

**Oracle® Insurance Policy
Administration**

WebSphere Deployment

Installation Instructions – Step 2

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INTRODUCTION

The Oracle Insurance Policy Administration (OIPA) application and the Oracle Insurance Rules Palette form a solution for configuring, managing and processing policy data. Both applications, along with the Web Application Utility, must be installed and then configured to work together.

This install guide will cover step two of the installation process, where the OIPA application and Web Application Utility are configured using IBM WebSphere. Please refer to the OIPA Database Installation Instructions provided in the documentation library to ensure the database is set up correctly.

Prerequisites

Before beginning the installation steps, you must have the following components:

- A server with a Windows or Linux operating system
- WebSphere 6.1 Fix Pack 35 (6.1.0.35)
- Administrative rights to the server
- Oracle Insurance Rules Palette V9.4.0 Media Pack from E-Delivery. The Web Application Utility files are included in this Media Pack.
- Oracle Insurance Policy Administration V9.4.0 Media Pack from E-Delivery.

INITIAL SYSTEM CONFIGURATION

Database Driver Setup

1. Create a directory on the WebSphere installation machine to store database driver jar files for OIPA (i.e., /opt/oracle/db_drivers/ or C:\oracle\db_drivers\).
2. Copy the database drivers for your database into this folder.
 - **Oracle 11.2** – The necessary driver, **ojdbc-11.2.0.2.jar**, is included in the **libs** folder of the OIPA Media Pack.
 - **Microsoft SQL Server 2005** – download the latest **jtds.jar** file.
 - a. Download **jtds** from the following site: <http://sourceforge.net/projects/jtds/>.
 - b. Click the green **Download** box on the right side of the screen. A pop-up window will open.
 - c. Save the download .zip file to the lib directory you created (i.e., /opt/oracle/lib).
 - d. Open the downloaded .zip file and extract the file **jtds-1.2.5** from the root of the .zip file.
 - e. Rename the file **jtds.jar**.
 - **IBM DB2** – The two necessary .jar files (**db2jcc** and **db2jcc_license_cu**) are included with the purchase of the DB2 software. These files are not available for download. Contact your IT department if you need assistance locating these files.

Note: Each version of DB2 requires specific drivers. The files above correspond with DB2 9.7.

OIPA Setup

1. Create a directory on the WebSphere server to store various configuration files for OIPA (i.e., /opt/oracle/oipa/ or C:\oracle\oipa\).
2. Create subfolders inside the folder from Step 1 called **conf** and **libs**.
3. Copy the following files into the **conf** subfolder:
 - AdminServerMessages.properties
 - APESMessages.properties
 - coherence-cache-config.xml
 - coherence-config.xml
 - DocumentGeneratorMessages.properties
 - ExtensibilityMessages.properties
 - EXTMessages.properties
 - MathMessages.properties
 - PAS.properties
 - PASMessages.properties
 - ResourceBundleMessages.properties
 - SREMessages.properties
 - UtilMessages.properties
4. Identify the database type and platform in the **PAS.properties** file. The property setting must match the type of database being used. The two properties that are used to do this are:
 - application.databaseType
 - jpa.databasePlatform

Note: Refer to the PAS.properties document in the Oracle Insurance Policy Administration E18894_01 Documentation Library on the OTN for a complete list of all properties and allowed values.

5. Copy the following files into the **libs** subfolder:
 - antlr-2.7.7.jar
 - commons-collections-3.2.1.jar
 - commons-logging-1.1.1.jar
 - el-api-1.0.jar
 - log4j-1.2.16.jar
 - spring-agent-2.5.6.SEC02.jar
6. Identify the default locale in the PAS.properties file. The locale selected will determine the translation that is loaded in the database for OIPA when it launches.
 - application.defaultLocale
7. If using a DB2 database, you will need to modify the PAS.properties file to include configuration for case-insensitive searching. If using an Oracle or Microsoft SQL Server database, please skip this step and proceed to step 6.
 - Modify the PAS.properties file to include the following line:

```
search.field.text.caseInsensitive=true
```

Web Application Utility Setup

1. Create a directory on the WebSphere server to store various configuration files for the Web Application Utility (i.e., /opt/oracle/paletteconfig/ or C:\oracle\paletteconfig\).
2. Create subfolders inside the folder from Step 1 called **conf**, **libs**, and **uploads**.
3. Copy the **PaletteWebApplication.properties** file into the **conf** subfolder.
4. Open the PaletteWebApplication.properties file and edit the **download.dir** property to point to the **uploads** subfolder created in Step 2.
5. Copy the following file into the **libs** subfolder:
 - el-api-1.0.jar

CREATE AND CONFIGURE OIPA

Using a WebBrowser, connect to the Administrative Console using the appropriate server name and 9060 as the default port. (Ex: http://server_name:9060/admin)

Create the OIPA Application Server

1. Select **Servers>Application servers>New**.
2. Enter OIPA for the name of the server.
3. Click **Next**.
4. Select the **default** server template.
5. Click **Next**.
6. Ensure **Generate Unique Http Ports** is checked.
7. Click **Finish**.
8. After the application has been created, navigate to it by clicking on its name within the list of Application Servers.
9. Click the Session management link in the Container Settings section.
10. Verify that **Enable Cookies** is checked. (This is checked by default.)
11. Click the **Enable Cookies** link and verify that '**Restrict cookies to HTTPS sessions**' is unchecked. (This is unchecked by default.)
12. Click **OK**.
13. Save the configuration changes.

Note: These instructions assume that a fresh installation of the application server was performed. All configuration settings must use the default settings unless otherwise noted. If the application server has been used for previous deployments, you may want to create a new application server specifically for the deployment of the OIPA environment.

Configure WebSphere Environment Variable for Database Driver

A variable must be used to define the location where the database driver is located. The name of the variable depends on the type of database.

- Oracle: **ORACLE_JDBC_DRIVER_PATH**
- IBM DB2: **DB2UNIVERSAL_JDBC_DRIVER_PATH** and **DB2UNIVERSAL_JDBC_DRIVER_NATIVEPATH**
- Microsoft SQL Server: **User-defined_JDBC_DRIVER_PATH**

1. Select **Environment>WebSphere Variables**.
2. Select the OIPA server.
3. Click **New**.
4. Enter the **Name** of the database driver variable, as listed above.
5. In the **Value** field, enter the path to the directory where the database driver is located. For example:
`/opt/oracle/oipa/database_drivers` or `C:\oracle\oipa\database_drivers`
6. Click **OK**.
7. Click **Finish**.

Configure the OIPA Application Server

JVM Settings

1. Select the OIPA application server.
2. Expand **Java and Process Management**.
3. Select **Process Definition**.
4. Select **Java Virtual Machine**.
5. In the **Classpath** text box, enter the location of the OIPA property files.
Example: `.../opt/oracle/oipa/conf` or `c:\oracle\oipa\conf`
6. Set **Initial Heap Size** to **512**.
7. Set **Maximum Heap Size** to **1024**.
8. In the **JVM Arguments** text box, enter the following arguments, replacing the location of each file with the correct location for the configuration.


```
-Duser.language=en -Duser.region=US -Djava.net.preferIPv4Stack=true -
Djava.net.preferIPv6Addresses=false -
javaagent:/opt/oracle/oipa/libs/spring-agent-2.5.6.SEC02.jar-
Dtangosol.coherence.override=/opt/oracle/oipa/conf/coherence-
config.xml -
Dtangosol.coherence.cacheconfig=/opt/oracle/oipa/conf/coherence-cache-
config.xml -Dtangosol.pof.config=com-adminserver-pas-web-pof-
config.xml
```
9. Click **OK**.

Configure the Listening Port

1. Select **Servers>Application servers**.
2. Select the OIPA server.
3. In the **Communications** section, select **Ports**.
4. Note, or change if need be, the port listed for **WC_defaulthost**.
5. Select **Finish**.

Configure the Virtual Host

1. Select **Environment > Virtual Hosts**.
2. Click **default_host**.
3. Click **Host Aliases**.
4. Click **New**.
5. Enter the port selected for **WC_defaulthost** in the previous step.
6. Click **OK**.

Creating Data Sources

Add the JDBC Provider

1. Select **Resources>JDBC>JDBC Providers**.
2. Select the **scope** of the server.
3. Click **New**.
4. Select the **Database type**.
 - For Oracle, select **Oracle**.
 - For DB2, select **DB2**.
 - For Microsoft SQL Server, select **user-defined**.
5. Select the **Provider type**.
 - For Oracle, select **Oracle JDBC Driver**.
 - For DB2, select **DB2 Universal JDBC Driver**.
6. Select **Implementation type**.
 - For Oracle, select **XA data source**.
 - For DB2, select **XA data source**.
 - For Microsoft SQL Server, enter **net.sourceforge.jtds.jdbcx.JtdsDataSource** for the **Implementation class name**.
7. Click **Next**.
8. Enter the variable name used for the database driver.
 - For Oracle, enter **\${ORACLE_JDBC_DRIVER_PATH}**
 - For DB2, click **Next**.
 - For Microsoft SQL Server, enter **\${User-defined_JDBC_DRIVER_PATH}**
9. Click **Finish**, for Oracle and Microsoft SQL Server. For DB2, continue on to step 10.
10. Click on the newly created JDBC provider.
11. Edit the class path field to correctly reference the two DB2 drivers. Refer to the examples below.
 - **\${DB2UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc.jar**
 - **\${DB2UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc_license_cu.jar**
12. Click **OK**.
13. Click **Save**.

Create the Data Sources

Four data sources must be created: **ADMINSERVERDS**, **ADMINSERVERRESOURCEDS**, **ADMINSERVERSEARCHDS** and **ADMINSERVERREADONLYDS**. The OIPA database user will be used for three of the four data sources and the Readonly database user for the OIPA database will be used for the **ADMINSERVERREADONLYDS** data source.

Repeat the following steps for each data source, replacing **<DATASOURCE_NAME>** with the specific data source being configured.

1. Select **Resources>JDBC>Data sources**.
2. Click **New**.
3. For the data source name, enter **<DATASOURCE_NAME>**.
4. For the JNDI name, enter **<DATASOURCE_NAME>**.
5. Click **Next**.
6. Select the **JDBC provider** created in the last step.
7. Click **Next**.
8. Enter the database connection information.
 - For Oracle, enter the database information in the following format:
jdbc:oracle:thin:@**hostname:port:SID**
 - For DB2, enter the **database name**, **hostname** and **port**.
 - For Microsoft SQL Server, skip to the next step.
9. Uncheck the checkbox for **Use this data source in container managed persistence**.
10. Click **Finish**.
11. Select **<DATASOURCE_NAME>** from the list of data sources that appears.
12. Select **Custom Properties**.
13. Click **New** to create new variables for each property listed below.
 - For Oracle:
 1. Name: **user** Value: database user name
 2. Name: **password** Value: database password
 - For DB2:
 1. Name: **user** Value: database user name
 2. Name: **password** Value: database password
 3. Name: **currentSchema** Value: schema name (only needed for Readonly data source.)
 - For Microsoft SQL Server:
 1. Name: **user** Value: database user name
 2. Name: **password** Value: database password
 3. Name: **databasename** Value: name of database
 4. Name: **servername** Value: hostname of database server

Note: For the **ADMINSERVERREADONLYDS** data source, supply the readonly database user name and password.

14. Click **Save**.

Once complete, use the **Test Connection** button on the main data source list to confirm that the settings were successful.

Deploy the OIPA Application

1. Select **Applications>Enterprise Application>Install New Application**.
2. Use the **Local file system** or **Remote file system** browsing feature to locate the **PASJava.war** file.
3. For the **Context Root**, enter **PASJava**.
4. Click **Next**.
5. Confirm the settings on the following screen.
6. Click **Next**.
7. Select the correct **scope** for the **OIPA** application server.
8. Check the checkbox for the **PASJava.war module**.
9. Click **Next**.
10. For each of the four listed **Target Resource JNDI Names**, click the **Browse** button to select the data sources configured in the previous section.
11. Click **Next**.
12. Click **Finish**.

Create a Shared Library for OIPA

1. Select **Environment > Shared Libraries**.
2. Select the OIPA application server from the selection box.
3. Click **New**.
4. For the **Name** field, enter **SharedLibs**.
5. For the **Classpath** field, enter the full paths to the following jar files:
 /opt/oracle/oipa/libs/antlr-2.7.7.jar
 /opt/oracle/oipa/libs/commons-collections-3.2.1.jar
 /opt/oracle/oipa/libs/commons-logging-1.1.1.jar
 /opt/oracle/oipa/libs/el-api-1.0.jar
 /opt/oracle/oipa/libs/log4j-1.2.16.jar
6. Click **OK**.
7. Save the configuration changes.
8. Select **Applications > Enterprise Applications**.
9. Click on the OIPA application.
10. Under the References heading, click the **Shared library references** link.
11. Check off the **PASJava.war** module and click the **Reference shared libraries** button.
12. In the Available box, click on **SharedLibs** and then click the **>>** button. This will move **SharedLibs** to the Selected box.
13. Click **OK**.
14. Click **OK**.
15. Save the configuration changes.

Configure the OIPA Application

1. Select **Applications>Enterprise Application**.
2. Select the **PASJava.war** application.
3. Click **Class loading and update detection**.
4. Check the radio button for **Classes loaded with application class loader first**.
5. Check the radio button for **Single class loader for application**.
6. Click **OK**.

Start the OIPA Application

1. Select **Servers>Application Servers**.
2. Select the **OIPA** application.
3. Click **Start**.

CREATE AND CONFIGURE THE WEB APPLICATION UTILITY

Using a WebBrowser, connect to the Administrative Console using the appropriate server_name and port. (Ex: http://server_name:port/admin)

Note: The files that are used to set up the Web Application Utility are often named PaletteConfig. Any files with the name PaletteConfig are part of the Web Application Utility.

Create the Web Application Utility Server

1. Select **Servers>Application servers>New**.
2. Enter PaletteConfig for the name of the server.
3. Click **Next**.
4. Select the **default** server template.
5. Click **Next**.
6. Ensure **Generate Unique Http Ports** is checked.
7. Click **Finish**.

Configure the Web Application Utility Server

JVM Settings

1. Select the PaletteConfig server.
2. Expand **Java and Process Management**.
3. Select **Process Definition**.
4. Select **Java Virtual Machine**.
5. In the **Classpath** text box, enter the location of the Web Application Utility property files.
Example: /opt/oracle/paletteconfig/conf/ or C:\oracle\paletteconfig\conf\
6. Set **Initial Heap Size** to **64**.
7. Set **Maximum Heap Size** to **64**.
8. Click **OK**.

Configure the Listening Port

1. Select **Servers>Application servers**.
2. Select the PaletteConfig server.
3. In the **Communications** section, select **Ports**.
4. Note, or change if need be, the port listed for **WC_defaulthost**.
5. Select **Finish**.

Configure the Virtual Host

1. Select **Environment > Virtual Hosts**.
2. Click **default_host**.
3. Click **Host Aliases**.
4. Click **New**.
5. Enter the port selected for **WC_defaulthost** in the previous step.
6. Click **OK**.

Deploy the Web Application Utility

1. Select **Applications>Enterprise Application>Install New Application**.
2. Use the **Local file system** and **Remote file system** browsing feature to locate the **PaletteConfig.war** file. This file is in the Oracle Insurance Rules Palette V9.4.0 Media Pack in the Web Application Utility folder.
3. For the **Context Root**, enter **PaletteConfig**. This name cannot be changed.
4. Click **Next**.
5. Confirm the settings on the following screen.
6. Click **Next**.
7. Select the correct **scope** for the **PaletteConfig** application server.
8. Check the checkbox for the **PaletteConfig.war** module.
9. Click **Next**.
10. Click **Next**.
11. Click **Finish**.

Create a Shared Library for the Web Application Utility

1. Select **Environment > Shared Libraries**.
2. Select the PaletteConfig application server from the selection box.
3. Click **New**.
4. For the **Name** field, enter **SharedLibs**.
5. For the **Classpath** field, enter the full paths to the following jar files (use the appropriate database drivers):
/opt/oracle/paletteconfig/libs/el-api-1.0.jar
/opt/oracle/db_drivers/ojdbc-11.2.0.2.jar
6. Click **OK**.
7. Save the configuration changes.
8. Select **Applications > Enterprise Applications**.
9. Click on the OIPA application.
10. Under the References heading, click the **Shared library references** link.
11. Check off the **PaletteConfig.war** module and click the **Reference shared libraries** button.
12. In the Available box, click on **SharedLibs** and then click the **>>** button. This will move **SharedLibs** to the Selected box.
13. Click **OK**.
14. Click **OK**.
15. Save the configuration changes.

Configure the Web Application Utility

1. Select **Applications>Enterprise Application**.
2. Select the **PaletteConfig** application.
3. Click **Class loading and update detection**.
4. Check the radio button for **Classes loaded with application class loader first**.
5. Check the radio button for **Single class loader for application**.
6. Click **OK**.

Start the Web Application Utility

1. Select **Servers>Application Servers**.
2. Select the **PaletteConfig** application.
3. Click **Start**.

TEST THE DEPLOYMENTS

OIPA Deployment

1. Open a new Internet Explorer window.
2. Navigate to <http://hostname:port/PASJava/>. If a different context root name was used, then modify the URL to reflect the name.
3. Type the following when the login screen appears:
 - Type **install** for the **Client ID**.
 - Type **install** for the **Password**.
 - Select **Login**.

Web Application Utility Deployment

1. Open a new Internet Explorer window.
2. Navigate to <http://hostname:port/PaletteConfig/>.
3. Type the following when the login screen appears:
 - Type **admin** for the **Client ID**.
 - Type **admin** for the **Password**.
 - Select **Login**.

IMPORTANT: When configuring the rules palette environment use the host name and port number of the PaletteConfig server. The Web Application Utility must always be running in order for users to access the Rules Palette.