Oracle® Application Access Controls Governor

Installation and Upgrade Guide

Release 8.2

April 2009

ORACLE

Oracle Application Access Controls Governor Installation and Upgrade Guide

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Introduction

Application Access Controls Governor (AACG) regulates access to duties assigned in business-management applications. By default it controls access to Oracle E-Business Suite and PeopleSoft Enterprise, and it may be configured to work with other business-management applications as well. It implements "access policies," which identify duties that are considered to conflict with one another because, in combination, they would enable individual users to complete transactions that may expose a company to risk.

Within any business-management application, AACG can recognize policy conflicts after duties are assigned to users. In Oracle E-Business Suite or PeopleSoft Enterprise, version 8.2 of AACG can also implement "User Provisioning" — it can evaluate access policies as roles or responsibilities are assigned to users, preventing them from gaining risky access.

To install version 8.2 of Application Access Controls Governor, or to upgrade to it from an earlier 8.*x* version (8.0, 8.01, 8.1, or 8.1.1, including patches to version 8.1.1), complete the following steps.

1. To implement User Provisioning in Oracle EBS instances, ensure that Preventive Controls Governor (PCG) is installed in each Oracle EBS instance that is to be subject to AACG analysis. PCG (also called "Embedded Agents" in some versions) is a set of applications that primarily apply controls within Oracle EBS, but that also support User Provisioning in AACG. If you intend to use version 8.2.0 of AACG, you may use version 7.2.3 or 7.3 of PCG; if you intend to upgrade to version 8.2.1 of AACG, you must have version 7.3.1 of PCG. See the *Governance, Risk, and Compliance Controls Suite Installation Guide* (for version 7.2.3) or the *Preventive Controls Governor Installation Guide* (for version 7.3 or 7.3.1).

   There is no similar prerequisite for implementing User Provisioning in a PeopleSoft instance.

2. Install version 8.2 of AACG, or upgrade to it from an earlier 8.*x* version:
   - For a new AACG installation, install an Oracle database and other prerequisite software, and create an AACG schema in the database. For an upgrade from an earlier 8.*x* version this step is unnecessary, as you will use the database and software components already installed for the earlier version. (These are listed in the "Prerequisites" section on page 1-2.)
   - Download AACG installation files as well as other open-architecture files.

- Perform the AACG installation.
- Optionally, configure the information AACG uses to create "global users." Each person who uses business-management applications has user-account information that may vary from one application to the next. For each such person, AACG creates a "global user" and maps that person's business-management application IDs to it.
- Configure connections to business-management applications over which access policies created in AACG will exercise control.

To complete these procedures, see Chapter 2 of this manual.

3. Perform an additional Provisioning Embedded Agent (PEA) installation in each instance of Oracle EBS or PeopleSoft that is to be subject to User Provisioning. For Oracle PEA installation, see Chapter 3 of this manual; for PeopleSoft PEA installation, see Chapter 4. If you choose not to implement User Provisioning, or if you are installing AACG 8.2.0 only to upgrade to version 8.2.1, omit this step; in the latter case, you will need to install PEAs specific to version 8.2.1.

If you want to upgrade from version 7.2.3 or earlier of Application Access Controls Governor, perform a new installation of version 8.2. Then use its migration utility to copy earlier-version SOD rules into the version-8.2 instance. (The migration process converts SOD rules into access policies). For information on using the migration utility, see the *Application Access Controls Governor User Guide*.

Supported Operating Systems

AACG runs on a server with, by preference, a Linux operating system. Windows Server is also supported. For details about supported operating systems, see the *Oracle Governance, Risk, and Compliance Controls Suite Compatibility Matrix*.

Prerequisites

Before installing Application Access Controls Governor, ensure that the following are installed on the server:

- Oracle 9i or 10g database.
- Tomcat Application Server version 5.5

Moreover, if you are installing on a Linux server, you must have Sun Java Development Kit 1.5 or higher. If you are installing on a Windows server, you may use the Sun JDK or JRockit R27.5.0 for Java SE 6; the latter is recommended. In any case, AACG must have its own dedicated Java container. It was not designed to coexist in a container with other web applications (even other applications in the Governance, Risk, and Compliance Controls Suite).

On the server or a client system, either of the following web browsers can display the AACG interface:

- FireFox 2.*x*
- Microsoft Internet Explorer 6 or 7, with the Adobe SVG plugin available from http://www.adobe.com/svg/viewer/install/mainframed.html.

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Installing or Upgrading AACG

In broad terms, complete these steps to install version 8.2 of Application Access Controls Governor, or to upgrade from an earlier 8.*x* version:

1. For a new installation only, create an AACG schema in the Oracle database.
2. For a new installation or an upgrade, download files to the AACG server and prepare them for use.
3. For a new installation or an upgrade, install and configure the software.

Noting Your Current Settings

If you are upgrading from an earlier 8.*x* version, you have already configured settings that establish connectivity between Application Access Controls Governor and its database. As you upgrade to 8.2, you will need to re-enter these settings. Take note of them now, so that you will have them at hand when you need to re-enter them. (If you are performing a new installation of AACG 8.2, omit this procedure and skip ahead to the next section, "Creating or Backing Up an AACG Schema.")

1. Start your existing version-8.*x* instance of AACG: Open a web browser and, in its address field, enter the following:

   `http://`*`host`*`:`*`tomcat_port`*`/ags`

   Replace *host* with the fully qualified domain name (FQDN) of your Application Access Controls Governor server, and replace *tomcat_port* with 8080 (if you accepted the default value when you installed Tomcat) or your configured value (if you changed the default during Tomcat installation).
2. Log on to AACG: Supply your user name and password, and click on Login.
3. In the Navigation panel (to the left on the AACG interface), expand the Administration entry (click on its plus sign), and then click on Application Configuration.
4. An Application Configuration panel displays the settings you've established for most database-connectivity parameters. (For security purposes, it does not display the AACG database password.) Make a copy of the settings. (For example, highlight the fields displaying your settings by dragging your mouse across them, click on Ctrl+C to copy the settings, open a word processor or spreadsheet, and press Ctrl+V to paste in the copied settings.)

Creating or Backing Up an AACG Schema

If you are performing a new installation of Application Access Controls Governor, create a schema for it in the Oracle 9i or 10g database. Assume, for example, that you have created a tablespace for use by AACG (called aacg_tablespace), and that the schema (user) name and password are aacg_user and aacg_password.

- The following is an example for creating the schema in an Oracle 9i database:

```
create user aacg_user identified by aacg_password default
tablespace aacg_tablespace quota unlimited on aacg_tablespace
quota ok on system;
grant connect, resource to aacg_user;
```

- The following is an example for creating the schema in an Oracle 10g database:

```
create user aacg_user identified by aacg_password default
tablespace aacg_tablespace quota unlimited on aacg_tablespace
quota ok on system;
grant connect, resource to aacg_user;
grant create view to aacg_user;
grant create table to aacg_user;
```

  Moreover, if you use an Oracle 10g database, include this command:

```
ALTER SYSTEM SET open_cursors=1000;
```

If you choose to use the system tablespace, rather than create one specifically for AACG, simply delete the phrase "default tablespace aacg_tablespace quota unlimited on aacg_tablespace quota ok on system" from each script.

If you are upgrading from an earlier 8.*x* version of AACG, use the schema created for the earlier version. Before upgrading, take a backup of your AACG schema.

Regardless of whether you are performing a new installation of version 8.2 or upgrading to it from an earlier 8.*x* version, if you wish to use the multilingual capabilities of AACG, make sure the database that hosts the AACG schema is set up for UTF-8 encoding. Specifically, the character set should be set to AL32UTF8. Refer to your Oracle Admin guide for more information on verifying or configuring your database with the recommended character set.

Downloading Files

Before downloading files, create a staging directory on the Active Access Controls Governor server. When this directory is created, complete the following steps:

1. Locate the Governance, Risk, and Compliance Controls Suite Disk in your Oracle media pack. In its dist directory, locate the file acg_820.zip. Copy the file to your staging directory, and extract its contents there.
2. One of the files you've extracted is called ags.war. Execute the following command to validate it.

   ```
   md5sum ags.war
   ```

   In response to this command, a checksum value is returned. Ensure that it matches the following value:

   ```
   27d425ba20341e3fef97484b6868d5b0
   ```

3. Certain open-architecture files are required. Download files from the following sites to your staging directory.

   jasperreports-1.3.2.jar
   A Java reporting system
   License:
   `http://www.jasperforge.org/index.php?option=com_content&task=view&id=81&Itemid=89`
   Download:
   `http://mirrors.ibiblio.org/pub/mirrors/maven/jasperreports/jars/jasperreports-1.3.2.jar`

   Depending on the web browser you use, the file may download as *jasperreports-1.3.2.zip*; if so, change its name to *jasperreports-1.3.2.jar*. (If the file downloads as *jasperreports-1.3.2.jar*, do not change its name.)

   kettle-2.5.2.jar
   common-2.5.jar
   cache-2.5.jar
   jxl-2.5.jar
   javadbf-2.5.jar
   js-2.5.jar
   A metadata-driven ETL tool
   License:
   `http://wiki.pentaho.com/display/EAI/PDI+License+FAQ`
   Download
   `http://sourceforge.net/project/downloading.php?group_id=140317&use_mirror=superb-west&filename=Kettle-2.5.2.zip&95414959`

   xpp3_min-1.1.3.4.O.jar
   A streaming pull XML parser
   License:
   `http://www.extreme.indiana.edu/viewcvs/~checkout~/XPP3/java/LICENSE.txt`
   Download:
   `http://www.extreme.indiana.edu/dist/java-repository/xpp3/jars/xpp3_min-1.1.3.4.O.jar`

   As you download this file, be sure to change its name from *xpp3_min-1.1.3.4.O.zip* to *xpp3_min-1.1.3.4.O.jar*.

   edtFTPj-1.5.3.jar
   Kettle dependency
   License:
   `http://www.enterprisedt.com/products/edtftpj`
   Download:
   `http://www.findjar.com/jar/com.enterprisedt/jars/edtFTPj-1.5.3.jar.html`

   A findJAR page opens; click on its download link. The download file is originally named *edtFTPj-1.5.3.zip*. Change its name to *edtFTPj-1.5.3.jar*.

4. Prepare the Kettle files you've downloaded by completing the following tasks:
   - Create a subdirectory of your staging directory, called lib_stage/Kettle-2.5.2.
   - Extract the contents of Kettle-2.5.2.zip in this subdirectory.

- From the staging directory, execute the following commands. In each, replace the value *stagedir* with the name of your staging directory:

```
cp lib_stage/Kettle-2.5.2/libswt/common.jar
stagedir/common-2.5.jar
cp lib_stage/Kettle-2.5.2/libext/CacheDB.jar
stagedir/cache-2.5.jar
cp lib_stage/Kettle-2.5.2/libext/jxl.jar stagedir/jxl-
2.5.jar
cp lib_stage/Kettle-2.5.2/libext/javadbf.jar
stagedir/javadbf-2.5.jar
cp lib_stage/Kettle-2.5.2/libext/js.jar stagedir/js-2.5.jar
cp lib_stage/Kettle-2.5.2/lib/kettle.jar
stagedir/kettle-2.5.2.jar
```

Performing the Installation

When the necessary files are downloaded, complete these steps:

1. Shut down the Tomcat application server (or, if you are installing on a Windows server and run Tomcat as a Windows service, stop the service).
2. If you are performing a new installation, create a directory for a Report Repository, which stores AACG report history — copies of reports that AACG users schedule to be run. If you are upgrading from an earlier 8.*x* version, use the directory already established as the Report Repository. In any case, note the path to the Report Repository, as you will need to supply it later as a configuration value.

   The Repository can reside on an NFS mount or any valid directory to which the user running Tomcat has full permissions. (If the Report Repository is deleted, then report history is lost.)
3. If you are upgrading from an earlier 8.*x* version, remove the directory *TomcatHome*/webapps/ags, and all its contents. If you are performing a new installation, the ags subdirectory does not yet exist; skip this step.

   Note: Throughout this document, replace the value *TomcatHome* with the full path to the highest-level directory in which Tomcat components are installed.

   If you are upgrading, you should also remove the ags directory from the Tomcat work area (*TomcatHome*/work/Catalina/localhost/ags), and you may want to save Tomcat logs (located at *TomcatHome*/logs) to another location, then delete them.
4. Copy the file ags.war from your staging directory to *TomcatHome*/webapps. If you are upgrading from an earlier 8.*x* version, this copy operation overwrites an older version of ags.war.
5. If you are installing on a Windows server, open the file *TomcatHome*\conf\server.xml. Locate the entry for the <Connector> port setting, and ensure that it contains the following value:

   ```
   URIEncoding="UTF-8"
   ```

   (If you are installing on a Linux server, omit step 5.)

6. Modify Tomcat settings:

   - If you are installing on a Linux server, locate the startup.sh file in the bin subdirectory of the Tomcat home directory. Add the following lines at the top of the file.

     For a 32-bit server:

     ```
     CATALINA_OPTS="-Djava.security.auth.login.config=
     TomcatHome/webapps/ags/WEB-INF/jaas.config -Xss512k -Xms256M
     -Xmx2048M -XX:MaxPermSize=256m -Djava.awt.headless=true"
     export CATALINA_OPTS
     ```

     For a 64-bit server:

     ```
     CATALINA_OPTS="-Djava.security.auth.login.config=
     TomcatHome/webapps/ags/WEB-INF/jaas.config -Xss512k -Xms256M
     -Xmx4096M -XX:MaxPermSize=256m -XX:+UseParallelGC
     -Djava.awt.headless=true"
     export CATALINA_OPTS
     ```

   - If you are installing on a Windows server, use batch files to start and stop Tomcat, and use JRockit, locate the catalina.bat file associated with the Tomcat instance that supports AACG. Add the following lines at the top of the file:

     For a 32-bit server:

     ```
     set JAVA_OPTS = -Xms256M -Xmx2048M -Xgc:parallel
     -Dfile.encoding=UTF-8
     echo %JAVA_OPTS%
     set CATALINA_OPTS=-Djava.security.auth.login.config=
     "TomcatHome\webapps\ags\WEB-INF\jaas.config"
     -Djava.awt.headless=true
     echo %CATALINA_OPTS%
     ```

     For a 64-bit server:

     ```
     set JAVA_OPTS = -Xms256M -Xmx4096M -Xgc:parallel
     -Dfile.encoding=UTF-8
     echo %JAVA_OPTS%
     set CATALINA_OPTS=-Djava.security.auth.login.config=
     "TomcatHome\webapps\ags\WEB-INF\jaas.config"
     -Djava.awt.headless=true
     echo %CATALINA_OPTS%
     ```

   - If you are installing on a Windows server, use batch files to start and stop Tomcat, and use the Sun JDK, locate the catalina.bat file associated with the Tomcat instance that supports AACG. Add the following lines at the top of the file:

     For a 32-bit server:

     ```
     set JAVA_OPTS = -Xss512k -Xms256M -Xmx2048M
     -XX:MaxPermSize=256m -Dfile.encoding=UTF-8
     echo %JAVA_OPTS%
     set CATALINA_OPTS=-Djava.security.auth.login.config=
     "TomcatHome\webapps\ags\WEB-INF\jaas.config"
     -Djava.awt.headless=true
     echo %CATALINA_OPTS%
     ```

For a 64-bit server:

```
set JAVA_OPTS = -Xss512k -Xms256M -Xmx4096M -XX:MaxPermSize=256m
-XX:+UseParallelGC -Dfile.encoding=UTF-8
echo %JAVA_OPTS%
set CATALINA_OPTS=-Djava.security.auth.login.config=
"TomcatHome\webapps\ags\WEB-INF\jaas.config"
-Djava.awt.headless=true
echo %CATALINA_OPTS%
```

For all the preceding setups (Linux, Windows with Sun JDK, or Windows with JRockit) the maximum memory setting (-Xmx) for a 64-bit server can be increased beyond 4096M, depending on the amount of memory available on the server.

- If you are installing on a Windows server and run Tomcat as a Windows service, launch an Apache Tomcat Properties window by selecting Start > All Programs > Apache Tomcat 5 > Configure Tomcat. Select the Java tab, and set the following fields:

  Add these lines to the Java Options field:

  ```
  -Djava.security.auth.login.config=TomcatHome\webapps\ags\WEB-
  INF\jaas.config
  Djava.awt.headless=true
  Dfile.encoding=UTF8
  ```

  Set the Initial Memory field to 256.

  Set the Maximum Memory Pool field to 768 or 1024.

  Set the Tread Stack Size field to 256.

7. Start the Tomcat application server (or if you run Tomcat as a Windows service, start the service).
8. Open a web browser and, in its address field, enter the following:

   `http://host:tomcat_port/ags`

   Replace *host* with the FQDN of your Application Access Controls Governor server, and replace *tomcat_port* with 8080 (if you accepted the default value when you installed Tomcat) or your configured value (if you changed the default during installation).
9. An Application Configuration panel appears, with a Properties tab selected. (Ignore the Analytics Integration and User Integration tabs.)

   In the Database section of the Properties panel, supply the following information about the AACG database. (If you are upgrading, these correspond to values you recorded in "Noting Your Current Settings" on page 2-1.)

   - User Name: Supply the user name for the AACG database. (In version 8.0, this parameter was called ag.connection.username.)
   - Password: Supply the password for the AACG database. (In version 8.0, this parameter was called ag.connection.password.)
   - Confirm Password: Re-enter the password for the AACG database. (This parameter did not exist in version 8.0.)

- Port Number: Supply the port number at which the AACG database server communicates with other applications. (In version 8.0, this parameter was called ag.connection.port.)
- Server Identifier: Supply the service identifier (SID) for the AACG database server. (In version 8.0, this parameter was called ag.connection.sid.)
- Server Name: Supply the FQDN of the database server. (In version 8.0, this parameter was called ag.connection.server.)
- Report Repository Path: Supply the full path to the Report Repository directory discussed in step 2. (In version 8.0, this parameter was called ag.report.repository.path.)
- Log Threshold: Select a value that sets the level of detail in log-file entries. From least to greatest detail, valid entries are *error*, *warn*, *info*, and *debug*. (This parameter did not exist in version 8.0.)

A Third-Party Libraries section presents a single field, Third-Party Library Path. In it, enter the full path to the directory into which you downloaded third-party jar files (see step 3 on page 2-3). This should be your staging directory. (This enables AACG, as you complete the installation, to copy the files to a directory in which AACG can use them. When this copy operation is complete, the Third-Party Libraries section no longer appears in the Application Configuration panel.)

In the Performance Configuration section, select or clear the Externalize Report Engine check box. Selecting it causes the AACG reporting engine to run in its own Java process, so that the generation of large reports does not impact other functionality. Select it, however, only if you are installing AACG on hardware identified as "preferred" in a document titled *AACG 8.x Hardware Platform Requirement*.

In the Language Preferences section, select the check boxes for up to twelve languages in which you want AACG to be able to display information to its users. Once selected in the Properties panel, these languages are available for selection by individual users as they configure their user profiles or as they log on to AACG.

10. In the Application Configuration panel, click on the Test button to validate the parameter values you've entered. Upon passage of the test (if AACG can connect to its database and if it can read the directory path for the Report Repository), a Save button becomes active. Click on it to save the settings.
11. Exit the Application Configuration panel.
12. Shut down the Tomcat application server (or the Windows service in which it runs). Then restart it.
13. Wait at least 10 minutes. **Warning:** During this period, a prompt to restart the Tomcat application server may appear. If so, ignore it. Do not restart Tomcat until you have waited at least 10 minutes and completed step 14.
14. Determine whether the installation is complete. To do so, review the AACG log (*TomcatHome*/webapps/ags/log/ags.log) and determine whether processes have finished. They have done so when the log has stopped growing. If the log indicates problems, contact Oracle Support. Otherwise, move on to step 15 *only* when the log has stopped growing.
15. Shut down the Tomcat application server (or the Windows service in which it runs). Then restart it.

16. Open a web browser. Clear its cache, and then, in its address field, *manually type* the following URL. (This ensures that you open a fully refreshed instance of AACG, rather than a cached instance that is no longer valid.)

    `http://host:tomcat_port/ags`

    Replace *host* with the FQDN of your Application Access Controls Governor server, and replace *tomcat_port* with 8080 (if you accepted the default value when you installed Tomcat) or your configured value (if you changed the default during installation).

Validating Downloaded Files

To ensure that files have downloaded correctly, calculate their checksums. To do so, navigate to the directory *TomcatHome*/webapps/ags/WEB-INF/lib. (In this path, replace *TomcatHome* with the full path to the highest-level directory in which Tomcat components are installed.) Then run the following command for each file, substituting the actual file name for the placeholder *filename*:

`md5sum filename`

Then, ensure that the checksum value returned for each file matches the value shown in the following table:

File Name	Checksum Value
jasperreports-1.3.2.jar	57e79eae691a4fe16b50ee921ab9117a
kettle-2.5.2.jar	f4615e347bd54e7536010ccb8ff83444
common-2.5.jar	8ab087f48815d80fe81a1e0cc8ad3345
cache-2.5.jar	35c92597232fd096bac276f3253abee5
jxl-2.5.jar	cb0b83e999a76364ed6b554dfc354d11
javadbf-2.5.jar	eb4da2d1f8ba245a2cc6605d50c64f9f
js-2.5.jar	b9c260c5b03c0e8511119a7fb87650d8
xpp3_min-1.1.3.4.O.jar	58908507281834b123024eb6d9be0b7e
edtFTPj-1.5.3.jar	5273ebd698dd7268732a554d47e655b0

Configuring Global Users

AACG creates a "global user" for each person who uses the business-management applications to which AACG access policies apply. AACG maps the global user for each person to that person's user-account information in each of the business-management applications he uses. Thus, AACG can identify an individual even when his user information varies from one application to the next.

Implement one of the following options to determine the information AACG uses to create global users. Important: Select an option that identifies each person uniquely.

- EMAIL_ONLY: Match the global user to email addresses from different data sources (or within one data source). This is the default.
- EMAIL_AND_USER_NAME: Match the global user to email address plus username from different data sources (or within one data source).

- EMAIL_AND_ALL_NAMES: Match the global user to email address, username, given name, and surname from different data sources (or within one data source).

As a regular procedure, AACG users will "synchronize data" — collect information about users and access points in a business-management application, and provide that information to AACG. Ideally, you should change global-user configuration (if you wish to) before anyone synchronizes data with any business-management application.

Thus, omit the rest of this section and skip ahead to "Configuring Data Sources" (page 2-11) if you wish to use the default EMAIL_ONLY configuration and either of the following is true:

- You are upgrading from an earlier 8.*x* version, and that earlier version uses the default EMAIL_ONLY configuration.
- You are performing a fresh installation.

However, if you wish to change the default EMAIL_ONLY configuration, use the following procedure to do so. Complete steps 1–3 if you are performing a fresh installation and data synchronization has not yet been run; in this case, omit step 4. If you are upgrading from an earlier 8.*x* version, or data synchronization has been performed even once, complete steps 1–4:

1. Use SQL*Plus, or any other tool with the ability to execute SQL commands on a database, to connect to the AACG schema.
2. Run the following SQL statement:

```
DELETE FROM LAA_PROPERTIES
WHERE NAME like 'GLOBAL_USER_CONFIG';
COMMIT;
```

3. Run *one* of the following SQL statements, depending on the global-user format you want to implement:

   For email and username, run the following statement:

```
Insert into LAA_PROPERTIES (ID, NAME, VALUE, DESCRIPTION,
DEFAULT_VALUE, VISIBLE, CONFIGURABLE, DATA_TYPE_ID)
Values (LAA_PROPERTIES_SEQ.nextval, 'GLOBAL_USER_CONFIG',
'EMAIL_AND_USERNAME', 'Global User configuration. Possible values:
EMAIL_ONLY, EMAIL_AND_USERNAME, EMAIL_AND_ALL_NAMES', 'EMAIL_ONLY',
0, 0, 0);
COMMIT;
```

   For email, username, given name, and surname, run the following statement:

```
Insert into LAA_PROPERTIES (ID, NAME, VALUE, DESCRIPTION,
DEFAULT_VALUE, VISIBLE, CONFIGURABLE, DATA_TYPE_ID)
Values (LAA_PROPERTIES_SEQ.nextval, 'GLOBAL_USER_CONFIG',
'EMAIL_AND_ALL_NAMES', 'Global User configuration. Possible values:
EMAIL_ONLY, EMAIL_AND_USERNAME, EMAIL_AND_ALL_NAMES', 'EMAIL_ONLY', 0, 0, 0);
COMMIT;
```

   For email only, run the following statement. (As already noted, email-only is the default configuration. Run this statement only if you have changed your global-user configuration to one of the other formats, and want to change back.)

```
Insert into LAA_PROPERTIES (ID, NAME, VALUE, DESCRIPTION,
DEFAULT_VALUE, VISIBLE, CONFIGURABLE, DATA_TYPE_ID)
Values (LAA_PROPERTIES_SEQ.nextval, 'GLOBAL_USER_CONFIG',
'EMAIL_ONLY', 'Global User configuration. Possible values: EMAIL_ONLY,
EMAIL_AND_USERNAME, EMAIL_AND_ALL_NAMES', 'EMAIL_ONLY', 0, 0, 0);
COMMIT;
```

4. Complete this step if you are upgrading from an earlier 8.*x* version, or if you have completed a fresh installation, run data synchronization, and wish to reconfigure the global user after doing so. Run the following SQL statement:

```
TRUNCATE TABLE SUM_ENTITLEMENT_ENTITLEMENT;
TRUNCATE TABLE SUM_ENTITLEMENT_POLICY;
TRUNCATE TABLE SUM_ENTITLEMENT_PRIORITY;
TRUNCATE TABLE SUM_ENTITLEMENT_RISK;
TRUNCATE TABLE SUM_ENTITLEMENT_STATUS;
TRUNCATE TABLE SUM_ENTITLEMENT_TAG;
TRUNCATE TABLE SUM_POLICY_PRIORITY;
TRUNCATE TABLE SUM_POLICY_STATUS;
TRUNCATE TABLE SUM_POLICY_TAG;
TRUNCATE TABLE SUM_POLICY_USER;
TRUNCATE TABLE SUM_PRIORITY_TAG;
TRUNCATE TABLE SUM_ROLE_DIMENSION;
TRUNCATE TABLE SUM_ROLE_ENTITLEMENT;
TRUNCATE TABLE SUM_ROLE_POLICY;
TRUNCATE TABLE SUM_ROLE_PRIORITY;
TRUNCATE TABLE SUM_ROLE_ROLE;
TRUNCATE TABLE SUM_ROLE_STATUS;
TRUNCATE TABLE SUM_ROLE_USER;
TRUNCATE TABLE SUM_STATUS;
TRUNCATE TABLE SUM_STATUS_PRIORITY;
TRUNCATE TABLE SUM_STATUS_TAG;
TRUNCATE TABLE SUM_TAG_TAG;
TRUNCATE TABLE SUM_USER_ENTITLEMENT;
TRUNCATE TABLE SUM_USER_TAG;
TRUNCATE TABLE SUM_USER_STATUS;
TRUNCATE TABLE SUM_USER_PRIORITY;
TRUNCATE TABLE SUM_ENTITLEMENT_ENTITLEMENT_TL;
TRUNCATE TABLE SUM_ENTITLEMENT_POLICY_TL;
TRUNCATE TABLE SUM_ENTITLEMENT_PRIORITY_TL;
TRUNCATE TABLE SUM_ENTITLEMENT_RISK_TL;
TRUNCATE TABLE SUM_ENTITLEMENT_STATUS_TL;
TRUNCATE TABLE SUM_ENTITLEMENT_TAG_TL;
TRUNCATE TABLE SUM_POLICY_PRIORITY_TL;
TRUNCATE TABLE SUM_POLICY_STATUS_TL;
TRUNCATE TABLE SUM_POLICY_TAG_TL;
TRUNCATE TABLE SUM_POLICY_USER_TL;
TRUNCATE TABLE SUM_PRIORITY_TAG_TL;
TRUNCATE TABLE SUM_ROLE_DIMENSION_TL;
TRUNCATE TABLE SUM_ROLE_ENTITLEMENT_TL;
TRUNCATE TABLE SUM_ROLE_POLICY_TL;
TRUNCATE TABLE SUM_ROLE_PRIORITY_TL;
TRUNCATE TABLE SUM_ROLE_ROLE_TL;
TRUNCATE TABLE SUM_ROLE_STATUS_TL;
TRUNCATE TABLE SUM_ROLE_USER_TL;
TRUNCATE TABLE SUM_STATUS_TL;
TRUNCATE TABLE SUM_STATUS_PRIORITY_TL;
TRUNCATE TABLE SUM_STATUS_TAG_TL;
TRUNCATE TABLE SUM_TAG_TAG_TL;
TRUNCATE TABLE SUM_USER_ENTITLEMENT_TL;
TRUNCATE TABLE SUM_USER_TAG_TL;
TRUNCATE TABLE SUM_USER_STATUS_TL;
TRUNCATE TABLE SUM_USER_PRIORITY_TL;
TRUNCATE TABLE LAA_CONFLICT_PATH_JOIN_ACTN_H;
TRUNCATE TABLE LAA_CONFLICT_PATH_ENTITL_H;
TRUNCATE TABLE LAA_CONFLICT_PATH_ENTITLEMENT;
TRUNCATE TABLE LAA_CONFLICT_PATH_ACCESS_H;
TRUNCATE TABLE LAA_CONFLICT_PATH_ACCESS;
TRUNCATE TABLE LAA_CONFLICT_PATH_JOIN_H;
```

```
TRUNCATE TABLE LAA_CONFLICT_PATH_JOIN;
TRUNCATE TABLE LAA_CONFLICT_FLAT;
DELETE FROM LAA_CONFLICT_PATH_H;
DELETE FROM LAA_CONFLICT_PATH;
DELETE FROM LAA_CONFLICT_H;
DELETE FROM LAA_CONFLICT;
COMMIT;
```

Configuring Data Sources

Once AACG is installed and global-user configuration is complete, connect Application Access controls Governor to the business-management applications in which it will implement access policies, and run data synchronization against each.

First, log on to AACG. In a web browser, enter the following, in which *host* represents the FQDN of your AACG server, and *tomcat_port* is replaced by 8080 (if you accepted the default value when you installed Tomcat) or your configured value (if you changed the default during Tomcat installation).

`http://host:tomcat_port/ags`

Then, in the Navigation panel (to the left of the AACG interface), expand the Administration entry (click on its + sign) and select (click on) the Data Administration entry in the Administration list.

To configure a data source:

1. Click on the Add button. A new row appears. To enter values in this row, double-click in each field (or press the Tab key to move from an active field to the next field). Enter the following values:
   - Data Source Name: Create a name for the data source.
   - Description: Type a brief description of the data source (optional).
   - Host Name: Supply the URL for the machine that hosts the database used by the business-management application.
   - Port: Enter the port number that database uses to communicate with other applications.
   - User Name: Supply the user name for the database used by the business-management application. For an Oracle database, this is the same as Schema Name (below); for an Oracle EBS instance, this is typically APPS.
   - Password: Enter the password for the database.
   - Confirm Password: Re-enter the password for the database.
   - Service Identifier: Supply the SID value configured for the database in the tnsnames.ora file.
   - Type: From a list box, select the type of business-management application to which you are connecting — by default, Oracle or PeopleSoft. To set up other applications for selection in this list box, see the *Application Access Controls Governor User Guide.*
   - Version: From a list box, select the version number of the business-management application to which you are connecting

2. When you finish entering values, click on the Save button in the tool bar.
3. After saving the data source, click on the Refresh button in the tool bar.

When you configure a data source, AACG assigns an ID number to it. If you intend to enable User Provisioning for an Oracle EBS or PeopleSoft data source (see Chapters 3 and 4), you will need to know its data source ID. To determine the number, first configure the data source (as described above), and then complete the following steps:

1. Right-click on the header row in the Data Administration panel.
2. A menu appears. Position the mouse cursor over its Columns option; a list of available columns appears.
3. In that list, select the check box for the Data Source ID column (click on it so that a check mark appears).
4. Left-click anywhere outside of the menu and list of columns to close them.
5. The Data Administration panel now displays a Data Source ID column. In it, note the ID number assigned to the data source you've configured.

If, having determined the data source IDs for your data sources, you wish to remove the Data Source ID column from view, repeat this procedure but clear the Data Source ID check box (click on it so that the check mark disappears).

Finally, to perform data synchronization:

1. In the Data Administration panel, select the row for the data source with which you want to synchronize data. You may select more than one row (holding down the Shift or Ctrl key to select rows either in or out of sequence).
2. Click on the Synchronize button in the tool bar. A two-item list appears; in it, click on Run Now.

   (You may also select the other option, Schedule, to establish a schedule on which data synchronization occurs regularly. For more on this, see the *Application Access Controls Governor User Guide*.)

Two Data Administration panel fields — Last Sync Date and Last Sync Status — show the date and time at which synchronization was last attempted for each data source, and the result of the attempt. (If synchronization has never been run for a given data source, its date field is blank and its status is NOT_STARTED.) These fields are updated by AACG.

3

Installing the Oracle PEA

In support of the AACG User Provisioning feature, install a Provisioning Embedded Agent (PEA) on each instance of Oracle E-Business Suite that is to be subject to AACG analysis. Installations on Oracle EBS 11.5.10 and R12 (12.0.4) are supported.

- If you intend to use AACG version 8.2.0, complete the PEA installation described in this chapter.
- If you are installing AACG version 8.2.0 so that you can upgrade to version 8.2.1, skip this chapter and complete the installation described in chapter 3 of the *Application Access Controls Governor Upgrade Guide* for version 8.2.1.

On each EBS instance for which you want to enable User Provisioning for version 8.2.0, you must install version 7.2.3 or 7.3 of Preventive Controls Governor (PCG) before installing version 8.2 of the PEA. (See page 1-1.):

- You can install AACG 8.2 on its server without first having installed PCG on any EBS instance. If so, however, AACG would not be able to apply User Provisioning to Oracle EBS instances. You can implement User Provisioning subsequently; to do so, you would first install PCG, then the PEA, on each EBS instance for which you want to enable User Provisioning.
- Even after User Provisioning is enabled, you may choose to upgrade or reinstall PCG on an EBS instance. If so, you must also reinstall the PEA on that instance.
- If you are upgrading from an earlier 8.*x* version of AACG to version 8.2, and if version 7.2.3 of PCG is installed on an Oracle EBS instance subject to AACG, you may either continue to use version 7.2.3 of PCG, or upgrade it to version 7.3.
  - Version 7.3 implements a new reporting system for PCG. If you retain version 7.2.3, you retain the earlier (Business Objects) reporting system, but you lose the ability to implement User Provisioning in Oracle EBS version 12.0.4.
  - If you upgrade to PCG 7.3, you gain the ability to implement User Provisioning in Oracle EBS 12.0.4, but you can no longer use Business Objects reporting for PCG.

This chapter describes automated and manual PEA installation processes. Try the automated installation first; it's simpler. However, Oracle EBS configurations can vary widely, so yours may not accommodate the automated installer. If the automated installer fails, use the manual process instead. In either case, you'll first complete some preliminary steps that apply to both automated and manual installations.

Preliminary Steps

If you run your Oracle EBS instance in the Linux operating system, you must set a display option. To do so, execute the following command:

```
export DISPLAY=localhost:1.0
```

As you install the PEA, you must supply the username and password of an AACG user. You can use the logon credentials of any user configured on the AACG instance you installed in Chapter 2. It's recommended, however, that you create a user called *wsclient*, and specify that user during PEA installation. For information on creating AACG users, see the *Application Access Controls Governor User Guide* for version 8.2.

When you configure an Oracle EBS instance as an AACG data source, AACG generates a data source ID number. You must supply that number as you install the PEA. Thus sequence matters: Install AACG on its server and configure each EBS instance as a data source (see Chapter 2) before you install the PEA on any EBS instance.

In the Oracle EBS instance on which you are installing the PEA, navigate to the custom application TOP (conventionally called XXLAAPPS_TOP) created on the Preventive Controls Governor forms server. Execute a directory listing to determine if it has a subdirectory named *mesg*. If not, create the subdirectory:

```
mkdir mesg
```

Downloading and Preparing Files

Create a staging directory on the server that supports Oracle E-Business Suite. When this directory is created, complete the following steps:

1. Locate the Governance, Risk, and Compliance Controls Suite Disk in your Oracle media pack. On it locate ag-pea-installation-8.2.0-SNAPSHOT-oebs-package.zip. Copy it to the staging directory, and extract its contents into that directory.

   The extraction should produce subdirectories of the staging directory called db, fndload, Forms, and lib, each of which contains files. Also, files called ag-pea-installation-8.2.0-SNAPSHOT.jar, install.properties, and pea.properties reside in the staging directory.

2. In the staging directory, use a text editor to open and edit the pea.properties file. (This step is required regardless of whether you are performing automated or manual installation.) Provide values for the following properties:

   - pea.datasource.id=<number>

     Supply the data source ID assigned by AACG to the Oracle EBS instance in which you are installing the PEA. (You should have noted this number while configuring the instance as a data source. See "Configuring Data Sources," page 2-11).

   - pea.aacg.webservice.server=<servername>

     In place of <*servername*>, supply the name of the server on which AACG is installed (on which Tomcat is installed and the ags.war file is deployed; see step 0 *et sequens*, beginning on page 2-4).

- pea.aacg.webservice.port=<portNumber>

  In place of <*portNumber*>, supply the Tomcat port number — 8080 (if you accepted the default value when you installed Tomcat) or your configured value (if you changed the default during Tomcat installation).

- pea.aacg.webservice.url=/<ags>/services/AGService/

  This property specifies the URL of the webservice where the AACG instance is installed. This URL should be */ags/services/AGService/* (remove the angle brackets from <*ags*> if they appear in the properties file).

- pea.aacg.webservice.username=wsclient

  If you created a wsclient user on your AACG instance, supply the value *wsclient* here. If not, supply the user name configured for any user of Application Access Controls Governor 8.2. For example, AACG comes with one user, *admin*, configured by default, so *admin* would be a legitimate value.

- pea.aacg.webservice.password=<password>

  In place of <*password*>, enter the password for the user identified in the previous property. If that's *wsclient*, supply the password for that user. If you chose *admin*, the password is also *admin*. (For security purposes, however, you are advised to change this password. If you do, and if you supplied *admin* as the userName in the previous property, supply the updated password here.)

- pea.aacg.webservice.timeout=<number of seconds>

  Enter a timeout, in seconds, for communication with the Oracle EBS server. The default value is 30.

Other properties in the pea.properties file are internal to AACG. These include pea.type, pea.responsibility.accesstype, pea.userkeys, and pea.test. Do not modify their values.

3. To perform the automated installation, also use a text editor to open and edit the install.properties file in the staging directory. (For a manual installation, this step is unnecessary.) Provide values for the following properties:

- APPS_USER_NAME = *APPS*

  Supply the username for the database schema that supports your Oracle EBS instance. Typically, this value is *APPS*.

- APPS_PASSWORD = *apps_schema_password*

  Supply the password for the Oracle EBS database schema identified in the previous property.

- XXLAAPPS_USER_NAME = *XXLAAPPS*

  Supply the username for the database schema that supports Preventive Controls Governor (or "Embedded Agents") installed on your Oracle EBS instance. Typically, this value is *XXLAAPPS*.

- XXLAAPPS_PASSWORD = *XXLAAPPS_passsword*

  Supply the password for the Preventive Controls Governor database schema identified in the previous property.

- HOST = *hostname*

  Supply the host name for the Oracle EBS database server.

- PORT = *number*

  Supply the port number at which the Oracle EBS database server communicates with other applications.

- SID = *service_identifier*

  Supply the service identifier (SID) for the Oracle EBS database server.

- FREQUENCY = 30

  Supply a number that sets the interval, in minutes, at which two PEA concurrent programs are to run. AACG User Provisioning Poll handles the approval or rejection of User Provisioning requests in the Oracle EBS instance. AACG User Provisioning Request Recovery transmits stored requests to AACG when communications with the EBS instance have been interrupted, then restored. The recommended value for both programs is *30*.

4. Execute the environment file, if it is not included in the profile. Run this command:

   ```
   . $APPL_TOP/$APPLFENV
   ```

Automated Installation

Once you have downloaded files and prepared them, execute the following steps to complete an automated installation:

1. Navigate to your staging directory.
2. Run the installation file. Execute the following command:

   ```
   java -jar ag-pea-installation-8.2.0-SNAPSHOT.jar
   ```

3. When the file finishes running, review its log file: In the staging directory, use a text editor to open the file *debugInstall.log*. It notes status for several installation stages (Status of Packages, Status of Concurrent Programs, Status of Load Java, and Status of Forms), as well as for overall installation.

   - If the status for each is *Success*, PEA is installed. Ignore the manual installation procedure.
   - Otherwise, the debugInstall.log file lists errors that have occurred at each stage. Either resolve the errors and retry the automated installation process, or complete the manual installation process (see the next section).

Manual Installation

Once you have downloaded files and prepared them, and if the automated installation has failed, execute a manual installation instead:

Forms Installation

First, install forms. Complete the following steps:

1. Navigate to your staging directory.

2. Execute the following command to execute the package (PKS).

   (Here and in subsequent steps, *appsSchemaName* and *appsSchemaPassword* are the user name and password for the database schema used by Oracle E-Business Suite.)

   ```
   sqlplus appsSchemaName/appsSchemaPassword
   @db/aacg_provdb_pkg.pks
   ```

3. Execute the following command to execute the package body (PKB).

   ```
   sqlplus appsSchemaName/appsSchemaPassword
   @db/aacg_provdb_pkg.pkb
   ```

4. Execute one of the following commands to set the environment variable.

   For Oracle E-Business Suite Release 12:

   ```
   export FORMS_PATH=$FORMS_PATH:$AU_TOP/forms/US
   ```

   For earlier versions of Oracle EBS:

   ```
   export FORMS60_PATH=$FORMS60_PATH:$AU_TOP/forms/US
   ```

5. Execute one of the following commands to compile the library:

   For Oracle E-Business Suite Release 12:

   ```
   frmcmp_batch module=Forms/AACG_PROV.pll module_type=library
   userid=appsSchemaName/appsSchemaPassWord
   ```

   For earlier versions of Oracle EBS:

   ```
   f60gen module=Forms/AACG_PROV.pll module_type=library
   userid=appsSchemaName/appsSchemaPassWord
   ```

6. Execute the following command to copy the compiled library.

   ```
   cp Forms/AACG_PROV.*  $AU_TOP/resource
   ```

7. Execute one of the following commands to compile the forms.

   For Oracle EBS Release 12:

   ```
   frmcmp_batch module=Forms/LAASCAUS.fmb
   userid=appsSchemaName/appsSchemaPassWord
   ```

   For earlier versions of Oracle EBS:

   ```
   f60gen module=Forms/LAASCAUS.fmb
   userid=appsSchemaName/appsSchemaPassWord
   ```

8. Execute the following command to back up the compiled form.

   ```
   cp $XXLAAPPS_TOP/forms/US/LAASCAUS.fmx
   $XXLAAPPS_TOP/forms/US/LAASCAUS.fmx.orig
   ```

   (If you followed recommendations as you installed Preventive Controls Governor, you selected XXLAAPPS as the application short name, and the environment variable shown in this command — $XXLAAPPS_TOP — is correct. If you chose another application short name as you installed Preventive Controls Governor, make sure the environment variable in this command and the next reflects the application short name you created.)

9. Execute the following command to copy the compiled form.

   ```
   cp Forms/LAASCAUS.fmx $XXLAAPPS_TOP/forms/US/LAASCAUS.fmx
   ```

Concurrent Programs Installation

Change to your staging directory and, from it, run the following commands to set up concurrent programs that support AACG User Provisioning. In these commands:

- *appsSchemaName* and *appsSchemaPassword* are the user name and password for the database schema used by Oracle E-Business Suite.
- *XXLAAPPSUserName* is the user name for the database schema that supports Preventive Controls Governor. This value is case-sensitive.
- *frequency* is a number setting the interval, in minutes, between scheduled runs of concurrent programs (see the description of the FREQUENCY option on page 3-4).

Execute the following command to execute the AACG User Provisioning Poll concurrent program:

```
sqlplus appsSchemaName/appsSchemaPassword
@db/aacgexecutable.sql XXLAAPPSUserName frequency
```

Execute the following command to execute the AACG User Provisioning Request Recovery concurrent program:

```
sqlplus appsSchemaName/appsSchemaPassword
@db/aacgexecrecover.sql XXLAAPPSUserName frequency
```

Lookup Table Insertions

From your staging directory, execute the following command to insert records in an LAA_lookup table. In this command, *xxlaappsSchemaName* and *xxlaappsSchemaPassword* are the user name and password for the database schema used by Preventive Controls Governor.

```
sqlplus xxlaappsSchemaName/xxlaappsSchemaPassword
@db/addproperties.sql
```

Load Java

Complete the following steps:

1. Set the DB environment of APPS (the Oracle EBS database).
2. Execute the following commands. These commands should not error out:

   ```
   dropjava
   loadjava
   ```

3. Execute the following commands. Here (and in steps 4 and 5), *appsUserName* and *appsUserPassword* are the user name and password for the database used by Oracle E-Business Suite.

   ```
   dropjava -user appsUserName/appsPassword -verbose  -resolve
   lib/ag-pea-8.1.2-SNAPSHOT.jar
   ```

   ```
   dropjava -user appsUserName/appsPassword -verbose  -resolve
   pea.properties
   ```

4. Execute the following commands to load the pea jar into the database.

   ```
   loadjava -user appsUserName/appsPassword -verbose
   -resolve lib/ag-pea-common-8.2.0-SNAPSHOT.jar
   ```

   ```
   loadjava -user appsUserName/appsPassword -verbose
   -resolve lib/ag-pea-oebs-8.2.0-SNAPSHOT.jar
   ```

5. Execute the following command to load the modified pea.properties file into the database:

```
loadjava -user appsUserName/appsPassword -verbose
-resolve pea.properties
```

Postinstallation Steps

Regardless of whether you used the automated or manual installation process, run the Generate Messages concurrent program.

1. Log in to Oracle E-Business Suite as any user with the Application Developer responsibility.
2. Select the Application Developer responsibility, and select the Requests: Run option in the Application Developer Navigator.
3. The Submit a New Request window appears. In it, select Single Request and click on the OK button.
4. The Submit Request window appears. In its Name field, query for Generate Messages. (Press the F11 key; type the value *Generate Messages* in the Name field; press Ctrl+F11.)
5. A Parameter window appears. In it, enter the following:
   - Language: US
   - Application: GRC Controls Custom
   - Mode: DB_TO_RUNTIME

   Click on the OK button.
6. In the Submit Request window, click on the Submit button.
7. A pop-up window informs you of an ID number for the concurrent request. Make a note of the number, and then click on the OK button to close the message.
8. Optionally, verify that the request has been completed successfully:
   a. Click on View in the menu bar, then on Requests in the View menu.
   b. A Find Requests form opens. In it, click on the Specific Request radio button. Type the ID number of your concurrent request in the Request ID field, and click on the Find button.
   c. A Requests form opens. In the row displaying information about your request, ensure that the entry in the Phase field is *Completed* (you may need to click on the Refresh Data button), and the entry in the Status field is *Normal*.
   d. Close the Request form: Click on the × symbol in its upper right corner.

4

Installing the PeopleSoft PEA

In support of the AACG User Provisioning feature, install a Provisioning Embedded Agent (PEA) on each instance of PeopleSoft Enterprise that is to be subject to AACG analysis. For AACG 8.2.0, User Provisioning works with the PeopleSoft, Financials component, and requires PeopleTools 8.49, PeopleSoft 9.0 FIN, and Java.

- If you intend to use AACG version 8.2.0, complete the PEA installation described in this chapter.
- If you are installing AACG version 8.2.0 so that you can upgrade to version 8.2.1, skip this chapter and complete the installation described in chapter 4 of the *Application Access Controls Governor Upgrade Guide* for version 8.2.1.

You can install AACG 8.2 on its server without installing the PEA on PeopleSoft instances. If so, however, AACG would not be able to apply User Provisioning to PeopleSoft instances. To implement User Provisioning subsequently, install the PEA on each PeopleSoft instance for which you want to enable User Provisioning. (For PeopleSoft instances, there is no requirement to install an application comparable to Preventive Controls Governor, which is necessary in Oracle EBS instances.)

As you install the PEA, you must supply the username and password of an AACG user. You can use the logon credentials of any user configured on the AACG instance you installed in Chapter 2. It's recommended, however, that you create a user called *wsclient*, and specify that user during PEA installation. For information on creating AACG users, see the *Application Access Controls Governor User Guide* for version 8.2.

When you configure a PeopleSoft instance as an AACG data source, AACG generates a data source ID. You must supply that number as you install the PEA. Thus sequence matters: Install AACG on its server and configure each PeopleSoft instance as a data source (see Chapter 2) before you install the PEA on any PeopleSoft instance.

Downloading and Preparing Files

Create a staging directory on the server that supports PeopleSoft Financials. When this directory is created, complete the following steps:

1. Locate the PeopleSoft Enterprise Application Access Controls Governor media pack. On it locate ag-pea-installation-8.2.0-SNAPSHOT-ps-package.zip. Copy it to the staging directory, and extract its contents into that directory.

The extraction should produce subdirectories of the staging directory called lib and AACG_PS_PEA_82, each of which contains files. Also, files called ag-pea-ps-8.2.0-SNAPSHOT.jar, peafin.properties, and log4j.properties reside in the staging directory.

2. In the staging directory, use a text editor to open and edit the peafin.properties file. Provide values for the following properties:

   - pea.datasource.id=<number>

     Supply the data source ID assigned by AACG to the PeopleSoft instance in which you are installing the PEA. (You should have noted this number while configuring the instance as a data source. See "Configuring Data Sources," page 2-11).

   - pea.aacg.webservice.server=<servername>

     In place of <*servername*>, supply the name of the server on which AACG is installed (on which Tomcat is installed and the ags.war file is deployed; see step 0 *et sequens*, beginning on page 2-4).

   - pea.aacg.webservice.port=<portNumber>

     In place of <*portNumber*>, supply the Tomcat port number — 8080 (if you accepted the default value when you installed Tomcat) or your configured value (if you changed the default during Tomcat installation).

   - pea.aacg.webservice.url=/<ags>/services/AGService/

     This property specifies the URL of the webservice where the AACG instance is installed. This URL should be */ags/services/AGService/* (remove the angle brackets from <*ags*> if they appear in the properties file).

   - pea.aacg.webservice.username=wsclient

     If you created a wsclient user on your AACG instance, supply the value *wsclient* here. If not, supply the user name configured for any user of Application Access Controls Governor 8.2. For example, AACG comes with one user, *admin*, configured by default, so *admin* would be a legitimate value.

   - pea.aacg.webservice.password=<password>

     In place of <*password*>, substitute the password configured for the user identified in the previous property. If that's *wsclient*, you would of course supply the password you created for that user. If you chose *admin*, the password is also *admin*. (For security purposes, however, you are advised to change this password. If you do, and if you supplied *admin* as the userName in the previous property, supply the updated password here.)

   - pea.aacg.webservice.timeout=<number of seconds>

     Timeout, in seconds, for communication with the PeopleSoft schema. The default value is 300.

   - pea.aacg.pea.ds.schema.sid=<service_identifier>

     Supply the service identifier (SID) for the PeopleSoft database server.

   - pea.aacg.pea.ds.schema.port=<number>

     Supply the number for the port at which the PeopleSoft database server communicates with other applications.

- pea.aacg.pea.ds.server=<name>

  Supply the FQDN of the PeopleSoft database server.

- pea.aacg.pea.ds.schema.username=<name>

  Supply the user name for the PeopleSoft database schema.

- pea.aacg.pea.ds.schema.password=<password>

  Supply the password configured for the username identified in the previous property.

- pea.aacg.ps.enabled=1|0

  Enter the value *1* to enable the PEA, or the value *0* to disable the PEA.

- pea.aacg.pea.path.log4j.properties=<path>

  Specify the path to a directory in which the log4j.properties file will reside. An initial copy of this file is included in the ag-pea-installation-8.2.0-SNAPSHOT-ps-package.zip file downloaded with this installation, and exists in the staging directory. You will edit this file (see step 3). Then, later in the installation procedure, you will copy the edited version from the staging directory to a directory on the PeopleSoft server. This parameter specifies the directory to which you will copy the edited file.

- pea.log.file=<path>

  Set the path and name of a log file that records information about communications between PeopleSoft and AACG.

- pea.aacg.pea.ps.frequency=<number of minutes>

  Set a time interval, in minutes, at which an "AACG poller" may be scheduled to run. The poller updates role assignments for PeopleSoft users whose User Provisioning requests have been resolved in AACG. In the Roles panel of the PeopleSoft User Profiles page, a user may select a link labeled "Schedule AACG Poller"; if so, the poller runs at intervals defined by this parameter.

Other properties in the peafin.properties file are internal to AACG. These include pea.responsibility.accesstype and pea.userkeys. Do not modify their values.

3. In the staging directory, use a text editor to open and edit the log4j.properties file. Set its log4j.appender.file.File property to the path and name of a log file that records information about AACG code embedded in PeopleSoft. (Note that this log is distinct from the one established by the pea.log.file property of the peafin.properties file.) Do not modify the values of other properties in the log4j.properties file.

Installing the PEA

Once you have downloaded files and prepared them, execute the following steps:

1. To update jar files with properties specified in the edited peafin.properties file, run the following command from the STAGE directory:

```
jar uf ag-pea-ps-8.2.0-SNAPSHOT.jar peafin.properties
```

2. Stop the PeopleSoft application server.

   To do so, use the psadmin utility: To start it, execute the command *PS_HOME**appserv**psadmin* (on a Linux server) or *PS_HOME**appserv**psadmin.exe* (on a Windows server). In either case, replace *PS_HOME* with the full path to the highest-level directory in which PeopleSoft components are installed. If necessary, see PeopleSoft documentation for information on using the psadmin utility.

3. Copy the following files from the lib subdirectory of your staging directory to the *PS_HOME*\appserv\classes directory:

   ```
   ag-pea-common-8.2.0-SNAPSHOT.jar
   commons-logging-1.1.jar
   log4j-1.2.14.jar
   ojdbc14-10.2.0.3.jar
   ```

4. Copy the following file from the your staging directory to the *PS_HOME*\appserv\classes directory:

   ```
   ag-pea-ps-8.2.0-SNAPSHOT.jar
   ```

5. Copy the log4j.properties file from your staging directory to the directory you specified for it in the pea.aacg.pea.path.log4j.properties parameter of the peafin.properties file.

6. Use the psadmin utility to restart the PeopleSoft application server. (See step 2 for information on running the psadmin utility.)

Importing a Project

To complete the PEA installation, import a PeopleTools project:

1. Open the PeopleTools Application Designer. Log in as a user who has the PeopleSoft administrator role.

2. Navigate to Tools > Copy Project > From File…

3. A Copy From File dialog opens. In a field labeled "Look in:" navigate to your staging directory. This causes subdirectories of the staging directory (including AACG_PS_PEA_82) to appear in the large, unlabeled field below the "Look in:" field.

4. In that large, unlabeled field, click on the AACG_PS_PEA_82 entry. This causes AACG_PS_PEA_82 to appear in a field labeled "Select Project from the List Below," and a Select button to become active.

5. Ensure that AACG_PS_PEA_82 is selected in the "Select Project" field, and click on the Select button.

6. Confirm that application objects appear in the Application Designer project window, and save the project.

It's important to follow instructions in the PeopleSoft *Application Import/Update Installation Guide* when you apply an application import/update project to your database. Failure to do so could corrupt your database and cause you to lose customizations that you have made to your database.