

**Oracle® Application Access Controls Governor**  
Installation and Upgrade Guide  
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## Oracle Application Access Controls Governor Installation and Upgrade Guide

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Primary Author: David Christie

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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, version 8.1 of AACG can also implement “User Provisioning” — it can evaluate access policies as responsibilities are assigned to users, preventing them from gaining risky access.

Broadly, to install version 8.1 of Application Access Controls Governor, or to upgrade to it from version 8.0 or 8.0.1, you complete the following steps.

- Ensure that version 7.2.2.3 or later of the Embedded Agents is installed in each instance of Oracle E-Business Suite that is to be subject to AACG analysis. The Embedded Agents are a set of applications that run within Oracle EBS to support User Provisioning in AACG (and other functionality in the Oracle Governance, Risk, and Compliance Controls Suite). Instructions on installing the Embedded Agents appear in chapters 1–3 of the *Governance, Risk, and Compliance Controls Suite Installation Guide* for the version you use.
- Install version 8.1 of AACG, or upgrade to it from version 8.0 or 8.0.1:
  - 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 version 8.0 or 8.0.1 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.

- Perform an additional Provisioning Embedded Agents (PEA) installation in each instance of Oracle EBS that is to be subject to AACG analysis. To do so, see Chapter 3 of this manual. (The Provisioning Embedded Agents application is distinct from the version-7.2.2.3-or-later Embedded Agents applications.)

If you want to upgrade from version 7.2.3 or earlier of Application Access Controls Governor, perform a new installation of version 8.1. Then use its migration utility to copy earlier-version SOD rules into the version-8.1 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* for version 8.1.

AACG is one component of the Governance, Risk, and Compliance Controls Suite, and it runs in its own platform. It may run independently of, or in concert with, other Controls Suite components. These include version 7.2.2.3 (and later) of Transaction Controls Governor and Preventive Controls Governor, and version 5.1.1.1 (and later) of Configuration Controls Governor. For information on installing these components, see the *Governance, Risk, and Compliance Controls Suite Installation Guide* and the *Configuration Controls Governor Installation Guide*.

## Supported Operating Systems

Application Access Controls Governor runs on a server with, by preference, a Linux operating system. Windows Server is also supported. For detailed information 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.
- Sun Java Development Kit 1.5 or higher. (GNU Java Development Kit will not work.)

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).

- Tomcat Application Server version 5.5
- Any of the following web browsers:
  - FireFox
  - Microsoft Internet Explorer 6 or 7, with the Adobe SVG plugin available from <http://www.adobe.com/svg/viewer/install/mainframed.html>.

---

## Installing or Upgrading AACG

In broad terms, complete these steps to install version 8.1 of Application Access Controls Governor, or to upgrade from version 8.0 or 8.0.1:

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 version 8.0 or 8.0.1, you have already configured settings that establish connectivity between Application Access Controls Governor and its database. As you upgrade to 8.1, 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 8.1, omit this procedure and skip ahead to the next section, “Creating or Backing Up an AACG Schema.”)

1. Start your version-8.0 or -8.0.1 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 of 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 the schema (user) name and password are aacg\_user/aacg\_password.

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

```
create user aacg_user identified by aacg_password;  
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;  
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 are upgrading from version 8.0 or 8.0.1 of AACG, you will use the schema already created for the earlier version. Before beginning the upgrade, take a backup of your AACG schema.

## 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 1 in your Oracle media pack. In its dist directory, locate the file acg\_810.zip, copy the file to your staging directory, and extract its contents there. This should create two subdirectories of the staging directory — lib\_stage and res. It also deposits three files in the staging directory — ags.war, preinstall.bat, and preinstall.sh.
2. Validate the ags.war file. Execute the following command:

```
md5sum ags.war
```

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

```
daf6abfc5e5915623260d4f095b08deb
```

3. Certain open-architecture files are required. Download files from the following sites to the lib\_stage subdirectory of your staging directory.

**hibernate-3.2.1.ga.jar**

**junit-3.8.1.jar**

An object/relational persistence and query service

*License:*

<http://sourceforge.net/projects/hibernate>

*Download:*

[http://downloads.sourceforge.net/hibernate/hibernate-3.2.1.ga.zip?modtime=1163747006&big\\_mirror=1](http://downloads.sourceforge.net/hibernate/hibernate-3.2.1.ga.zip?modtime=1163747006&big_mirror=1)



**hibernate-annotations-3.2.1.ga.jar**

An object/relational persistence and query service

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<http://sourceforge.net/projects/hibernate>

*Download:*

[http://downloads.sourceforge.net/hibernate/hibernate-annotations-3.2.1.GA.zip?modtime=1165606774&big\\_mirror=1](http://downloads.sourceforge.net/hibernate/hibernate-annotations-3.2.1.GA.zip?modtime=1165606774&big_mirror=1)

**hibernate-entitymanager-3.2.1.ga.jar****jboss-archive-browsing-5.0.0alpha-200607201-119.jar****javassist-3.3.ga.jar**

An object/relational persistence and query service

*License:*

<http://sourceforge.net/projects/hibernate/>

*Download:*

[http://downloads.sourceforge.net/hibernate/hibernate-entitymanager-3.2.1.GA.zip?modtime=1165606463&big\\_mirror=1](http://downloads.sourceforge.net/hibernate/hibernate-entitymanager-3.2.1.GA.zip?modtime=1165606463&big_mirror=1)

**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](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****javadb-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](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](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*.

4. Beneath the `lib_stage` subdirectory of your staging directory, create the following subdirectory: `edtftpj-1.5.3/lib`
5. Download one more open-architecture file to the `lib_stage/edtftpj-1.5.3/lib` subdirectory of your staging directory (which you created in step 4):

**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.jar* (all lower case).

## Performing the Installation

When the necessary files are downloaded, complete these steps:

1. Shut down the Tomcat application server.
2. Run one of the preinstall scripts, located in your staging directory:
  - If you are installing on a Linux server, change the permissions on `preinstall.sh` to execute, and run the file from the command line.
  - If you are installing on a Windows server, run `preinstall.bat` from the command prompt.
3. 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 version 8.0 or 8.0.1, use the directory already established as the Report Repository. In either case, make a note of 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.)

4. If you are upgrading from version 8.0 or 8.0.1, remove the directory *TomcatHome/webapps/ags*, and all its contents. (In this path, replace *TomcatHome* with the full path to the highest-level directory in which Tomcat components are installed.) If you are performing a new installation, the `ags` subdirectory does not yet exist; skip this step.
5. Copy the file `ags.war` from your staging directory to *TomcatHome/webapps*. (Again, replace *TomcatHome* with the full path to the highest-level directory in which Tomcat components are installed.) If you are upgrading from version 8.0 or 8.0.1, this copy operation overwrites an older version of `ags.war`.
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, replacing *TomcatHome* with the full path to the highest-level directory in which Tomcat components are installed.

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
-Xmx2048M -XX:MaxPermSize=256m -XX:+UseParallelGC
-Djava.awt.headless=true"
export CATALINA_OPTS
```

- If you are installing on a Windows server, locate the *catalina.bat* file in the *bin* subdirectory of the Tomcat home directory. Add the following lines at the top of the file, replacing *TomcatHome* with the full path to the highest-level directory in which Tomcat components are installed.

For a 32-bit server:

```
set JAVA_OPTS = -Xss512k -Xms256M -Xmx2048M
-XX:MaxPermSize=256m %JAVA_OPTS%
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 -Xmx2048M
-XX:MaxPermSize=256m -XX:+UseParallelGC %JAVA_OPTS%
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%
```

7. Start the Tomcat application server.
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 Properties tab, supply the following information about the Application Access Controls Governor database. (If you are upgrading from version 8.0 or 8.0.1, these

correspond to values you recorded in “Noting Your Current Settings” on page 2-1.)

- Schema 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 3. (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.)

Note that the following version-8.0 parameters are no longer used:  
`ag.connection.driver_class`, `ag.connection.url`, `ag.report.output.path`,  
`ag.hibernate.dialect`, and `ag.etl.home.path`.

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, and shut down the Tomcat application server.
12. Start the Tomcat application server.
13. 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).
14. Examine the progress meter displayed on the web browser, and wait for it to complete. The progress meter may take several minutes to appear.
15. Shut down the Tomcat application server, and then restart it.

## 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
hibernate-3.2.1.ga.jar	c2a000167d6d17c0e75740744aa7cb62
junit-3.8.1.jar	1f40fb782a4f2cf78f161d32670f7a3a
hibernate-annotations-3.2.1.ga.jar	120ec35e28262cfe965cfb3f062995c1
hibernate-entitymanager-3.2.1.ga.jar	b22cb3a16e20e3b8ddb76bdbcbcb2b363
jboss-archive-browsing-5.0.0alpha-200607201-119.jar	e962e7fa94ea646ea75241325a613d4d
javassist-3.3.ga.jar	176bb5afee8cb886f2f8942f55ea1dc5
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
javabf-2.5.jar	eb4da2d1f8ba245a2cc6605d50c64f9f
js-2.5.jar	b9c260c5b03c0e8511119a7fb87650d8
edtFTPj-1.5.3.jar	5273ebd698dd7268732a554d47e655b0
xpp3_min-1.1.3.4.O.jar	58908507281834b123024eb6d9be0b7e

## AACG Log

During installation, an Application Access Controls Governor log records information about the installation process. You can access the log at the following path, in which, once again, *TomcatHome* represents full path to the highest-level directory in which Tomcat components are installed.

```
TomcatHome/webapps/ags/log/ags.log
```

## 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.

You can determine the information AACG uses to create global users:

- `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 2-9) if you wish to use the default `EMAIL_ONLY` configuration and either of the following is true:

- You are upgrading from an earlier 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 version 8.0 or 8.0.1, 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. You would need to run this statement only if you had 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 version 8.0 or 8.0.1, 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 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 the global-user configuration is complete, establish connectivity between Application Access Controls Governor and 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.
  - Connect String: If your instance uses an Oracle database, use the following value, in which *Hostname* is the value you entered in the Host Name field, *Port* is the value you entered in the Port field, and *SID* is the service identifier for the database used by the business-management application. (If your instance uses a database other than Oracle, supply the correct connect string for it.)

```
jdbc:oracle:thin@Hostname:Port:SID
```
  - 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.
  - Driver: If your instance uses an Oracle database, supply the following value. Otherwise, supply the appropriate driver for your database.

```
oracle.jdbc.driver.OracleDriver
```
  - Schema Name: Enter the name for the database schema used by your instance. In an Oracle database, this is the same as the User Name.
  - 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.

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.



---

## Installing Provisioning Embedded Agents

In support of the AACG User Provisioning feature, install Provisioning Embedded Agents (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 (12.0.0) are supported.

This chapter describes the use of an automated PEA installer, but also describes a manual PEA installation process. It's recommended that you attempt the automated installation first, as it's simpler. However, because the configuration of Oracle EBS environments can vary widely, it's possible that yours will 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. The PEA installation places (among other things) three concurrent programs on your EBS instance; after installation, you'll run one of them to prepare your EBS instance for AACG processing.

### 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 PEA, you'll be required to 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, but it's recommended 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 8.1.

### 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 1 in your Oracle media pack. On it locate `ag-pea-installation-8.1-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` and `forms`, each of which contains files, and `lib`, which contains the file `ag-pea-8.1.0-SNAPSHOT.jar`. Also, files called `ag-pea-installation-8.1.0-SNAPSHOT.jar`, `install.properties`, `pea.properties`, and `installation_instructions.txt` 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.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 8.1. 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.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 5 *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).

3. If you are performing the automated installation, also use a text editor to open and edit the `install.properties` file in the staging directory. (If you are performing the 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 the Embedded Agents installed on your Oracle EBS instance. Typically, this value is `XXLAAPPS`.
  - `XXLAAPPS_PASSWORD=XXLAAPPS_password`  
Supply the password for the Embedded Agents 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 User Provisioning requests to AACG when communications between the EBS instance have been interrupted, then restored. The recommended value for both programs is *30*.
4. Execute the environment file, it is not included in the profile. Execute 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-8.1.0-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, and skip ahead to “Postinstallation Steps” on page 3-6.
  - 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 the Embedded Agents, you selected XXLAAAPS as the application short name, and the environment variable shown in this command — \$XXLAAPPS\_TOP — is correct. If you selected another application short name as you installed the Embedded Agents, 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 the Embedded Agents. 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 3-3).

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

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

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

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

Execute the following command to execute the AACG User Provisioning Data Source Setter concurrent program:

```
sqlplus appsSchemaName/appsSchemaPassword  
@db/aacgdatasource.sql XXLAAAPPSUserName
```

## 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 the Embedded Agents.

```
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 command. This command should not error out:

```
loadjava
```

3. Execute the following command to load the pea jar into the database. In this step (and step 4), *appsUserName* and *appsUserPassword* are the user name and password for the database used by Oracle E-Business Suite.

```
loadjava -user appsUserName/appsPassword -verbose  
-resolve lib/ag-pea-8.1.0-SNAPSHOT.jar
```

4. 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 AACG User Provisioning Data Source Setter concurrent program. (Before doing so, however, be sure that you have configured your Oracle EBS instance as a data source in AACG, and have run data synchronization for it. See “Configuring Data Sources” on page 2-9.)

1. Log on to the System Administrator responsibility in Oracle E-Business Suite.
2. Select GRC Controls under Administration. The select Requests: Run.
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 AACG User Provisioning Data Source Setter.
5. A Parameter window appears. In it, enter the Host Name, Port, and Data Source Name displayed in the Data Administration panel of Application Access Controls Governor for this instance of Oracle E-Business Suite. Click 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 Requests form: click on the × symbol in its upper right corner.