp folder.

6. On the workstation where IBM Tivoli Directory Integrator is installed, copy psft.jar to the folder *ITDI\_HOME\jars\3rdParty\others*.

#### JDBC type 4 driver JAR file

This JAR file is required to establish the connection with the database.

## Generating the CompIntfc.jar file

You must create the CompIntfc.jar file from the Component interface JAVA files. The CompIntfc.jar file is the PeopleSoft Component Interface JAR file.

### About this task

This file must be generated from the respective PeopleSoft resource and then copied in the *ITDI\_HOME\jars\3rdParty\others* directory on the workstation where the adapter is installed.

### Procedure

1. Log on to PeopleSoft Application Designer in two-tier mode.
2. Open the ENROLE\_AGENT Component Interface project and open all the component interfaces by double-clicking each component interface.
3. From the menu select **Build > PeopleSoft APIs**.
4. From the Build PeopleSoft API Bindings window, select the Java classes **Build** check box and clear the COM Type Library and C Header Files **Build** check boxes.
5. In the Java Classes frame, select the **Build** check box and select the appropriate Component Interfaces from the drop-down menu. You must select the following options from the drop-down menu and then click **OK**:
  - CompIntfc.CompIntfcPropertyInfo
  - CompIntfc.CompIntfcPropertyInfoCollection
  - PeopleSoft.\* (Select all the Component Interfaces that begin with the prefix PeopleSoft)
  - CompIntfc.ENROLE\_USERS\* (Select all the Component Interfaces that begin with the prefix CompIntfc.ENROLE\_USERS)
  - CompIntfc.ENROLE\_ROLES\* (Select all the Component Interfaces that begin with the prefix CompIntfc.ENROLE\_ROLES)
  - CompIntfc.ENROLE\_PERM\* (Select all the Component Interfaces that begin with the prefix CompIntfc.ENROLE\_PERM)
  - CompIntfc.ENROLE\_LANGS\* (Select all the Component Interfaces that begin with the prefix CompIntfc.ENROLE\_LANGS)
  - CompIntfc.ENROLE\_DELETE\* (Select all the Component Interfaces that begin with the prefix CompIntfc.ENROLE\_DELETE)
  - CompIntfc.ENROLE\_CCODE\* (Select all the Component Interfaces that begin with the prefix CompIntfc.ENROLE\_CCODE)
  - CompIntfc.ENROLE\_OPALIAS\* (Select all the Component Interfaces that begin with the prefix CompIntfc.ENROLE\_OPALIAS)

**Note:** If you need to generate Component Interface Java files for the entire group of Component Interfaces click **ALL**.

Specify the appropriate file path for the Java files; otherwise the Java files are generated in the default location, *PEOPLESOFT\_HOME\web\psjoa*. The Component

Interface Java files are generated in the PeopleSoft\Generated\CompIntfc directory that is created in the specified location. For example, if you specify e:\enrole as the file path, then the Component Interface Java files are generated in the e:\enrole\PeopleSoft\Generated\CompIntfc directory.

6. Compile the Java files.
  - a. Open the Command prompt and change directories to the folder where the generated Java files are located. For example,

```
cd e:\enrole
```
  - b. Navigate to the PeopleSoft\Generated\CompIntfc\ directory.
  - c. Run the following command.

```
javac -classpath d:\temp\psjoa.jar *.java
```

where, *d:\temp* is a path to psjoa.jar file.
  - d. Optional: You can delete all the generated Java files from the existing directory, however, do not delete the .class files.
7. Package the compiled files as the CompIntfc.jar file.
  - a. Open the Command prompt and change directories to the folder where the generated JAVA files are located. For example,

```
cd e:\enrole
```
  - b. Run the command:

```
jar -cvf CompIntfc.jar *
```

**Note:** Ensure that the Java compiler used for compiling the generated Java files is compatible with both

- The Java provided with the PeopleSoft managed resource
- The Java provided with Tivoli Directory Integrator

8. Copy the generated CompIntfc.jar files to the *ITDI\_HOME*\jars\3rdParty\others directory.

## psjoa.jar file

This file is created in the *PEOPLESOFT\_HOME*\web\psjoa directory during the PeopleTools installation.

You must copy the psjoa.jar file from *PEOPLESOFT\_HOME*\web\psjoa to the *ITDI\_HOME*\jars\3rdParty\others directory on the workstation where the adapter is installed.

## JDBC type 4 driver JAR file

By default, the find method of a PeopleSoft Component Interface is limited to a maximum of 300 entries from PeopleSoft. If more than 300 entries need to be retrieved, the PeopleSoft Connector needs to invoke JDBC queries on the PeopleSoft database tables.

The path to the *JDBC\_driver.jar* file for the database that is used by PeopleSoft, must be copied to the *ITDI\_HOME*\jars\3rdParty\others directory.

The PeopleTools Adapter establishes the connection directly with the database if it finds more than 300 records to be retrieved. The PeopleTools Adapter uses the JDBC Type 4 drivers to retrieve more than 300 records. To establish the connection to the database you need to specify the appropriate driver class and a URL of the correct format.

For example:

**PeopleSoft configured with the DB2®:**

**JDBC Drivers:**

db2jcc.jar  
db2jcc\_javax.jar  
db2jcc\_license\_cu.jar

**Driver Class**

com.ibm.db2.jcc.DB2Driver

**URL** jdbc:db2://*workstation*:50000/*database*

**PeopleSoft configured with the Microsoft SQL Server 2005:**

**JDBC Drivers:**

sqljdbc4.jar

**Driver Class**

com.microsoft.sqlserver.jdbc.SQLServerDriver

**URL**

jdbc:sqlserver://*workstation\_name*:*port*;  
instanceName=*instance*;SelectMethod=curson;DatabaseName=*database*

## What to do next

After you finish the adapter installation, do the following tasks:

- Verify that the installation completed successfully. See “Verifying the installation.”
- Import the adapter profile. See “Importing the adapter profile into the IBM Security Identity Manager server” on page 14.
- Deploy the ID Type subform. See “Deploying the ID type subform” on page 15.
- Create a user account for the adapter on IBM Security Identity Manager. See “Creating an adapter user account” on page 15.

---

## Verifying the installation

If the adapter is installed correctly, the *PeopleSoftConnector.jar* file exists in the specified directory.

**Windows operating system**

*drive*:\Program Files\IBM\TDI\V7.1\jars\connectors\

**UNIX operating system**

/opt/IBM/TDI/V7.1/jars/connectors/

If this installation is to upgrade a connector, then send a request from IBM Security Identity Manager. Verify that the version number in the *ibmdi.log* matches the version of the connector that you installed. The *ibmdi.log* file is at *ITDI\_Home\adapter solution directory\logs*.

---

## Starting, stopping, and restarting the PeopleTools adapter service

To start, stop, or restart the adapter, you must start, stop, or restart the Dispatcher.

The adapter does not exist as an independent service or a process. The adapter is added to the Dispatcher instance, which runs all the adapters installed on the same Tivoli Directory Integrator instance.

See the "Starting stopping, and restarting the dispatcher service" in the *Dispatcher Installation and Configuration Guide*.

---

## Importing the adapter profile into the IBM Security Identity Manager server

An adapter profile defines the types of resources that the IBM Security Identity Manager server can manage. Use the profile to create an adapter service on IBM Tivoli Directory Integrator server and establish communication with the adapter.

### Before you begin

Verify that the following conditions are met:

- The IBM Security Identity Manager server is installed and running.
- You have root or administrator authority on IBM Security Identity Manager.

### About this task

Before you can create an adapter service, the IBM Security Identity Manager server must have an adapter profile to recognize the adapter. The files that are packaged with the adapter include the adapter profile JAR file. You can import the adapter profile as a service profile on the server with the Import feature of IBM Security Identity Manager.

The `PeopleToolsProfile.jar` file includes all the files that are required to define the adapter schema, account form, service form, and profile properties. You can extract the files from the JAR file to modify the necessary files and package the JAR file with the updated files.

### Procedure

1. Log on to the IBM Security Identity Manager server by using an account that has the authority to perform administrative tasks.
2. In the My Work pane, expand **Configure System** and click **Manage Service Types**.
3. On the Manage Service Types page, click **Import** to display the Import Service Types page.
4. Specify the location of the `PeopleToolsProfile.jar` file in the Service Definition File field. Take one of the following actions:
  - a. Type the complete location of where the file is stored.
  - b. Use **Browse** to navigate to the file.
5. Click **OK**.

#### Note:

- When you import the adapter profile and if you receive an error related to the schema, see the `trace.log` file for information about the error. The `trace.log` file location is specified by using the `handler.file.fileDir` property defined in the IBM Security Identity Manager `enRoleLogging.properties` file. The `enRoleLogging.properties` file is installed in the `ITIM_HOME\data` directory.
- Restart IBM Security Identity Manager for the change to take effect.

---

## Deploying the ID type subform

You can use subforms to display additional information on the service form. Use this procedure to enable the use of subforms.

### About this task

You must perform this procedure on both WebSphere® and IBM Security Identity Manager. In a clustered environment the subform must be deployed on each WebSphere application server.

### Procedure

1. Extract the `opraliastype.zip` file into a temporary folder. For example, `C:\temp`.
2. Copy the following files from temporary folder to the subforms directory in the IBM Security Identity Manager WebSphere deployment directory. The directory locations are:

#### For a self service console installation

```
WAS_PROFILE_HOME/installedApps/server/ITIM.ear/  
itim_self_service.war/subforms
```

#### For an administrative console installation

```
WAS_PROFILE_HOME/installedApps/server/ITIM.ear/  
itim_console.war/subforms
```

**Note:** `WAS_PROFILE_HOME` is typically `C:\Program Files\IBM\WebSphere\AppServer\profiles` or `opt/IBM/WebSphere/AppServer/profiles`.

- `opraliastype\opraliastype.jsp`
- `opraliastype\storeValues.jsp`
- `opraliastype\opraliasstyle.css`

---

## Verifying the adapter profile installation

After you install the adapter profile, verify that the installation was successful.

An unsuccessful installation:

- Might cause the adapter to function incorrectly.
- Prevents you from creating a service with the adapter profile.

To verify that the adapter profile is successfully installed, create a service with the adapter profile. For more information about creating a service, see “Creating a service” on page 16.

If you are unable to create a service using the adapter profile or open an account on the service, the adapter profile is not installed correctly. You must import the adapter profile again.

---

## Creating an adapter user account

You must create a user account for the adapter on the managed resource. You must provide the account information when you create a service.

Ensure that the account has sufficient privileges to administer the Peoplesoft Application server users.

For more information about creating a service, see “Creating a service.”

---

## Creating a service

After the adapter profile is imported on IBM Security Identity Manager, you must create a service so that IBM Security Identity Manager can communicate with the adapter.

### About this task

To create or change a service, you must use the service form to provide information for the service. Service forms might vary depending on the adapter.

**Note:** If the following fields on the service form are changed for an existing service, the IBM Security Identity ManagerAdapter service on the Tivoli Directory Integrator server needs to be restarted.

- **JDBC driver**
- **JDBC URL**
- **Database user name**
- **Database user password**
- **AL FileSystem Path**
- **Max Connection Count**

### Procedure

1. Log on to the IBM Security Identity Manager server with an account that has the authority to perform administrative tasks.
2. In the My Work pane, click **Manage Services** and click **Create**.
3. On the Select the Type of Service page, select **PeopleTools Profile**.
4. Click **Next** to display the adapter service form.
5. Complete the following fields on the service form:

#### On the General Information tab:

##### Service Name

Specify a name that defines the adapter service on the IBM Security Identity Manager server.

**Note:** Do not use forward (/) or backward slashes (\) in the service name.

##### Description

Optional: Specify a description that identifies the service for your environment.

##### IBM Tivoli Directory Integrator location

Optional: Specify the URL for the Tivoli Directory Integrator instance. The valid syntax for the URL is `rmi://ip-address:port/ITDIDispatcher`, where *ip-address* is the Tivoli Directory Integrator host and *port* is the port number for the Dispatcher. The default URL is

`rmi://localhost:1099/ITDIDispatcher`

For information about changing the port number, see *IBM Security Dispatcher Installation and Configuration Guide*.

**Owner**

Optional: Specify a IBM Security Identity Manager user as a service owner.

**Service prerequisite**

Optional: Specify a IBM Security Identity Manager service that is a prerequisite to this service.

**On the PS Connection tab:****APP Server name**

Specify the name or IP address of the PeopleTools Application Server to be managed.

**APP Server port**

Specify the port number used to connect to the PeopleTools Application Server. This number is the IP port number on which the PeopleTools Application Server listens for JOLT connections. This value is typically port 9000.

**PS APP ID**

Specify the name of the PeopleTools account created for the adapter.

**APP ID password**

Specify a password of the PeopleTools account created for the adapter.

**JDBC driver**

Specify the database type 4 JDBC driver.

For example, the JDBC driver for IBM DB2 database connectivity is: `com.ibm.db2.jcc.DB2Driver`. See “JDBC type 4 driver JAR file” on page 12 for more information.

**JDBC URL**

Specify the Web address that is used to connect to the PeopleSoft tables.

For example, the connectivity JDBC URL for IBM DB2 database is:

```
jdbc:db2://10.77.68.37:50000/PTDB  
jdbc:db2://ip address:port/database name
```

See “JDBC type 4 driver JAR file” on page 12 for more information.

**Database user name**

Specify the administrator user name that is used to connect to the database.

**Database user password**

Specify the password for the database user.

**Database table owner**

Specify the name of the PeopleTools database table owner.

**On the Dispatcher Attributes tab:****AL FileSystem Path**

Specify the file path from where the dispatcher loads the assembly lines. If you do not specify a file path, the dispatcher loads the assembly lines received from IBM Security Identity

Manager. For example, you can specify the following file path to load the assembly lines from the profiles directory of the Windows operating system: c:\Program Files\IBM\TDI\V7.1\profiles or you can specify the following file path to load the assembly lines from the profiles directory of the UNIX and Linux operating systems: /opt/IBM/TDI/V7.1/profiles.

#### **Disable AL Caching**

Select the check box to disable the assembly line caching in the dispatcher for the service. The assembly lines for the add, modify, delete, and test operations are not cached.

#### **Max Connection Count**

Specify the maximum number of assembly lines that the dispatcher can execute simultaneously for the service. If you enter 0 in the **Max Connection Count** field, the dispatcher does not limit the number of assembly lines that are executed simultaneously for the service.

#### **On the Status and information tab**

This page contains read only information about the adapter and managed resource. These fields are examples. The actual fields vary depending on the type of adapter and how the service form is configured. The adapter must be running to obtain the information. Click **Test Connection** to populate the fields.

#### **Last status update: Date**

Specifies the most recent date when the Status and information tab was updated.

#### **Last status update: Time**

Specifies the most recent time of the date when the Status and information tab was updated.

#### **Managed resource status**

Specifies the status of the managed resource that the adapter is connected to.

#### **Adapter version**

Specifies the version of the adapter that the IBM Security Identity Manager service uses to provision request to the managed resource.

#### **Profile version**

Specifies the version of the profile that is installed in the IBM Security Identity Manager server.

#### **TDI version**

Specifies the version of the Tivoli Directory Integrator on which the adapter is deployed.

#### **Dispatcher version**

Specifies the version of the Dispatcher.

#### **Installation platform**

Specifies summary information about the operating system where the adapter is installed.

#### **Adapter account**

Specifies the account that running the adapter binary file.

**Adapter up time: Date**

Specifies the date when the adapter started.

**Adapter up time: Time**

Specifies the time of the date when the adapter started.

**Adapter memory usage**

Specifies the memory usage for running the adapter.

If the connection fails, follow the instructions in the error message. Also

- Verify the adapter log to ensure that the IBM Security Identity Manager test request was successfully sent to the adapter.
- Verify the adapter configuration information.
- Verify IBM Security Identity Manager service parameters for the adapter profile. For example, verify the work station name or the IP address of the managed resource and the port.

6. Click **Finish**.



---

## Chapter 4. Taking the first steps after installation

After you install the adapter, you must perform several other tasks. The tasks include configuring the adapter, setting up SSL, installing the language pack, and verifying the adapter works correctly.

---

### Configuring the adapter

These sections describe the configuration options for the PeopleTools Adapter.

- “Customizing the adapter profile”
- “Edit adapter profiles on the UNIX or Linux operating system” on page 22

See the *IBM Security Dispatcher Installation and Configuration Guide* for additional configuration options such as:

- JVM properties
- Dispatcher filtering
- Dispatcher properties
- Dispatcher port number
- Logging configurations
- Secure Sockets Layer (SSL) communication

### Customizing the adapter profile

To customize the adapter profile, you must modify the PeopleTools Adapter JAR file. You might customize the adapter profile to change the account form or the service form. Use the Form Designer or `CustomLabels.properties` file to change the labels on the forms. Each adapter has a `CustomLabels.properties` file for that adapter.

#### About this task

The JAR file is included in the PeopleTools Adapter compressed file that you downloaded from the IBM website.

**Note:** To modify the adapter schema, see the *Directory Integrator-Based PeopleTools Adapter User Guide*.

The following files are included in the PeopleTools JAR file:

- `CustomLabels.properties`
- `erpt84xrmiservice.xml`
- `erpt84xuseraccount.xml`
- `PeopleToolsAdapterALs.xml`
- `PeopleToolsAddAL.xml`
- `PeopleToolsDeleteAL.xml`
- `PeopleToolsModifyAL.xml`
- `PeopleToolsSearchAL.xml`
- `PeopleToolsTestAL.xml`
- `schema.dsml`

- service.def

## Procedure

1. To edit the JAR file, log on to the workstation where the PeopleTools Adapter is installed.
2. Copy the JAR file into a temporary directory.
3. Extract the contents of the JAR file into the temporary directory by running the following command. The following example applies to the PeopleTools Adapter profile. Type the name of the JAR file for your operating system.

```
#cd /tmp
#jar -xvf PeopleToolsProfile.jar
```

The **jar** command extracts the files into the PeopleToolsProfile directory.

4. Edit the file that you want to change. After you edit the file, you must import the file into the IBM Security Identity Manager server for the changes to take effect.
5. To import the file, create a JAR file by using the files in the /tmp directory by running the following commands:
 

```
#cd /tmp
#jar -cvf PeopleToolsProfile.jar PeopleToolsProfile
```
6. Import the JAR file into the IBM Security Identity Manager application server. For more information about importing the JAR file, see “Importing the adapter profile into the IBM Security Identity Manager server” on page 14.
7. Stop and start the IBM Security Identity Manager server.
8. Stop and start the PeopleTools Adapter service. See “Starting, stopping, and restarting the PeopleTools adapter service” on page 13 for information about stopping and starting the PeopleTools Adapter service.

## Edit adapter profiles on the UNIX or Linux operating system

The adapter profile .jar file might contain ASCII files that are created by using the MS-DOS ASCII format.

### About this task

If you edit an MS-DOS ASCII file on the UNIX operating system, you might see a character `^M` at the end of each line. These characters indicate new lines of text in MS-DOS. The characters can interfere with the running of the file on UNIX or Linux systems. You can use tools, such as **dos2unix**, to remove the `^M` characters. You can also use text editors, such as the vi editor, to remove the characters manually.

### Example

You can use the vi editor, to remove the `^M` characters. From the vi command mode, run the following command and press Enter:

```
:%s/^M//g
```

When using this command, enter `^M` or **Ctrl-M** by pressing `^v^M` or **Ctrl V Ctrl M** sequentially. The `^v` instructs the vi editor to use the next keystroke instead of issuing it as command.

---

## Managing passwords when restoring accounts

When an account is restored from being previously suspended, you are prompted to supply a new password for the reinstated account. However, in some cases you might not want to be prompted for a password.

How each restore action interacts with its corresponding managed resource depends on either the managed resource, or the business processes that you implement. Certain resources reject a password when a request is made to restore an account. In this case, you can configure IBM Security Identity Manager to forego the new password requirement. You can set the PeopleTools Adapter to require a new password when the account is restored, if your company has a business process in place that dictates that the account restoration process must be accompanied by resetting the password.

In the service.def file, you can define whether a password is required as a new protocol option. When you import the adapter profile, if an option is not specified, the adapter profile importer determines the correct restoration password behavior from the schema.dsml file. Adapter profile components also enable remote services to find out if you discard a password that is entered by the user in a situation where multiple accounts on disparate resources are being restored. In this situation, only some of the accounts being restored might require a password. Remote services discard the password from the restore action for those managed resources that do not require them.

Edit the service.def file to add the new protocol options, for example:

```
<Property Name = "com.ibm.itim.remoteservices.ResourceProperties.  
    PASSWORD_NOT_REQUIRED_ON_RESTORE"<value>true</value>  
</property>  
<Property Name = "com.ibm.itim.remoteservices.ResourceProperties.  
    PASSWORD_NOT_ALLOWED_ON_RESTORE"<value>>false</value>  
</property>
```

By adding the two options in the preceding example, you ensure that you are not prompted for a password when an account is restored.

---

## Installing the language pack for the PeopleTools adapter

The adapters use the same language package as IBM Security Identity Manager.

See the IBM Security Identity Manager information center and search for information about installing language packs.

---

## Verifying that the PeopleTools adapter is working correctly

After you install and configure the adapter, you can perform actions to verify that the installation and configuration are correct.

### Procedure

1. Test the connection for the service that you have created on IBM Security Identity Manager.
2. Perform a full reconciliation from IBM Security Identity Manager.
3. Perform all supported operations such as add, modify, and delete on one user account.

4. Verify the `ibmdi.log` file after each operation to ensure that no errors are reported.
5. Verify the IBM Security Identity Manager log file `trace.log` to ensure that no errors are reported when you perform an adapter operation.

---

## Chapter 5. Troubleshooting the adapter errors

Troubleshooting can help you determine why a product does not function properly.

These topics provide information and techniques for identifying and resolving problems with the adapter. It also provides information about troubleshooting errors that might occur during the adapter installation.

---

### Techniques for troubleshooting problems

*Troubleshooting* is a systematic approach to solving a problem. The goal of troubleshooting is to determine why something does not work as expected and how to resolve the problem. Certain common techniques can help with the task of troubleshooting.

The first step in the troubleshooting process is to describe the problem completely. Problem descriptions help you and the IBM technical-support representative know where to start to find the cause of the problem. This step includes asking yourself basic questions:

- What are the symptoms of the problem?
- Where does the problem occur?
- When does the problem occur?
- Under which conditions does the problem occur?
- Can the problem be reproduced?

The answers to these questions typically lead to a good description of the problem, which can then lead you to a problem resolution.

#### What are the symptoms of the problem?

When starting to describe a problem, the most obvious question is “What is the problem?” This question might seem straightforward; however, you can break it down into several more-focused questions that create a more descriptive picture of the problem. These questions can include:

- Who, or what, is reporting the problem?
- What are the error codes and messages?
- How does the system fail? For example, is it a loop, hang, crash, performance degradation, or incorrect result?

#### Where does the problem occur?

Determining where the problem originates is not always easy, but it is one of the most important steps in resolving a problem. Many layers of technology can exist between the reporting and failing components. Networks, disks, and drivers are only a few of the components to consider when you are investigating problems.

The following questions help you to focus on where the problem occurs to isolate the problem layer:

- Is the problem specific to one platform or operating system, or is it common across multiple platforms or operating systems?

- Is the current environment and configuration supported?
- Do all users have the problem?
- (For multi-site installations.) Do all sites have the problem?

If one layer reports the problem, the problem does not necessarily originate in that layer. Part of identifying where a problem originates is understanding the environment in which it exists. Take some time to completely describe the problem environment, including the operating system and version, all corresponding software and versions, and hardware information. Confirm that you are running within an environment that is a supported configuration; many problems can be traced back to incompatible levels of software that are not intended to run together or have not been fully tested together.

### **When does the problem occur?**

Develop a detailed timeline of events leading up to a failure, especially for those cases that are one-time occurrences. You can most easily develop a timeline by working backward: Start at the time an error was reported (as precisely as possible, even down to the millisecond), and work backward through the available logs and information. Typically, you need to look only as far as the first suspicious event that you find in a diagnostic log.

To develop a detailed timeline of events, answer these questions:

- Does the problem happen only at a certain time of day or night?
- How often does the problem happen?
- What sequence of events leads up to the time that the problem is reported?
- Does the problem happen after an environment change, such as upgrading or installing software or hardware?

Responding to these types of questions can give you a frame of reference in which to investigate the problem.

### **Under which conditions does the problem occur?**

Knowing which systems and applications are running at the time that a problem occurs is an important part of troubleshooting. These questions about your environment can help you to identify the root cause of the problem:

- Does the problem always occur when the same task is being performed?
- Does a certain sequence of events need to happen for the problem to occur?
- Do any other applications fail at the same time?

Answering these types of questions can help you explain the environment in which the problem occurs and correlate any dependencies. Remember that just because multiple problems might have occurred around the same time, the problems are not necessarily related.

### **Can the problem be reproduced?**

From a troubleshooting standpoint, the ideal problem is one that can be reproduced. Typically, when a problem can be reproduced you have a larger set of tools or procedures at your disposal to help you investigate. Consequently, problems that you can reproduce are often easier to debug and solve.

However, problems that you can reproduce can have a disadvantage: If the problem is of significant business impact, you do not want it to recur. If possible, re-create the problem in a test or development environment, which typically offers you more flexibility and control during your investigation.

- Can the problem be re-created on a test system?
- Are multiple users or applications encountering the same type of problem?
- Can the problem be re-created by running a single command, a set of commands, or a particular application?

For information about obtaining support, see Appendix C, “Support information,” on page 43.

---

## Warning and error messages

A warning or error message might be displayed in the user interface to provide information about the adapter or when an error occurs.

Table 5 and Table 6 on page 28 contain warnings or errors which might be displayed in the user interface when the PeopleTools Adapter is installed on your system.

*Table 5. Specific warning and error messages and actions*

Message number	Message	Action
CTGIMT600E	An error occurred while establishing communication with the IBM Tivoli Directory Integrator server.	<ul style="list-style-type: none"> <li>• Verify that the IBM Tivoli Directory Integrator-Based Adapter Service is running.</li> <li>• Verify that the URL specified on the service form for Tivoli Directory Integrator is correct.</li> </ul>
CTGIMT001E	The following error occurred.  Error: Unable to connect to PeopleSoft Application server.	<ul style="list-style-type: none"> <li>• Verify that the PeopleSoft Application Server is running.</li> <li>• Verify that the credentials specified on the service form of the PeopleSoft Application Server are correct.</li> <li>• Verify that the PeopleSoft administrator user name and password specified on the service form of the PeopleSoft Application Server are correct.</li> </ul>
CTGIMT003E	The account already exists.	The user has already been added to the resource. This error might occur if you are attempting to add a user to the managed resource and Tivoli Identity Manager is not synchronized with the resource. To fix this problem, schedule a reconciliation between Tivoli Identity Manager and the resource. See the online help for information about scheduling a reconciliation.

Table 5. Specific warning and error messages and actions (continued)

Message number	Message	Action
CTGIMT015E	An error occurred while deleting the <i>username</i> account because the account does not exist.	This error might occur when you attempt to delete a user. This error might also occur if you attempt to change the password for a user. To fix the problem, ensure that: <ul style="list-style-type: none"> <li>• The user was created on the resource.</li> <li>• The user was not deleted from the resource.</li> <li>• If the user does not exist on the resource, create the user on the resource and then schedule a reconciliation. See the online help for information about scheduling a reconciliation.</li> </ul>
CTGIMT009E	The account <i>username</i> cannot be modified because it does not exist.	This error might occur when you attempt to modify a user. This error might also occur if you attempt to change the password for a user. To fix the problem, ensure that: <ul style="list-style-type: none"> <li>• The user was created on the resource.</li> <li>• The user was not deleted from the resource.</li> <li>• If the user does not exist on the resource, create the user on the resource and then schedule a reconciliation. See the online help for information about scheduling a reconciliation.</li> </ul>

Table 6. General warning and error messages and actions

Message	Action
LoadConnectors:  java.lang.NoClassDefFoundError:psft/pt8/joa/JOAException	The psjoa.jar file is missing. Verify that the file exists in the <i>ITDI_HOME</i> /jars/3rdParty/IBM directory.
InitConnectors:  java.lang.Exception: Unable to GetComponent Interface <i>ABC_XYZ</i>	The PeopleSoft Component Interface classes are unavailable. Perform the following steps: <ul style="list-style-type: none"> <li>• Verify that the CompIntfc.jar file (which contains the ENROLE_AGENT Component Interface project classes) is present in the jars subdirectory of the <i>ITDI_HOME</i> directory.</li> <li>• Verify that the CompIntfc.jar file contains classes for the required ENROLE_AGENT Component Interface project.</li> <li>• If necessary, add the path of the jars subdirectory to the ITDI CLASSPATH variable.</li> </ul>

Table 6. General warning and error messages and actions (continued)

Message	Action
<ul style="list-style-type: none"> <li>• A system error occurred while adding an account. The account was not added.</li> <li>• A system error occurred while modifying an account. The account was not changed.</li> <li>• A system error occurred while deleting an account. The account was not deleted.</li> <li>• The search failed due to a system error.</li> </ul>	<p>To fix this problem, ensure that:</p> <ul style="list-style-type: none"> <li>• The CompIntfc.jar and psjoa.jar are present appropriate locations of the Tivoli Directory Integrator.</li> <li>• The ENROLE_AGENT Component Interface project is deployed on the PeopleSoft resource.</li> <li>• The network connection is not slow between the IBM Security Identity Manager and the Tivoli Directory Integrator or the Tivoli Directory Integrator and the managed resource.</li> </ul>
<ul style="list-style-type: none"> <li>• The account was added but some attributes failed.</li> <li>• The account was modified but some attributes failed.</li> <li>• The account was deleted successfully, but additional steps failed.</li> </ul>	<p>The account was created, modified, or deleted, but some of the specified attributes in the request were not set. See the list of attributes that failed and the error message that explains why the attribute failed. Correct the errors associated with each attribute and perform the action again</p> <p><b>Note:</b> You might want to review the documentation for the operating system of the managed resource to determine the correct values for some attributes..</p>
<ul style="list-style-type: none"> <li>• The user cannot be modified because it does not exist.</li> <li>• An error occurred while deleting the account because the account does not exist.</li> </ul>	<p>This error might occur when you attempt to modify or delete a user. This error might also occur if you attempt to change the password for a user. To fix the problem, ensure that:</p> <ul style="list-style-type: none"> <li>• The location specified for the managed resource is correct.</li> <li>• The user was created on the resource.</li> <li>• The user was not deleted from the resource.</li> </ul> <p>If the user does not exist on the resource, create the user on the resource and then schedule reconciliation. See the online help for information about scheduling reconciliation.</p>
<ul style="list-style-type: none"> <li>• Search filter error</li> <li>• Invalid search filter</li> </ul>	<p>The filter specified in the search request is not correct. Specify the correct filter and perform the search action again.</p>
<p>The application could not establish a connection to <i>hostname</i>.</p>	<p>Ensure that SSH is enabled on the managed resource.</p>
<p>Adapter profile is not displayed in the user interface after installing the profile.</p>	<p>You must stop and restart the Tivoli Directory Integrator server, or wait until the cache times out (up to 10 minutes) for IBM Security Identity Manager to refresh the list of attribute names.</p>



---

## Chapter 6. Upgrading the adapter

Upgrading the adapter involves tasks, such as upgrading the connector, dispatcher and the existing adapter profile.

To verify the required version of these adapter components, see the adapter release notes.

---

### Upgrading the connector

The new adapter package might require you to upgrade the connector.

Before you upgrade the connector, verify the version of the connector.

- If the connector version mentioned in the release notes is later than the existing version on your workstation, install the connector.
- If the connector version mentioned in the release notes is the same or earlier than the existing version, do not install the connector.

**Note:** Stop the dispatcher service before the upgrading the connector and start it again after the upgrade is complete.

---

### Upgrading the Dispatcher

The new adapter package might require you to upgrade the Dispatcher.

Before you upgrade the dispatcher, verify the version of the dispatcher.

- If the dispatcher version mentioned in the release notes is later than the existing version on your workstation, install the dispatcher.
- If the dispatcher version mentioned in the release notes is the same or earlier than the existing version, do not install the dispatcher.

**Note:** The dispatcher installer stops the dispatcher service before the upgrade and restarts it after the upgrade is complete.

---

### Upgrading the existing adapter profile

Read the adapter release notes for any specific instructions before importing a new adapter profile on IBM Security Identity Manager.

See “Importing the adapter profile into the IBM Security Identity Manager server” on page 14.

**Note:** Restart the dispatcher service after importing the profile. Restarting the dispatcher clears the assembly lines cache and ensures that the dispatcher runs the assembly lines from the updated adapter profile.



---

## Chapter 7. Uninstalling the PeopleTools adapter

Before you uninstall the adapter, inform your users that the adapter will be unavailable.

If you take the server offline, completed adapter requests might not be recovered when the server is back online.

---

### Uninstalling the adapter from the IBM Tivoli Directory Integrator server

The adapter installation process also installs the Tivoli Directory Integrator PeopleSoft connector. Therefore, you must remove the `PeopleSoftConnector.jar` file from the IBM Tivoli Directory Integrator.

#### Procedure

1. Stop the Dispatcher service.
2. Remove the `PeopleSoftConnector.jar` file from the `ITDI_HOME/jars/connectors` directory.
3. Start the Dispatcher service.

---

### Removing the adapter profile from the IBM Security Identity Manager server

Before removing the adapter profile, make sure that no objects exist on your IBM Security Identity Manager server that reference the adapter profile.

Examples of objects on the IBM Security Identity Manager server that can reference the adapter profile are:

- Adapter service instances
- Policies referencing an adapter instance or the profile
- Accounts

For specific information about removing the adapter profile, see the online help or the information center for your IBM Security Identity Manager product.



---

## Chapter 8. Reinstalling the adapter

There are no special considerations for reinstalling the adapter. You do not need to remove the adapter before reinstalling.

For more information, see Chapter 6, “Upgrading the adapter,” on page 31.



## Appendix A. Adapter attributes

The PeopleTools Adapter supports a standard set of attributes for user information that are described in the following list.

The mandatory attributes for creating account are:

- User ID
- Symbolic ID

*Table 7. Attributes, OIDs, descriptions and corresponding PeopleTools attributes*

Attribute name	Description	Required	PeopleTools attribute
ErUid	User ID	Yes	User ID
ErPassword	Password for the user ID	No	Password
ErAccountStatus	Status of the account (suspended or restored)	No	Account Locked Out
ErLastAaccessDate	Last Access Date	No	The attribute is available in the PeopleSoft database, however, it is not available in the PeopleSoft Pure Internet Architecture (PIA) user interface. For more information, see the LASTSIGNONDTM column in the PSOPRDEFN table of the PeopleSoft database.
erpt84xsymbid	Symbolic ID	Yes	Symbolic ID
erpt84xdescription	Description	No	Description
erpt84xusersupr	User Supervisor	No	Supervising User ID
erpt84xaltid	Alternate User ID	No	Alternate User ID
erpt84xcurrecode	Currency Code	No	Currency Code
erpt84xemailadd	Email Addresses	No	Edit Email Addresses
erpt84xenddate	To Date	No	To Date
erpt84xlangcode	Language Code	No	Language Code
erpt84xmultilang	Multi Language Enabled?	No	Multiple Language <b>Note:</b> The attribute is available in the PeopleSoft database, however, it is not available in the PeopleSoft Pure Internet Architecture (PIA) user interface.
erpt84xhomepagepl	Navigator Homepage	No	Navigator Homepage
erpt84xoprasiatyp	ID Types and Values	No	ID Type
erpt84xprimarypl	Primary	No	Primary

Table 7. Attributes, OIDs, descriptions and corresponding PeopleTools attributes (continued)

Attribute name	Description	Required	PeopleTools attribute
erpt84xprofilepl	Process Profile	No	Process Profile
erpt84xrole	Roles	No	Roles
erpt84xrowpl	Row Security	No	Row Security
erpt84xstartdate	Effective Date	No	From Date
erpt84xexpertentry	Enable Expert Entry?	No	Enable Expert Entry
erpt84xemailuser	Routing- Email User	No	Email User
erpt84xworklistuser	Routing- Worklist User	No	Worklist user

## Attributes by adapter actions

The following lists are adapter actions by their functional transaction group.

The lists include more information about required and optional attributes sent to the adapter to complete that action.

### System Login Add

A System Login Add is a request to create a new user account with the specified attributes.

Table 8. Add request attributes for AIX®, HPUX, Linux, and Solaris

Required attribute	Optional attribute
erUId erpt84xsymbid	All other supported attributes

### System Login Change

A System Login Change is a request to change one or more attributes for the specified users.

Table 9. Change request attributes

Required attribute	Optional attribute
erUId	All other supported attributes

### System Login Delete

A System Login Delete is a request to remove the specified user from the directory.

Table 10. Delete request attributes

Required attribute	Optional attribute
erUId	None

### System Login Suspend

A System Login Suspend is a request to disable a user account. The user is neither removed nor are their attributes modified.

Table 11. Suspend request attributes

Required attribute	Optional attribute
erUid erAccountStatus	None

## System Login Restore

A System Login Restore is a request to activate a user account that was previously suspended. After an account is restored, the user can access the system with the same attributes as those before the Suspend function was called.

Table 12. Restore request attributes

Required attribute	Optional attribute
erUid erAccountStatus erPassword	None

## System Change Password

A System Change Password is a request to change the password of a user.

Table 13. System change password request attributes

Required attribute	Optional attribute
erUid erPassword	None

## Test

The following table identifies attributes needed to test the connection.

Table 14. Test attributes

Required attribute	Optional attribute
None	None

## Reconciliation

The Reconciliation request synchronizes user account information between IBM Security Identity Manager and the adapter.

Table 15. Reconciliation request attributes

Required attribute	Optional attribute
None	All other supported attributes



---

## Appendix B. Conventions used in this publication

This publication uses several conventions for special terms and actions, operating system-dependent commands and paths, and margin graphics.

---

### Typeface conventions

This publication uses the following typeface conventions:

#### **Bold**

- Lowercase commands and mixed case commands that are otherwise difficult to distinguish from surrounding text
- Interface controls (check boxes, push buttons, radio buttons, spin buttons, fields, folders, icons, list boxes, items inside list boxes, multicolumn lists, containers, menu choices, menu names, tabs, property sheets), labels (such as **Tip:**, and **Operating system considerations:**)
- Keywords and parameters in text

#### *Italic*

- Citations (examples: titles of publications, diskettes, and CDs)
- Words defined in text (example: a nonswitched line is called a *point-to-point line*)
- Emphasis of words and letters (words as words example: "Use the word *that* to introduce a restrictive clause."; letters as letters example: "The LUN address must start with the letter *L*.")
- New terms in text (except in a definition list): a *view* is a frame in a workspace that contains data.
- Variables and values you must provide: ... where *myname* represents....

#### **Monospace**

- Examples and code examples
- File names, programming keywords, and other elements that are difficult to distinguish from surrounding text
- Message text and prompts addressed to the user
- Text that the user must type
- Values for arguments or command options

---

### Operating system-dependent variables and paths

This guide uses the UNIX convention for specifying environment variables and for directory notation.

When using the Windows command line, replace `$variable` with `%variable%` for environment variables and replace each forward slash (/) with a backslash (\) in directory paths. The names of environment variables are not always the same in Windows and UNIX. For example, `%TEMP%` in the Windows operating system is equivalent to `$tmp` in a UNIX operating system.

**Note:** If you are using the bash shell on a Windows system, you can use the UNIX conventions.

---

## Definitions for ITDI\_HOME and ISIM\_HOME directories

*ITDI\_HOME* is the directory where Tivoli Directory Integrator is installed.

*ISIM\_HOME* is the directory where IBM Security Identity Manager is installed.

### *ITDI\_HOME*

This directory contains the jars/connectors subdirectory that contains files for the adapters.

#### **Windows**

*drive*\Program Files\IBM\TDI\*ITDI\_VERSION*

For example the path for version 7.1:

C:\Program Files\IBM\TDI\V7.1

#### **UNIX**

/opt/IBM/TDI/*ITDI\_VERSION*

For example the path for version 7.1:

/opt/IBM/TDI/V7.1

### *ISIM\_HOME*

This directory is the base directory that contains the IBM Security Identity Manager code, configuration, and documentation.

#### **Windows**

*path*\IBM\isim

#### **UNIX**

*path*/IBM/isim

---

## Appendix C. Support information

Use the following options to obtain support for IBM products:

- “Searching knowledge bases”
- “Obtaining a product fix” on page 44
- “Contacting IBM Support” on page 44

---

### Searching knowledge bases

You can often find solutions to problems by searching IBM knowledge bases. You can optimize your results by using available resources, support tools, and search methods.

#### About this task

You can find useful information by searching the information center for IBM Security Identity Manager. However, sometimes you need to look beyond the information center to answer your questions or resolve problems.

#### Procedure

To search knowledge bases for information that you need, use one or more of the following approaches:

1. Search for content by using the IBM Support Assistant (ISA).  
ISA is a no-charge software serviceability workbench that helps you answer questions and resolve problems with IBM software products. You can find instructions for downloading and installing ISA on the ISA website.
2. Find the content that you need by using the IBM Support Portal.  
The IBM Support Portal is a unified, centralized view of all technical support tools and information for all IBM systems, software, and services. The IBM Support Portal lets you access the IBM electronic support portfolio from one place. You can tailor the pages to focus on the information and resources that you need for problem prevention and faster problem resolution. Familiarize yourself with the IBM Support Portal by viewing the demo videos ([https://www.ibm.com/blogs/SPNA/entry/the\\_ibm\\_support\\_portal\\_videos](https://www.ibm.com/blogs/SPNA/entry/the_ibm_support_portal_videos)) about this tool. These videos introduce you to the IBM Support Portal, explore troubleshooting and other resources, and demonstrate how you can tailor the page by moving, adding, and deleting portlets.
3. Search for content about IBM Security Identity Manager by using one of the following additional technical resources:
  - IBM Security Identity Manager version 6.0 technotes and APARs (problem reports).
  - IBM Security Identity Manager Support website.
  - IBM Redbooks®.
  - IBM support communities (forums and newsgroups).
4. Search for content by using the IBM masthead search. You can use the IBM masthead search by typing your search string into the Search field at the top of any [ibm.com](https://www.ibm.com)® page.

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**Tip:** Include “IBM” and the name of the product in your search if you are looking for information about an IBM product.

---

## Obtaining a product fix

A product fix might be available to resolve your problem.

### About this task

You can get fixes by following these steps:

### Procedure

1. Obtain the tools required to get the fix. You can obtain product fixes from the *Fix Central Site*. See <http://www.ibm.com/support/fixcentral/>.
2. Determine which fix you need.
3. Download the fix. Open the download document and follow the link in the “Download package” section.
4. Apply the fix. Follow the instructions in the “Installation Instructions” section of the download document.

---

## Contacting IBM Support

IBM Support assists you with product defects.

### Before you begin

After trying to find your answer or solution by using other self-help options such as technotes, you can contact IBM Support. Before contacting IBM Support, your company or organization must have an active IBM software subscription and support contract, and you must be authorized to submit problems to IBM. For information about the types of available support, see the Support portfolio topic in the *“Software Support Handbook”*.

### About this task

### Procedure

To contact IBM Support about a problem:

1. Define the problem, gather background information, and determine the severity of the problem. For more information, see the Getting IBM support topic in the *Software Support Handbook*.
2. Gather diagnostic information.
3. Submit the problem to IBM Support in one of the following ways:
  - Using IBM Support Assistant (ISA):  
Any data that has been collected can be attached to the service request. Using ISA in this way can expedite the analysis and reduce the time to resolution.

- a. Download and install the ISA tool from the ISA website. See <http://www.ibm.com/software/support/isa/>.
  - b. Open ISA.
  - c. Click **Collection and Send Data**.
  - d. Click the **Service Requests** tab.
  - e. Click **Open a New Service Request**.
- Online through the IBM Support Portal: You can open, update, and view all of your service requests from the Service Request portlet on the Service Request page.
  - By telephone for critical, system down, or severity 1 issues: For the telephone number to call in your region, see the Directory of worldwide contacts web page.

## Results

If the problem that you submit is for a software defect or for missing or inaccurate documentation, IBM Support creates an Authorized Program Analysis Report (APAR). The APAR describes the problem in detail. Whenever possible, IBM Support provides a workaround that you can implement until the APAR is resolved and a fix is delivered. IBM publishes resolved APARs on the IBM Support website daily, so that other users who experience the same problem can benefit from the same resolution.



---

## Appendix D. Accessibility features for IBM Security Identity Manager

Accessibility features help users who have a disability, such as restricted mobility or limited vision, to use information technology products successfully.

### Accessibility features

The following list includes the major accessibility features in IBM Security Identity Manager.

- Support for the Freedom Scientific JAWS screen reader application
- Keyboard-only operation
- Interfaces that are commonly used by screen readers
- Keys that are discernible by touch but do not activate just by touching them
- Industry-standard devices for ports and connectors
- The attachment of alternative input and output devices

The IBM Security Identity Manager Information Center, and its related publications, are accessible.

### Keyboard navigation

This product uses standard Microsoft Windows navigation keys.

### Related accessibility information

The following keyboard navigation and accessibility features are available in the form designer:

- You can use the tab keys and arrow keys to move between the user interface controls.
- You can use the Home, End, Page Up, and Page Down keys for additional navigation.
- You can launch any applet, such as the form designer applet, in a separate window to enable the Alt+Tab keystroke to toggle between that applet and the web interface, and also to utilize more screen workspace. To launch the window, click **Launch as a separate window**.
- You can change the appearance of applets such as the form designer by using themes, which provide high contrast color schemes that help users with vision impairments to differentiate between controls.

### IBM and accessibility

See the IBM Human Ability and Accessibility Center For more information about the commitment that IBM has to accessibility.



---

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# Index

## A

- accessibility x, 47
- account creation 15
- adapter
  - configuration 21
  - features 1
  - installation 7
  - installation worksheet 5
  - supported configurations 2
- adapter configuration 21
- adapter installation 7
  - overview 1
  - troubleshooting errors 25
  - verification of 23
  - warnings 25
- adapter overview 1
- adapter profile
  - customizing 21
  - import 14
  - verifying 15
- adapter profile upgrades 31
- adapters
  - account 15
  - installation 7
  - restarting 13
  - starting 13
  - stopping 13
- adding
  - system login 38
- application designer 8
- attributes
  - reconciliation 39
  - system login
    - add 38
    - change 38
    - change password 39
    - delete 38
    - restore 39
    - suspend 39
  - testing connection 39

## C

- changing
  - system login 38
- changing password
  - system 39
- component interfaces 9, 11
- components
  - security 9
- configuring
  - adapter 21
- connections
  - testing 39
- connector upgrades 31
- conventions
  - typeface 41
- creating
  - services 16

- customizing
  - adapter profiles 21

## D

- deletingsystem login 38
- directory names, notation 41
- dispatcher 1
- dispatcher installation
  - verifying 7
- dispatcher upgrades 31
- download, software 5

## E

- education x
- environment variables, notation 41
- error messages 27

## I

- IBM
  - Software Support x
  - Support Assistant x
- IBM Support Assistant 44
- ID type subforms 15
- installation
  - adapter 7
  - adapter profile 14
  - roadmap 3
  - verification 13
  - verify dispatcher 7
  - worksheet 5
- interfaces, component 9
- ISA 44
- ISIM\_HOME definition 42
- ITDI\_HOME definition 42

## J

- JAR files 10, 11
  - JDBC type 4 driver 12
  - psjoa.jar 12
- JDBC type 4 drivers 12

## K

- knowledge bases 43

## L

- logs, trace.log file 14

## M

- messages
  - error 27
  - warning 27

## N

- notation, environment variables
  - path names 41
  - typeface 41

## O

- online
  - publications ix
  - terminology ix
- operating system prerequisites 4
- overview 1

## P

- path names, notation 41
- PeopleTools Project 9
- preinstallation
  - roadmap 3
- problem-determination x
- profile upgrades 31
- project security 9
- projects, PeopleTools 9
- psjoa.jar 12
- publications
  - accessing online ix
  - list of ix

## R

- reconciling 39
- records, PRG\_USR\_PROFILE 8
- restarting the adapter 13
- restoring accounts
  - password requirements 23
- restoringsystem login 39
- roadmaps
  - installation 3
  - preinstallation 3

## S

- security
  - for components 9
- service
  - creating 16
  - software requirements 4
  - software, downloading 5
  - starting the adapter 13
  - stopping the adapter 13
  - subforms 15
- support contact information 44
- supported configurations
  - adapter 2
  - overview 2
- suspendingsystem login 39

## T

- terminology ix
- testing connections 39
- Tivoli Directory Integrator connector 1
- trace.log file 14
- training x
- troubleshooting x
  - contacting support 44
  - error messages 27
  - getting fixes 44
  - identifying problems 25
  - searching knowledge bases 43
  - techniques for 25
  - warning messages 27
- troubleshooting and support
  - troubleshooting techniques 25
- typeface conventions 41

## U

- upgrades
  - adapter profile 31
  - connector 31
  - dispatcher 31

## V

- variables, notation for 41
- verification
  - software prerequisites 4
  - software requirements 4
  - system prerequisites 4
  - system requirements 4
- verifying
  - adapter installation 23
- verifying the installation 13

## W

- warning messages 27





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