

Oracle® Transaction Controls Governor
Installation Guide
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Oracle Transaction Controls Governor Installation Guide

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Installation Overview

Oracle Transaction Controls Governor (TCG) documents and enforces business controls, enabling users to demonstrate regulatory compliance and to promote operational efficiency. Some principal TCG components include a control library, in which controls are documented; control monitors, which can automate the enforcement of controls defined in the control library; and Access Monitoring, through which users can be granted temporary (and audited) access to duties in Oracle E-Business Suite that they do not perform ordinarily.

The process of installing TCG includes:

- Placing a Transaction Controls Governor platform on a Linux or UNIX server.
- Installing Oracle BI Publisher Enterprise 10.1.3.4.0 or later, either on the server used for the TCG platform, or on its own server.
- Setting up TCG reports that run within the Oracle BI Publisher Enterprise instance.
- Completing permissions, licensing, connectivity, and other configuration steps in the TCG platform.

To use the Access Monitoring feature, you must also install a related product, Preventive Controls Governor, on each instance of Oracle E-Business Suite that is to be subject to Access Monitoring. See the *Preventive Controls Governor Installation Guide* for version 7.3.

Supported Operating Systems

Transaction Controls Governor runs on a server with Red Hat Enterprise Linux 4.0, Solaris SPARC 9, or Solaris SPARC 10. For detailed information about supported operating systems, see the *Oracle Governance, Risk, and Compliance Controls Suite Compatibility Matrix*.

Hardware Requirements

A Solaris or Linux server should meet the following requirements to run the TCG platform:

- Random-access memory (RAM): 3 gigabytes (GB)
- Hard-disk space: For a single-node installation, 40 GB of space on mirrored SCSI disks — 8 GB for a staging directory, 4 GB for a platform web tier, and 2 GB for database metadata.

If you use Red Hat Enterprise Linux 4.0, your system must have at least Dual CPU (Xeon preferred), 2.5 GHz or faster.

If you use Solaris 9 or 10, your system must have at least SPARC v8plus.

The database that serves TCG must have at least 1.5 GB of storage for tables for the TCG platform schema.

Software Requirements

Version 7.3 of Governance, Risk, and Compliance Controls Suite is certified for Oracle E-Business Suite version 11.5.10, and supports versions 12.04 and 11.5.9.

The TCG platform requires an Oracle 9i (or later) database.

Apache Tomcat 5.0 must be installed on the server that hosts TCG.

Internet Explorer 6.0 or later can display the TCG platform and run BI Publisher Enterprise.

Installing the Platform

To install the Transaction Controls Governor platform, first complete preparatory steps, including the installation of Tomcat application server 5.0. Then load files to a staging directory, edit some of them for use, and perform the installation.

Preparing to Install

Before installing, complete the following steps:

1. Ensure that an Oracle database exists for use by TCG. Create a database user for it; the recommended name is `XXLAAPPS_AG`. Grant this user the `CONNECT` and `RESOURCE` roles, set to `DEFAULT`. Also grant this user the `CREATE VIEW` and `CREATE SYNONYM` privileges, as well as access privileges to the `v$instance` table.
2. Determine the following values, which you will need during the installation:
 - The host name of the SMTP server your company uses for sending email.
 - The host name, port number, SID, user (schema) name, and password for the database used by TCG.
 - The host name, port number, SID, user (schema) name, and password for the database used by an Oracle E-Business Suite instance in which Preventive Controls Governor has been installed to run.
3. Determine whether ports 8005, 8080, and 8443 are available on the host. (The installation procedure uses these ports by default. If any are already in use, you'll need to substitute for them during installation.)
4. Install Apache Tomcat 5.0, if it is not already installed (see below).
5. Create a TCG user on the host Linux or UNIX operating system. The recommended name is `lapps`. The user need not belong to any group. As you complete the procedures in this chapter, log on as this user.
6. Create the following directories on the host. Ensure that the user created in step 5 owns these directories and has read and write permission to them:
 - A base directory. In this document, the name `$LAPPS_BASE` represents the full path to this directory (for example, `/opt/lapps`).
 - A staging directory, which is an immediate subdirectory of `$LAPPS_BASE`. In this document, the name `$LAPPS_STAGE` represents the full path to this directory (for example, `/opt/lapps/stage`).

- A home directory, which is an immediate subdirectory of \$LAPPS_BASE. In this document, the name \$LAPPS_AG_HOME represents the full path to this directory (for example /opt/lapps/tcg).
- Temporary directories: \$LAPPS_BASE/tmp and \$LAPPS_BASE/tmpdir. These could be links to any designated temporary directory on the host.

Installing Tomcat

Apache Tomcat 5.0 must be installed on the server that hosts TCG. Refer to Apache Tomcat documentation for further details on installation.

In this document, CATALINA_HOME represents the entire path to the directory in which you have installed Apache Tomcat.

You can download Apache Tomcat 5.0 from:

<http://archive.apache.org/dist/tomcat/tomcat-5/v5.0.28/bin/jakarta-tomcat-5.0.28.tar.gz>

Loading Files in the Staging Directory

To prepare the files you will use to install TCG:

1. Locate the file tcg_73.zip in the dist directory of the Governance, Risk and Compliance Controls Suite Disk in your Oracle media pack. Copy the file to your \$LAPPS_STAGE directory, and extract its contents there.
2. Certain open-architecture files are required. To acquire them, download files from the following sites to your \$LAPPS_STAGE/lib_stage directory:

hibernate-3.0.5.jar

An object/relational persistence and query service

License:

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

Download:

http://downloads.sourceforge.net/hibernate/hibernate-3.0.5.zip?modtime=1117034763&big_mirror=1

jBPM

A platform for executable process languages

License:

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

Download:

<http://team.andromda.org/maven2/org/jbpm/jbpm/3.0/jbpm-3.0.jar>
<http://team.andromda.org/maven2/org/jbpm/jbpm-identity/3.0/jbpm-identity-3.0.jar>

junit-3.8.1.jar

A simple framework for writing and running automated tests.

License:

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

Download:

http://downloads.sourceforge.net/junit/junit3.8.1.zip?modtime=1031097600&big_mirror=0

xpp3-1.1.3.4d_b4_min.jar

A streaming pull XML parser

License:

```
http://www.extreme.indiana.edu/viewcvs/~checkout~/XPP3/
java/LICENSE.txt
```

Download:

```
http://www.ibiblio.org/maven/mule/dependencies/xpp3/
1.1.3.4d_b4_min/xpp3-1.1.3.4d_b4_min.jar
```

3. When this download is complete, run the script `preinstall.sh` from your `$LAPPS_STAGE` directory.

Editing and Running the Environment File

To source your environment, edit and run a `tcg.env` file. (In steps 1, 5, and 6, substitute actual paths for the environment variables.)

1. Navigate to the infrastructure directory.

```
cd $LAPPS_STAGE/tcg_infrastructure
```
2. Using a text editor, open the `tcg.env` file in the infrastructure directory.
3. Set the `LAPPS_BASE`, `LAPPS_STAGE`, and `LAPPS_AG_HOME` entries to the full paths to your base, staging, and home directories. Set the `CATALINA_HOME` entry to the full path to the directory in which Apache Tomcat is installed.

Each path ends in a semicolon, followed by a phrase comprising the word *export*, the environment-variable name, and another semicolon. Retain these elements. For example, if the base directory is `/opt/lapps`, the base-directory entry reads:

```
LAPPS_BASE=/opt/lapps; export LAPPS_BASE;
```

4. Save and close the file
5. Copy `tcg.env` to your home directory:

```
cp tcg.env $LAPPS_AG_HOME
```

6. Navigate to the home directory and run the file:

```
cd $LAPPS_AG_HOME
. tcg.env
```

Installing the TCG Schema

To create schema objects and seeded data for TCG, copy and edit TCG files. Extract and configure schema-installation files for TCG, and then execute the schema installation.

Copying and Editing TCG Files

Put TCG files in place and prepare them:

1. Shut down the Tomcat application server:

```
&CATALINA_HOME/bin/shutdown.sh
```

2. Copy files from subdirectories of the staging directory to subdirectories of the home directory. Execute the following commands. (In the first command, a .war file name contains italicized placeholders that stand for version, schema, and build numbers. Replace these with the actual numbers, which you can determine by viewing a directory listing for the staging directory.)

```
cp $LAPPS_STAGE/tcg_7_3_snnn_bnn_ga.war
$CATALINA_HOME/webapps/tcg.war

cp $LAPPS_STAGE/tcg_infrastructure/post-install/tcg.xml
$CATALINA_HOME/conf/Catalina/localhost

cp $LAPPS_STAGE/tcg_infrastructure/post-install/*.jar
$CATALINA_HOME/common/lib/
```

3. Navigate to the directory containing the tcg.xml file:

```
cd $CATALINA_HOME/conf/Catalina/localhost
```

4. Using an xml editor, open tcg.xml and perform the following edits. Each entry goes between `<value>` and `</value>` tags corresponding to each parameter.

- Locate the section headed `<ResourceParams name="mail/Session">`. In it, locate the `mail.smtp.host` parameter and, for its value, insert the host name of the SMTP server your company uses for sending email.

- Locate the section headed `<ResourceParams name="jdbc/onecenterDS">`. In it, locate the following parameters and supply these values for them:

driverClassName parameter. Insert the following string:

```
oracle.jdbc.driver.OracleDriver
```

url parameter. Insert the following string. In place of *Hostname*, *Port*, and *SID*, insert actual values for the TCG database.

```
jdbc:oracle:thin:@Hostname:Port:SID
```

username parameter. Supply the user name for the TCG database. It must match the name you created in step 1 on page 2-1.

password parameter. Supply the password for the TCG database user identified by the username parameter.

- Locate the section headed `<ResourceParams name="jdbc/appsaccessDS">`. In it, locate the following parameters and supply these values for them:

driverClassName parameter. Insert the following string:

```
oracle.jdbc.driver.OracleDriver
```

url parameter. Insert the following string. In place of *Hostname*, *Port*, and *SID*, insert actual values for the database used by an Oracle EBS instance in which Preventive Controls Governor has been installed to run:

```
jdbc:oracle:thin:@Hostname:Port:SID
```

username parameter. Supply the user name for the database used by the Oracle EBS instance in which Preventive Controls Governor has been installed to run. (Conventionally, this is APPS.)

password parameter. Supply the password for the database used by the Oracle EBS instance in which Embedded Agents have been installed to run.

Save and close the file.

Preparing Schema Installation Files

To configure schema installation properties:

1. Navigate to an installation subdirectory of your \$LAPPS_STAGE directory, and set permissions within it:

```
cd $LAPPS_STAGE/tcg_install
chmod +x permissions.sh
./permissions.sh
```

2. Navigate to a configuration subdirectory of the installation directory. In it, create a copy of a generic properties file so that the copy can be customized. (In the second command, replace the value *hostname* with the name for the server on which you are installing TCG.)

```
cd config
cp filters-localhost.properties filters-hostname.properties
```

3. Using a text editor, open the *filters-*hostname*.properties* file and edit the following. (Accept default values for all properties not listed here.)

- *hibernate.connection.url*: Supply the connect string that TCG will use to connect to its database. Use the following, but provide actual values for the *Host*, *Port*, and *SID* placeholders.

```
jdbc:oracle:thin:@Host:Port:SID
```

- *hibernate.connection.username*: Supply the user name for the TCG database. It must match the name created in step 1 on page 2-1.
- *hibernate.connection.password*: Supply the password for the TCG database.
- Other hibernate properties. Ensure that the following properties are set as shown:

```
hibernate.connection.driver_class=
oracle.jdbc.driver.OracleDriver
hibernate.dialect=org.hibernate.dialect.OracleDialect
hibernate.aa.dialect=org.hibernate.dialect.OracleDialect
```

- *log4j.filepath*: Supply the value *tcg.log*, with no path. This is a log file that records errors in processing during installation.
- *appserver.hostname*: Enter the host name and port number for the TCG server, separated by a colon. If you accepted default port values during installation, the port value here is 8080.
- *callbackhost*: Enter the following value. In place of the *host* and *port* placeholders, substitute the same host name and port values as you used for the *appserver.hostname* value:

```
http://host:port/tcg
```

- Quartz properties. Ensure that the following properties are set as shown:

```
quartz.jobStore.driverDelegateClass=
org.quartz.impl.jdbcjobstore.StdJDBCDelegate
quartz.schema.file=/tables_oracle.sql
```

Save and close the file.

4. Navigate back to the installation directory:

```
cd $LAPPS_STAGE/tcg_install
```
5. Open the build.properties file. In its `config=bundle` line, replace `bundle` with the host name you used in the `filters-hostname.properties` file (step 3). Save the file.

Completing the Schema Installation

To complete TCG schema installation:

1. If you have not yet shut down the Tomcat application server, do so:

```
$CATALINA_HOME/bin/shutdown.sh
```

Even if you have, you should confirm that Tomcat is not running. Execute the following command; Tomcat is not running if it produces no results.

```
run ps -ef | grep tomcat
```
2. Run the TCG installation script. Execute the following commands, and answer yes to a prompt to continue executing the script

```
everything.sh
```
3. When the script finishes running, restart the Tomcat application server. Execute the following command:

```
$CATALINA_HOME/bin/startup.sh
```

Running a Reporting Script

The proper installation of Access Monitoring reports requires that a script be run against the `XXLAAPPS_AG` schema. The script is called `AccessMonitorReports_Script.SQL`, and is located in the `$LAPPS_STAGE/tcg_install/schema` directory.

Setting Up the TCG Log

Finally, create a log, maintained by Tomcat, that records errors in processing by the TCG platform:

1. Copy a logging properties file from your staging directory to a directory on your server. Execute this command:

```
cp $LAPPS_STAGE/tcg_infrastructure/post-install/log4j.properties  
$LAPPS_AG_HOME/bobje/tomcat/webapps/tcg/WEB-INF/classes
```
2. Navigate to the directory containing the `log4j.properties` file:

```
cd $LAPPS_AG_HOME/bobje/tomcat/webapps/tcg/WEB-INF/classes
```
3. Using a text editor, open `log4j.properties`. In it, locate a property called `log4j.appender.file.File`. Set it equal to the following path and file name:

```
$LAPPS_AG_HOME/bobje/tomcat/logs/tcg.log
```
4. Optionally, also set a series of `log4j.logger.com.logicalapps.onecenter` properties to values that determine the level of detail in log entries. From least to greatest, options are `ERROR`, `WARN`, `INFO`, and `DEBUG` (the default).

At any time, execute the following command to look for errors in the `tcg.log` file:

```
grep -i ERR $LAPPS_AG_HOME/bobje/tomcat/logs/tcg.log
```

Configuring Reports

To implement Transaction Controls Governor reporting, you must install Oracle BI Publishers Enterprise version 10.1.3.4.0, then set up TCG reports.

Installing BI Publisher Enterprise

You can install BI Publisher Enterprise on the server that hosts Transaction Controls Governor or elsewhere, although the former is preferred. To do so, use the file `OBIP_10134_os.zip` (in which *os* represents the operating system on which you are installing). It's located in the `dist` directory of the Governance, Risk, and Compliance Controls Suite Disk in your Oracle media pack.

Use the Oracle Universal Installer to perform the basic installation. For instructions, refer to Oracle BI Publisher Enterprise documentation, which is available from:

<http://www.oracle.com/technology/products/xml-publisher/xmlpdocs.html>

Setting Up TCG Reports

When BI Publisher Enterprise has been installed, you must set up Transaction Controls Governor reports. To do so, complete the following procedures.

Load Files

Locate the file `p7577752_730_Generic.zip` in the `dist` directory of the Governance, Risk, and Compliance Controls Suite Disk in your Oracle media pack. Copy the file to your `$LAPPS_STAGE` directory, and extract its contents there.

This produces a Report Center folder. Copy it (and its contents) to `BIP_HOME/xmlp/XMLP/Reports`. (In this path, replace *BIP_HOME* with the full path to the highest-level directory in which BI Publisher Enterprise components are installed.)

Log On to BI Publisher Enterprise

To complete the remaining procedures, open your web browser and log on to BI Publisher Enterprise. Use the following URL; replace *servername* with the name of

the server on which you have installed BI Publisher Enterprise, and *port* with the port number at which it communicates with other applications:

```
http://servername:port/xmlpserver
```

You are prompted for a username and password. Supply the value *Administrator* for each.

For security purposes, you should change the password for the Administrator user:

1. Click on the Admin tab.
2. Click on the User link under Security Center.
3. Select the Administrator user.
4. Change the password value for the Administrator user.
5. Click on Apply to save the change.
6. Log off BI Publisher Enterprise, and use the new Administrator credentials to log back on.

Create Data Source Connections

Create a minimum of two data source connections. One connects BI Publisher Enterprise with the Transaction Controls Governor database schema. Each of the others connects BI Publisher Enterprise with the schema for an instance of Preventive Controls Governor (which, in turn, affects an Oracle EBS instance in which Access Monitoring is implemented).

To create a data source connection

1. In BI Publisher Enterprise, click on the Admin tab.
2. Under Data Sources, click on the JDBC Connection link.
3. Click on the Add Connection button.
4. In fields on an Add Connection panel, supply the following values:
 - Data Source Name. Assign a name to the data source connection. You can create any name for a connection, but the following format is recommended: For the connection to the TCG schema, *HOSTNAME-TCG-DS*, and for each connection to a PCG instance, *HOSTNAME-USERNAME-DS*. In each, *HOSTNAME* represents the name of the database server that hosts the schema. In the latter, *USERNAME* represents the username for the PCG schema — typically *XXLAAPPS*.
 - URL: Supply the following value:

```
jdbc:oracle:thin@HOSTNAME:PORT:SID
```

In this string, *HOSTNAME* once again represents the name of the database server that hosts the schema; *PORT* represents the number of the port at which it communicates with other applications; and *SID* represents the service identifier configured for it in the *tnsnames.ora* file.
 - Username: For the connection to the TCG schema, supply its configured username (see step 1 on page 2-1). For each connection to a PCG instance, supply the username for the PCG schema — typically, once again, *XXLAAPPS*.

- Password: Supply the password configured for the username identified in the previous parameter.
 - Database Driver Class: Supply the following value:

```
oracle.jdbc.driver.OracleDriver
```
5. Click the Test Connection button to confirm that the connection is established.
 6. If not, correct the parameters you entered in step 4. If the test is successful, click on the Apply button to create the connection.

Assign Data Source Connections to Reports

Assign the *HOSTNAME-TCG-DS* connection to each of three reports: Access Monitoring Request, Control Monitor Detail, and User Suspects Details. Assign each of the PCG-schema connections to a fourth report, Access Monitoring User Activity.

Complete the following procedure for each of the reports:

1. Click on the Reports tab, and then on the Report Center folder.
2. Click on a subfolder that contains the report to which you want to assign a connection.
 - The Control Monitor Detail and User Suspects Detail reports reside in a folder called Control Administration Reports.
 - The Access Monitoring Request and Access Monitoring User Activity reports reside in a folder called Access Monitoring Reports.
3. Click on the Edit link under the name of the report to which you want to assign a connection.
4. A two-pane Report Properties panel appears. Click on the Report tab in the left pane.
5. In a Default Data Source field in the right pane, select the data source connection you want to assign to the report.
 - Select *HOSTNAME-TCG-DS* for each of the Access Monitoring Request, Control Monitor Detail, and User Suspects Details reports.
 - Select a PCG-schema connection for the Access Monitoring User Activity Report.
6. In the left pane, expand the List of Values node (click on its + sign).
7. In the left pane, select (click on) one of the child objects beneath the List of Values node (for example, *P_SYSTEM*). In the right pane, a Type field displays either the value *SQL Query* or the value *Fixed Data*.
 - If the Type value is *SQL Query*, locate a Connection field and, in it, select the data source connection you want to assign to the report you selected in step 3. Click the Save button.
 - If the Type value is *Fixed Data*, do nothing here and proceed to the next step.
8. Repeat step 7 for each of the child objects beneath the List of Values node in the left pane.

Administer a TCG Report User and Roles

You must create a report user and role, and associate the two (as well as an existing scheduling role) with one another. To create a report user:

1. In BI Publisher Enterprise, click on the Admin tab.
2. Under Security Center, click on the Users link.
3. Click on the Create User button.
4. In the Username field, enter a user name, such as *TCG_Reporter*. In the Password field, enter a password value.
5. Click on the Apply button.

Next, create a role and associate it with the Report Center folder:

1. In the Security Center panel, click on the Roles and Permissions tab.
2. Click on the Create Role button.
3. In the Name field, enter a name for the role — for example, *tcg_reporter*. Optionally, enter a description of the role in the Description field.
4. Click on the Apply button.
5. A row representing the role appears in the Roles and Permissions panel. In its Add folders cell, click on the icon.
6. An Add Folders panel appears. In an Available Folders field, click on Report Center, and then click on the > button to move the role to the Allowed Folders field.
7. Click on the Apply button.

Finally, apply roles to the user you've created:

1. In the Security Center panel, click on the Users tab.
2. Locate the row for the user you created. In the Assign Roles cell, click on the icon.
3. An Assign Roles panel appears. In an Available Roles field, select the *tcg_reporter* role you created, and then click on the > button to move the role to the Allowed Roles field.
4. In the Available Roles field, click on *BI Publisher Scheduler*. Then click on the > button to move the role to the Allowed Roles field.
5. Click on the Apply button.

Configure Destinations

You may configure BI Publisher Enterprise so that Transaction Controls Governor users can send reports to “destinations,” which include printers, fax machines, email, ftp, and other options. To do so:

1. In the Admin tab, return to the Home panel.
2. In the Delivery section, click on the link for the destination you want to set up, and respond to prompts to configure that destination.

To log off of BI Publisher Enterprise, click the Sign Out link.

Configure Report Scheduling

You may configure BI Publisher Enterprise so that Transaction Controls Governor users can schedule reports to be run automatically at regular intervals. To do so:

1. Create a new user/schema in the Oracle database that hosts the Transaction Controls Governor schema. (For example, the username might be *XMLP* and the password might be *welcome*.)
2. Log on to BI Publisher Enterprise, and click on the Admin tab.
3. Under System Maintenance, click on the Scheduler Configuration link.
4. Enter values for the following fields:
 - Connection String. Enter the following value:
`jdbc:oracle:thin@hostname:port:SID`
In this string, *HOSTNAME* represents the name of the database server that hosts the schema you created in step 1; *PORT* represents the number of the port at which it communicates with other applications; and *SID* represents the service identifier configured for it in the *tnsnames.ora* file.
 - Username. Enter the username for the schema you created in step 1 (for example, *XMLP*).
 - Password. Enter the password for the schema you created in step 1 (for example, *welcome*).
 - Database Driver Class. Enter the following value:
`oracle.jdbc.driver.OracleDriver`
5. Click the Test Connection button to confirm that the connection is established.
6. If not, correct the parameters you entered in step 4. If the test is successful, click on the Install Schema button.
7. When you receive a confirmation message — “Schema installed successfully” — click on the Apply button.
8. Restart the server for the changes to take effect.

Configuring the TCG Platform

Once the TCG platform is installed and reports are configured, several configuration steps remain. These include:

- Configuring licenses.
- Setting properties.
- Configuring data sources.
- Importing control monitors.
- Creating database users, and enabling database tables for auditing, to prepare the Access Monitoring feature of Transaction Controls Governor for use.
- Assigning a user to a default workflow routing, and activating the routing.

Configuring Licenses

To run platform applications, you need to install license files.

1. Log on to the GRC Controls Suite platform. Use the following URL:
`http://Host:Port/tcg`
Replace *Host* with the host name of your TCG platform server. Replace *Port* with number for the port at which it communicates with other applications (8080 if you accepted default values).
2. Log on as a System Administrator, for which the user name and password are both *admin*.
3. Click on the Administration tab and, in the Administration Home page, the Manage Licenses link.
4. In the Organization Name field, type Oracle.
5. In your Oracle media pack, locate the Governance, Risk, and Compliance Controls Suite Disk. Insert it in the drive of the computer from which you are working.
6. For each license you choose to implement, enter the path and name for the license file in the appropriate License Information field. License files are

located in the licenses directory of the Governance, Risk, and Compliance Controls Suite disk. Their names are as follows:

- platform.lic for the platform itself
- dataGovernor.lic for Preventive Controls Governor
- policyGovernor.lic for Transaction Controls Governor

You can either type the path and name for each license file, or select the Browse button and navigate to the file.

7. Click on the Save button.

Setting Properties

From the Administration tab of the platform, you can also select a Manage Configuration Properties link to view or set properties for the application. Generally, you can accept default values, but you may choose to confirm that values are set correctly, or reset some values.

Several properties are set automatically to values you chose while completing server-installation procedures. You need not change them. These include the following:

- adminUser
- appserver.hostname
- callbackhost

Ensure that the following have been set properly. If not, supply correct values:

- bip.server: The name of the server on which you installed the PI Publishing Enterprise instance that runs TCG reports.
- bip.serverPort: The port number at which the server communicates with applications.
- bip.username: The name of the report user configured in “Administer a TCG Report User and Roles” on page 3-4).
- bip.password: The password of the report user specified in the previous property.

The following properties can take the following values:

- datasources.connection.pool.min.size and datasources.connection.pool.size: These two properties combine to designate the number of simultaneous connections that the platform opens to its database. The number of connections is always at least the number set by the “min.size” property. Additional connections open on demand, up to the number set by the “size” property (and so it must always be set to a larger number than the “min.size” value).

In effect, these properties set the number of users who retrieve data from or save data at once to the database used by the platform, each using a connection only for the brief time required to complete one of those operations. The number of users employing connections at a given moment is much smaller than the number logged on to the platform. The default values — 3 for the “min.size” property and 10 for the “size” property — typically need not be changed.

- `email.returnAddress`: This sets the “from” address used in email messages sent by the GRC Controls Suite workflow system to users notifying them that approval tasks have been assigned to them.
- `exception.link.show`: This determines whether error messages contain a link that activates a display of detailed information about database errors. Valid values are *true* (the default) and *false*.
- `Licensee`: This must be set to the same value as the Organization Name field on the Manage Licenses panel. (See the preceding section, “Configuring Licenses.”)
- `pagination.show.all`: The platform presents lists of items in grids, the footer row of which contains a Show Results list box that determines how many rows a grid displays at once. (The grid entries are divided into pages, each of which consists of the number of rows chosen for display.) In the Show Results list box, one can choose the value *All*. Because an attempt to display all records, no matter how many, in a single page can harm performance, the `pagination.show.all` parameter sets a limit on the number of records returned when a user selects the Show All Results option in a list. The default value is 1,000.
- `suspect.query.timeout`: This property sets the amount of time a control monitor may run before it times out. If control monitors fail to return suspects, try setting a larger value for `suspect.query.timeout` — its unit of measurement is seconds, and its default value is 3600.

The platform contains tabs that activate panels in which users work with various functions. The remaining properties determine which tabs are available for selection. Valid values are *true*, which present the tab to all users, and *false*, which hides the tab from all users. These include:

- `tab.accessmonitor.visible`: Access Monitoring
- `tab.controlmonitor.visible`: Control Automation
- `tab.controls.visible`: Control Library
- `tab.home.visible`: Home
- `tab.reports.visible`: Reporting

To set properties:

1. In the TCG platform, click on the Administration tab.
2. In the Administration home, click on the Manage Configuration Properties link. A list properties panel opens.
3. Locate the property you want to set, and click on its name in the Key column. An Edit Property panel opens.
4. Enter a new value in the Property Value field, and click on the Save button. The focus returns to the List Properties panel, with the new setting displayed.

Configuring Data Sources

During server installation, you supplied information required for the TCG form to connect to an APPS database for an instance of Oracle E-Business Suite in which the Preventive Controls Governor runs. You need now to use a Data Sources feature of

the platform to supply the information again. You can also use this feature to set up additional Oracle EBS/PCG data sources. The information you enter in the Data Sources panels is used by the Access Monitoring feature.

1. In the platform, click on the Administration tab.
2. In the Administration home, click on the Manage Data Sources link.
3. A Data Sources panel opens. To create a new data source, click on the Add Data Source button; an Add Data Source panel (shown below) opens. To edit an existing data source, click on its name; a View Data Source panel opens, in which you would click on an Edit Data Source button. An Edit Data Source panel opens; it's identical to the Add Data Source panel, except that it displays current values for the selected data source.

The screenshot shows the 'Add Data Source' form in the Oracle GRC Controls Suite. The form is titled 'ORACLE Governance, Risk, and Compliance Controls Suite' and includes a navigation menu with 'Home', 'Control Library', 'Control Automation', 'Segregation of Duties', 'Access Monitoring', 'Reporting', and 'Administration'. The breadcrumb trail is 'Home > Administration > Data Sources > Add Data Source'. The form fields are as follows:

- Label ***: A text input field.
- Description ***: A text input field.
- Type of Provider ***: A dropdown menu with 'JDBC Provider (for relational databases)' selected.
- JDBC Driver ***: A text input field with the value 'oracle.jdbc.driver.OracleDriver' and a tooltip 'Class for JDBC Driver (oracle.jdbc.driver.OracleDriver)'. A red asterisk indicates it is required.
- Default Schema ***: A text input field with a tooltip 'Name of default schema (case sensitive)'. A red asterisk indicates it is required.
- Database URL ***: A text input field with a tooltip 'Database URL (i.e., jdbc:oracle:thin:@hostname:port:sid)'. A red asterisk indicates it is required.
- Username ***: A text input field.
- Password ***: A text input field.
- Confirm Password ***: A text input field with a tooltip 'Please re-type your password'. A red asterisk indicates it is required.

At the bottom left, there is a legend: '* Required' and two buttons: 'Cancel' and 'Save'.

4. Supply these values:
 - **Label and Description.** Provide entries that name and describe the data source. The label will appear in a list box from which users can select data sources when they use the Access Monitoring feature.
 - **Type of Provider.** Accept the default:
`JDBC Provider (for relational databases)`
 - **JDBC Driver.** Always supply the following value:
`oracle.jdbc.driver.OracleDriver`
 - **Default Schema.** Provide the schema name of the APPS database for the instance of Oracle Applications in which the Embedded Agents run. Because this would be an Oracle database, this value should be the same as the value you will supply in the Username field (see below), and is conventionally APPS.
 - **Database URL.** Provide the JDBC connect string that GRC Controls Suite will use to connect to the APPS database for an instance of Oracle EBS in which the Embedded Agents run. This entry takes the following form, with actual values replacing the *Hostname*, *Port*, and *SID* placeholders:
`jdbc:oracle:thin:@Hostname:Port:SID`
 - **Username.** Supply the user name for the APPS database cited in the Database URL field. Conventionally, this value is APPS.
 - **Password and Confirm Password.** Supply the password configured for the database user identified by the Username entry.

5. Click on the Save button. The focus shifts to the View Data Source panel, which displays the values you've saved. In that panel, click on the Test Data Source button. A message either reports that the test is successful or reports errors; in the latter case, click on the Edit Data Source button to correct the errors.

Importing Control Monitors

A control monitor employs one or more statements, written in structured query language (SQL), that define actions subject to control. It establishes a sequence in which the statements are evaluated and the records they return are designated as “suspect tasks.” Each monitor is configured in Transaction Controls Governor.

A set of “prepackaged” control monitors comes with Transaction Controls Governor. To import them:

1. In your Oracle media pack, locate the Governance, Risk, and Compliance Controls Suite Disk. In its content/Transaction Controls Governor directory, locate the file `ag_723_monitors_oracle_ebs_11i.zip`. Copy the file to the staging directory on your TCG platform server.
2. Use an import feature in the GRC Controls Suite platform to extract control monitors from this file and to import them into Transaction Controls Governor.

See the *Control Monitors Reference Guide* for the complete procedure and for documentation of the prepackaged control monitors.

Preparing Access Monitoring

Access Monitoring enables TCG users to request temporary access to database tables or to Oracle responsibilities. Requests are subject to approval, and once they are approved, the access is continually audited. Access Monitoring maintains a set of user IDs for responsibility-access requests; as each user's access expires, his ID can be reused. However, a distinct set of IDs applies to database-table access, and a database administrator must create these database user IDs.

Each database user ID must begin with the letters *LAAG*. IDs may otherwise follow any format, but the recommended format is *LAAGDBx*, where *x* is a unique number.

After the IDs are created, a concurrent request called “Access Monitor — DB Users Synchronization Process” must be run in the GRC Controls responsibility of Oracle EBS; this enables Access Monitoring to recognize the IDs and display them so that they are available for selection. The request takes no parameters.

For Access Monitoring to work, database tables must be audit-enabled, regardless of whether they are to be accessed directly or through a responsibility. To enable tables for auditing, one uses an Access Monitoring Content form — one of the Embedded Agents. A set of tables is typically audit-enabled during system installation; afterwards users may use the Access Monitoring Content form to determine which tables (and columns) are already audit-enabled, and add to them.

For information on enabling database tables for auditing, see the *Transaction Controls Governor User Guide*.

Preparing the Default Workflow Routing

TCG controls and “control-library” objects must be approved after being created or modified. Each access request generated through the Access Monitoring feature must be approved before it is granted. And suspects generated by control monitors must be reviewed. To define sequences in which review requests are sent to users, groups, or both, TCG implements workflows.

TCG comes with a Default Approval Workflow so broadly defined that it can route for review any control-library object, access request, or suspect that is not captured by any other workflow that users may configure. Initially it is at an Editing status, and it does not specify any user to perform reviews. As an installation step, you must designate a user who belongs to this workflow, and then activate it. You can use the admin user that came already created on TCG, or you can create another user for this purpose.

Consult the *Transaction Controls Governor User Guide* for information on creating users. The “Control Monitors and Workflows” chapter of that guide (and in particular a section of that chapter titled “Configuring a Workflow Routing”) provides instructions for adding a user to a workflow and activating a workflow.