Oracle® Policy Automation
Installation Guide
Release 10.4.1
E36317-01

July 2012
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Deploy the Interview Portlet on the JBoss Enterprise Portal Platform via WSRP
Overview

This guide contains information relating to the system requirements, installation, deployment and ongoing management of the Oracle Policy Automation software.

The topics that follow describe the hardware and software requirements for Oracle Policy Automation provided for the Microsoft Windows platform.

Oracle Policy Automation comprises the following components:

**Oracle Determinations Engine**
This is our core determinations engine which can be embedded into applications that need to execute rules. Both .NET and Java APIs are available for the Windows and Unix platforms.

**Oracle Web Determinations**
Our out-of-the-box, interactive user interface for rapidly deploying rules. It runs on Windows platforms supporting ASP.NET or J2EE platforms.

**Oracle Determinations Server**
Our out-of-the-box Determinations Server product for rapidly deploying rules using web services. It runs on platforms supporting .NET or J2EE.

**Oracle Determinations Engine Batch Processor**
Our out-of-the-box Batch Processor product allows a large number of cases to be processed in a single batch. It runs on platforms supporting .NET or J2EE.

**Oracle Policy Automation Interview Portlet**
Our out-of-the-box Interview Portlet product, that enables interviews to be conducted in a web portal. It runs on platforms supporting .NET or J2EE.

For additional support in using this software, contact Oracle.
Oracle Policy Automation System Requirements for Java and .NET

The following topics detail the use of Oracle Policy Automation in a Server environment. For use of Oracle Policy Automation in embedded or desktop applications, please contact Oracle directly for appropriate guidance on system requirements.

Software and Hardware Requirements for OPA for Java

The following requirements apply to Oracle Determinations Server, Oracle Web Determinations, and Oracle Determinations Engine.

General System Requirements

All Oracle Policy Automation for Java components can be deployed only on one of the following operating system configurations:

<table>
<thead>
<tr>
<th>Versions Supported</th>
<th>CPU</th>
<th>Java VM / 32, 64 bit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Linux 4, 5, 6</td>
<td>x86/x64</td>
<td>Oracle JDK/32 and 64 bit</td>
</tr>
<tr>
<td>RedHat Enterprise Linux 4, 5, 6</td>
<td>x86/x64</td>
<td>Oracle JDK/32 and 64 bit</td>
</tr>
<tr>
<td>Oracle Solaris 10, 11 Express 11†</td>
<td>x86/x64/SPARC</td>
<td>Oracle JDK/32 and 64 bit</td>
</tr>
<tr>
<td>openSUSE Linux 11</td>
<td>x86/x64</td>
<td>Oracle JDK/32 and 64 bit</td>
</tr>
<tr>
<td>SUSE Linux Enterprise Server 10</td>
<td>IBM System z, IBM POWER‡</td>
<td>IBM JDK/ 64 bit only</td>
</tr>
<tr>
<td>SUSE Linux Enterprise Server 11 SP1</td>
<td>x86/x64</td>
<td>IBM JDK/32 and 64 bit</td>
</tr>
<tr>
<td>IBM AIX 6.1, 7.1</td>
<td>IBM pSeries, IBM LPAR</td>
<td>IBM JDK/32 and 64 bit</td>
</tr>
<tr>
<td>Microsoft Windows Server 2003, 2008</td>
<td>x86/x64</td>
<td>Oracle JDK/32 and 64 bit</td>
</tr>
<tr>
<td>Microsoft Windows XP, Vista, 7</td>
<td>x86/x64</td>
<td>Oracle JDK/32 bit only</td>
</tr>
</tbody>
</table>

Notes:
- JRockit JVM is also supported, but only if deploying to an application server that supports it.
- Oracle Exalogic and Sparc Supercluster are both supported hardware platforms.
- When deploying OPA Interview Portlet, OPA Web Determinations, or OPA Determinations Server, the selected portal or application server must also be supported on the chosen configuration.

Portal Server Requirements

Deploying Oracle Policy Automation Interview Portlet requires a portal server listed below:

<table>
<thead>
<tr>
<th>Portal Server</th>
<th>Versions Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle WebCentre Suite†</td>
<td>11.1.1.4* and 11.1.1.5* (11gR1), 12.1.1* (12c R1)</td>
</tr>
<tr>
<td>JBoss Enterprise Portal Platform</td>
<td>5.1.1*</td>
</tr>
</tbody>
</table>

Notes:
- †Also certified for use with Oracle VM
Note:
- OPA Interview Portlet requires a JSR286 compliant portal server, and if the portlet is to be deployed via WSRP, then WSRP 2 support is also required. Only the portal servers shown above are supported.

A supported JVM, operating system and processor must also be selected; see General System Requirements above.

Application Server Requirements
Deploying Oracle Policy Automation Determinations Server for Java or Oracle Policy Automation Web Determinations for Java requires a supported application server listed below:

<table>
<thead>
<tr>
<th>Application Server</th>
<th>Versions Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle WebLogic Server†</td>
<td>10.0, 10.3.0 (10g R3) 10.3.x (11g), 12.1.1* (12c R1)</td>
</tr>
<tr>
<td>IBM WebSphere Application Server</td>
<td>6.1 or 7.0</td>
</tr>
<tr>
<td>Apache TomCat</td>
<td>5.5, 6.0, 7.0*</td>
</tr>
<tr>
<td>JBoss Application Server‡</td>
<td>5.1†, 6.0*, 6.1*</td>
</tr>
<tr>
<td>Oracle Internet Application Server (also known as OC4J)</td>
<td>10.1.3 (10g R3)</td>
</tr>
</tbody>
</table>

† Also certified for used with Oracle VM
‡ Oracle Policy Automation Document Generation Server is not supported on JBoss Application Server

Note:
- A supported JVM, operating system and processor must also be selected; see General System Requirements on the previous page.

Interoperability of Oracle Policy Modeling and Oracle Policy Automation Versions

<table>
<thead>
<tr>
<th>Policy models built with Oracle Policy Modeling version…</th>
<th>…can be deployed only to Oracle Policy Automation versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.4.x</td>
<td>9.4.x</td>
</tr>
<tr>
<td>10.0.0, 10.0.1</td>
<td>10.0.0, 10.0.1</td>
</tr>
<tr>
<td>10.1.0, 10.1.1</td>
<td>10.1.0, 10.1.1†</td>
</tr>
<tr>
<td>10.2.0</td>
<td>10.2.0†</td>
</tr>
<tr>
<td>10.3.0, 10.3.1</td>
<td>10.3.0, 10.3.1†</td>
</tr>
<tr>
<td>10.4.0, 10.4.1</td>
<td>10.4.0, 10.4.1†</td>
</tr>
</tbody>
</table>

Notes:
- Upgrading Policy Modeling projects to the latest version is usually a single step process.
- Within compatible sub-point releases, it is strongly recommended to use the latest available versions of both Oracle Policy Modeling and Oracle Policy Automation, to ensure that the latest performance enhancements and bug fixes are being used.

† Oracle Determinations Server 10.1.x has the same SOAP web service interface as 10.0.x.

† Oracle Determinations Server 10.2 and later include backward compatible SOAP web services for each previous minor version; for example, 10.4 includes three backward compatible SOAP web services for 10.0, 10.2 and 10.3, in addition to the (default) 10.4 web service interface.
Software and Hardware Requirements for OPA for .NET

These requirements apply to Oracle Determinations Server, Oracle Web Determinations and Oracle Determinations Engine.

<table>
<thead>
<tr>
<th>Operating System</th>
<th>IIS Version</th>
<th>Single User IIS Only?</th>
<th>CPU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Windows Server 2008 R2</td>
<td>7.5</td>
<td></td>
<td>x64 only</td>
</tr>
<tr>
<td>Microsoft Windows 7</td>
<td>7.5</td>
<td>Yes</td>
<td>x86/x64</td>
</tr>
<tr>
<td>Microsoft Windows Server 2008</td>
<td>7.0</td>
<td></td>
<td>x86/x64</td>
</tr>
<tr>
<td>Microsoft Windows Vista</td>
<td>7.0</td>
<td>Yes</td>
<td>x86/x64</td>
</tr>
<tr>
<td>Windows Server 2003</td>
<td>6.0</td>
<td></td>
<td>x86/x64</td>
</tr>
<tr>
<td>Windows XP Professional</td>
<td>5.1†</td>
<td>Yes</td>
<td>X86 only</td>
</tr>
</tbody>
</table>

.NET Framework

| Microsoft .NET Framework 2.0 SP2. 3.0 SP2, 3.5 SP1, 4.0 |

Note: IIS is not required for Oracle Determinations Engine

†Unicode extended character set URLs not supported

Certified SOA Interoperability

Process and Application Integration

<table>
<thead>
<tr>
<th>Oracle SOA Suite and Oracle BPM Suite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle BPM Studio 10gR3 and 11gR1</td>
</tr>
<tr>
<td>Oracle BPEL Process Manager 10gR3 and 11gR1</td>
</tr>
<tr>
<td>Oracle Service Bus 10gR3 and 11gR1</td>
</tr>
<tr>
<td>Oracle E-Business Suite 11i and 12</td>
</tr>
<tr>
<td>PeopleTools 8.4x and 8.50</td>
</tr>
<tr>
<td>IBM WebSphere Process Server 6.1 or 7.0</td>
</tr>
<tr>
<td>Tibco iProcess 10.5</td>
</tr>
<tr>
<td>Tibco BusinessWorks 5.3</td>
</tr>
<tr>
<td>Sun Glassfish Enterprise Service Bus V2.1</td>
</tr>
</tbody>
</table>

Note:
- Oracle Determinations Server is a WS-I Basic Profile 1.1 and WS-I18N compliant web service which is designed to be generally interoperable with any web service consuming application. The applications listed here are those for which web service interoperability tests with Oracle Determinations Server have been performed by Oracle. Note that specific connectors are also sold separately for some products to deliver more advanced integration functionality.

Oracle Web Determinations

<table>
<thead>
<tr>
<th>Browser Version</th>
<th>Common Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Internet Explorer 7 or later†</td>
<td>Support for:</td>
</tr>
<tr>
<td>Mozilla Firefox 3.0 or later</td>
<td>- W3C HTML 4.01 compliance</td>
</tr>
<tr>
<td>Opera 9.2 or later</td>
<td>- Cascading Style Sheets level 2 (CSS2)</td>
</tr>
<tr>
<td>Apple Safari 4.0 or later</td>
<td>- Complying with W3C CSS2 specification</td>
</tr>
<tr>
<td>Google Chrome 7.0 or later</td>
<td>- JavaScript (ECMAscript)</td>
</tr>
<tr>
<td></td>
<td>- To Document Object Model (DOM) Level 2</td>
</tr>
</tbody>
</table>
For accessibility information for Oracle Web Determinations, see the published VPAT statements for Oracle Policy Automation available here:


Notes:
- Support for Microsoft Internet Explorer 7 will cease no later than Oracle Policy Automation version 11.0.
- Combo box search functionality is unsupported in Opera browsers and hence disabled.

Oracle Policy Automation Batch Processor
The Oracle Policy Automation Batch Processor has the following Database Server requirements:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Supported Product Versions</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Database*</td>
<td>10g, 11g</td>
<td>Supported only in Oracle Policy Automation for Java</td>
</tr>
<tr>
<td>Microsoft SQL Server*</td>
<td>2008, 2008 R2</td>
<td></td>
</tr>
</tbody>
</table>

† Consult the appropriate product documentation for information regarding supported JDBC database drivers.

Oracle Policy Automation Connector for Siebel
The Oracle Policy Automation Connector for Siebel provides integration with Siebel for both Oracle Web Determinations interviews and the Oracle Determinations Server web service.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Supported Product Versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siebel CRM Base</td>
<td>8.0.x, 8.1.x, 8.2.x</td>
</tr>
<tr>
<td>Oracle Policy Modeling‡</td>
<td>10.4.1</td>
</tr>
<tr>
<td>Oracle Policy Automation¶</td>
<td>10.4.1</td>
</tr>
<tr>
<td>Oracle WebCenture Suite†</td>
<td>11.1.1.4* and 11.1.1.5* (11gR1), 12.1.1* (12cR1)</td>
</tr>
</tbody>
</table>

‡ Oracle Policy Automation Connector for Siebel provides a plug-in for importing Siebel data models at design time, which is supported in every Oracle Policy Modeling configuration.

¶ Oracle Policy Automation Connector for Siebel includes specific versions of Oracle Determinations Server and Oracle Web Determinations. Only these versions can be used with Oracle Policy Automation Connector for Siebel 10.4.1, but each is certified for use on any supported Oracle Policy Automation system configuration (operating system, application server and so on).

† Oracle Policy Automation Connector for Siebel includes a specific version of Oracle Policy Automation Interview Portlet. This is the only version supported with Oracle Policy Automation Connector for Siebel, and is supported only with the specified versions of Oracle WebCenter Suite.
Oracle Policy Automation Connector for Oracle CRM On Demand

Oracle Policy Automation Connector for Oracle CRM on Demand provides integration with Oracle CRM on Demand, for Oracle Web Determinations interviews.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Supported Product Versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle CRM On Demand</td>
<td>R19</td>
</tr>
<tr>
<td>Oracle Policy Modeling †</td>
<td>10.3.0, 10.3.1</td>
</tr>
<tr>
<td>Oracle Policy Automation ‡</td>
<td>10.3.0, 10.3.1</td>
</tr>
</tbody>
</table>

† Oracle Policy Automation Connector for Oracle CRM on Demand 10.3.0 provides a plug-in for importing CRM on Demand data schemas at design time. This plug-in is supported in every supported Oracle Policy Modeling configuration (operating system and so on).

‡ Oracle Policy Automation Connector for Oracle CRM on Demand 10.3.0 provides a specific version of Oracle Web Determinations. Only this version can be used with Oracle Policy Automation Connector for Oracle CRM on Demand 10.3.0. This version of Oracle Web Determinations is supported only on the Java platform, but it is certified for use on any supported Oracle Policy Automation system configuration for that platform (operating system, application server and so on).

Note:
- A version of Oracle Policy Automation Connector for Oracle CRM On Demand that is compatible with Oracle Policy Modeling 10.4.0 or later is not currently available (as of March 2012). Use Oracle Policy Modeling 10.3.1 instead.

Oracle Policy Automation Connector for SAP

10.2.0 System Requirements

Oracle Policy Automation Connector for SAP provides the ability to integrate the Oracle Determinations Engine with the SAP ABAP application code via SAP Java Connector.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Versions Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP Java Connector</td>
<td>7.30.1 or later</td>
</tr>
<tr>
<td>Oracle Determinations Engine</td>
<td>10.2.0 or later</td>
</tr>
<tr>
<td>Application Server</td>
<td>Oracle WebLogic Server 10g or 11g on any supported Operating System or Provided Java web service only on IBM AIX 6.1 32-bit or 64-bit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interoperable Product Version</th>
<th>System Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP NetWeaver 7.0</td>
<td>Standard †</td>
</tr>
<tr>
<td>Oracle Policy Modeling 10.2.0</td>
<td>Standard</td>
</tr>
</tbody>
</table>

† Oracle Policy Automation Connector for SAP provides ABAP wrapper code to be used, but is independent of the system environment on which SAP is running.

Note:
- A version of Oracle Policy Automation Connector for SAP that is compatible with Oracle Policy Modeling 10.3.0 or later, is not currently available (as of June 2011). Use Oracle Policy Modeling 10.2.0 instead.
Install Oracle Policy Automation

The Oracle Policy Automation components are distributed in a single zip file for cross platform support.

Components

- Oracle Policy Automation Installation Guide (PDF)
- Oracle Determinations Server (both Java and .NET)
- Oracle Determinations Engine (both Java and .NET)
- Oracle Web Determinations (both Java and .NET)
- Oracle Policy Automation Developer's Guide (HTML)

Structure

<table>
<thead>
<tr>
<th>Path</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;root&gt;</td>
<td>Root file location for all sub components. All content in the zip is under this folder. The release notes, installation guide and security guide for Oracle Policy Automation can be found in this folder.</td>
</tr>
<tr>
<td>&lt;root&gt;\determinations-server</td>
<td>Oracle Determinations Server</td>
</tr>
<tr>
<td>&lt;root&gt;\engine</td>
<td>Oracle Determinations Engine</td>
</tr>
<tr>
<td>&lt;root&gt;\help\api</td>
<td>API documentation for Oracle Determinations Engine, Oracle Determinations Server and Oracle Web Determinations</td>
</tr>
<tr>
<td>&lt;root&gt;\help\run</td>
<td>Oracle Policy Automation Developer's Guide</td>
</tr>
<tr>
<td>&lt;root&gt;\licenses</td>
<td>3rd party licenses for components included in Oracle Policy Automation</td>
</tr>
<tr>
<td>&lt;root&gt;\plugins</td>
<td>Plugins for Oracle Web Determinations, Oracle Determinations Server and Oracle Determinations Document Generation Server</td>
</tr>
<tr>
<td>&lt;root&gt;\web-determinations</td>
<td>Oracle Web Determinations</td>
</tr>
</tbody>
</table>

Download the Oracle Policy Automation Software

2. Choose English (if not already selected) and press the **Continue** button.
3. Enter your name, company, email and country and agree to the Trial License Terms and Export Conditions.
4. Under Media Pack Search, choose **Oracle Policy Automation Products** and the required platform (the list will change when the product pack is changed). Press the **Go** button.
5. Depending on the search, either the results will appear or it will proceed directly to the next step if there is only one match. Select the media pack you want to download.
6. Once a media pack is selected, you get a list of parts to download.
7. Click on the **Download** button to the left of the part you wish to download.
8. Select either **Open** or **Save** on the presented dialog.
Deploy Oracle Web Determinations

The following topics describe the methods for deploying Oracle Web Determinations on various platforms.

Customize Your Oracle Web Determinations Deployment

When deploying Oracle Web Determinations, your organization may have requirements that sit outside the standard deployment. For example, it may be necessary to specify a shorter timeout period due to your security arrangements, or you may wish to use a different startup URL than the default provided. The topics that follow provide some customizations that you may find useful.

Deploy Security Measures in Oracle Web Determinations for Java

As a result of the increased potential for threats to security by hackers/attackers, the following topics are included to enable you to deploy security measures when customizing Oracle Web Determinations for Java.

Specify a Suitable Session Timeout Period

The session timeout is controlled by the application server, so you will need to consult the documentation for whatever server you are deploying to. For example:

Tomcat

On Tomcat you need to go to the web.xml file in `<tomcat home>/conf` and find the lines:

```xml
<servlet-config>
  <session-timeout>30</session-timeout>
</servlet-config>
```

Change '30' to whatever you want your timeout to be in minutes. Restart Tomcat.

IIS

In .NET you need to add (or modify) the following in the web.config of web-determinations inside the `<system.web>` element:

```xml
<sessionState mode="InProc" timeout="20"/>
```

Once again, the timeout is specified in minutes and you'll need to restart the web site.

Configure Logging in Oracle Web Determinations

In the configuration directory you will find the appropriate logging configuration file for Web Determinations; it will be one of:

- log4j.xml file for Java (`<root>/web-determinations/WEB-INF/classes/configuration`)
- log4net.xml for .NET (`<root>/web-determinations/bin/configuration`)

These files can be modified according to the documentation to be found at:

- [http://wiki.apache.org/logging-log4j/Log4jXmlFormat](http://wiki.apache.org/logging-log4j/Log4jXmlFormat) for Java

The default configuration is to send all log messages to the logs directory of the web application which will be located at: `<root>/web-determinations/logs`. Note that you may need to review your web server's security settings in order to allow Web Determinations to write to this directory. In Java, all messages will also be sent to the console.
Configure Oracle Web Determinations

The following are details of the configuration options provided in the Web Determinations applications properties file which can be found in:

- `<webroot>/bin/configuration in .NET`
- `<webroot>/WEB-INF/classes/configuration in Java`

Some general important points to note are:

- The properties are declared according to the Java property file standard. Essentially they're a key value list of values.
- ',' is interpreted as a list separator and so will normally need to be escaped. To do this write '\,’ instead of just ‘,’.
- All files must be saved as UTF-8 text files.

The following are the core application properties that are used to configure the application and are not available in the templates.

For further information regarding the configuration of Web Determinations, refer to the following topics in the Technical Reference section of the Oracle Policy Automation Developer’s Guide:

- Configure Oracle Web Determinations
- Web Determinations Configuration Files

### General Properties

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>default.locale</td>
<td>This is the default locale to use for screens that are not tied to a locale such as the rulebase and locale selection screens. For information on locale formats refer to the Oracle Policy Automation Developer’s Guide.</td>
</tr>
<tr>
<td>enable.debugger</td>
<td>Set to true if you want to enable debugging from the debugger, otherwise false.</td>
</tr>
</tbody>
</table>

### Rulebase Loading Properties

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>load.rulebase.from.classpath</td>
<td><strong>Java only.</strong> Set to true if you want the rulebases to be loaded from the classpath rather than the file system. This value must be set to true in order to deploy to Java application servers that do not explode the war file by default – for example, WebLogic.</td>
</tr>
<tr>
<td>rulebase.path</td>
<td>The path to the directory to containing the rulebases. If load.rulebase.from.classpath = true then this path must be relative to the 'classes' directory. Otherwise the path can either be absolute or relative to the webroot.</td>
</tr>
<tr>
<td>cache.loaded.rulebases</td>
<td>If true rulebases will be cached and the server will required to be re-started in order to pick up rulebase changes. Otherwise it will operate in hot swapping mode which allows rulebase updates to be picked up without a server re-start. Note: if load.rulebase.from.classpath this property will always effectively be true.</td>
</tr>
<tr>
<td>enable.second.person</td>
<td>Set to true to enable second person text substitution on rulebases that support it.</td>
</tr>
</tbody>
</table>
isHTML Validation

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>screens.validate.html</td>
<td>Screens file content can include html authored by users in oracle policy modeling as static content. These options determine whether to scan the content at application start time and verify that the tags deployed in the rulebase are in the whitelist of allowable content.</td>
</tr>
<tr>
<td>screens.html.tags.whitelist</td>
<td>If screens.validate.html = true any tag not on this list will cause an exception to be thrown during rulebase loading and the rulebase will not be available. If additional tags are required they must be added to this list.</td>
</tr>
</tbody>
</table>

Resource Loading Properties

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>load.messages.as.resources</td>
<td><strong>Java Only.</strong> Set to true if you want to load message properties files from the classpath. This value must be set to true in order to deploy to Java application servers that do not explode the war file by default – for example, WebLogic.</td>
</tr>
<tr>
<td>messages.path</td>
<td>The path to the directory containing the messages.properties. If load.messages.as.resources = true then this path must be relative to the 'classes' directory. Otherwise the path can either be absolute or relative to the webroot.</td>
</tr>
<tr>
<td>cache.messages</td>
<td>Set to true if you want message files to be cached.</td>
</tr>
<tr>
<td>load.images.as.resources</td>
<td><strong>Java Only.</strong> Set to true if you want to load images from the classpath. This value must be set to true in order to deploy to Java application servers that do not explode the war file by default - for example, WebLogic.</td>
</tr>
<tr>
<td>images.path</td>
<td>The path to the directory containing the images. If load.images.as.resources = true then this path must be relative to the 'classes' directory. Otherwise the path can either be absolute or relative to the webroot.</td>
</tr>
<tr>
<td>cache.images</td>
<td>Set to true if you want message files to be cached.</td>
</tr>
<tr>
<td>load.resources.as.resources</td>
<td><strong>Java Only.</strong> Set to true if you want to load resources images from the classpath. This value must be set to true in order to deploy to Java application servers that do not explode the war file by default - for example, WebLogic.</td>
</tr>
<tr>
<td>resources.path</td>
<td>The path to the directory containing the resources. If load.resources.as.resources = true then this path must be relative to the 'classes' directory. Otherwise the path can either be absolute or relative to the webroot.</td>
</tr>
<tr>
<td>load.properties.as.resources</td>
<td><strong>Java Only.</strong> Set to true if you want to load the appearance.properties from the classpath. This value must be set to true in order to deploy to Java application servers that do not explode the war file by default - for example, WebLogic.</td>
</tr>
<tr>
<td>properties.path</td>
<td>The path to the directory containing the appearance.properties. If load.properties.as.resources = true then this path must be relative to the 'classes' directory. Otherwise the path can either be absolute or relative to the webroot.</td>
</tr>
<tr>
<td>cache.properties</td>
<td>Set to true if you want appearance.properties files to be cached.</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>load.templates.as.resources</td>
<td><strong>Java Only.</strong> Set to true if you want to load the templates from the classpath. This value must be set to true in order to deploy to Java application servers that do not explode the war file by default - for example, WebLogic.</td>
</tr>
<tr>
<td>templates.path</td>
<td>The path to the directory containing the velocity templates. If load.templates.as.resources = true then this path must be relative to the 'classes' directory. Otherwise the path can either be absolute or relative to the webroot.</td>
</tr>
<tr>
<td>cache.templates</td>
<td>Set to true if you want velocity templates files to be cached.</td>
</tr>
</tbody>
</table>

**Plugin Properties**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>plugin.libraries</td>
<td>A ';' list of libs containing the plugins to load; note that fully qualified class names (including package) must be specified. By default, all libraries in the plugin directory will be searched, however specifying a list will restrict the plugin loader to searching in only the specified libraries. On WebLogic and JBoss, the classes containing the plugins must be explicitly listed here in order to load.</td>
</tr>
</tbody>
</table>

**Data**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>xds.file.path</td>
<td>When using the default data adaptor, this is the base directory to which the data will be saved. Can either be relative to the web root or absolute.</td>
</tr>
</tbody>
</table>

*Note:* If you wish to deploy a WAR unexploded, and you want to use the default XDS data adaptor, you will need to change this to point to an absolute path for which Web Determinations has read and write access.

**Application Properties File for Java**

```
#########################################
# Core application properties, these are used to configure the application and are
# not available to screens.
#########################################
# The locale to default to if we're displaying a screen that is not attached to a
# specific locale.
default.locale              =en-US

# Set enable.debugger to true if you need to be able to debug from Oracle Policy
# Modeling
enable.debugger             =true

#########################################
# Rulebase Loading Properties
# If rulebases are to be loaded as resource streams, this
# property specified whether or not the Java classpath
# is to be used to load the resources.
```
load.rulebase.from.classpath =false
rulebase.path =WEB-INF/classes/rulebases
cache.loaded.rulebases =false
enable.second.person =true

# Screens file content can include html authored by users in oracle policy
# modelling as static content.
# These options determine whether to scan the content at application start time and
# verify that the tags deployed in the rulebase are in the whitelist of allowable
# content.
screens.validate.html =true

# any tag not on this list will cause an exception to be thrown during rulebase
# loading and the rulebase will not be available. if additional tags are required
# they must be added to this list.
screens.html.tags.whitelist =b;i;del;s;div;p;span;pre;table;td;tr;ol;ul;li;blockquote;font;a;h1;h2;h3;h4;h5;h6;img;hr;br

############################################
# Resourcing Properties
load.messages.as.resource =true
messages.path =configuration
cache.messages =false
load.images.as.resource =true
images.path =images
cache.images =false
load.resource.as.resource =true
resources.path =resources
load.properties.as.resource =true
properties.path =configuration
cache.properties =false
load.templates.as.resource =true
templates.path =templates
cache.templates =false

############################################
# Plugins Properties
# In Java, classpath for plugin files and dependencies, relative to the plugins
directory
# In .NET, names of plugin assembly files in the plugins directory
# If none specified, the plugins directory is recursively searched for plugin
# files.
plugin.libraries =

# Default XDS data adaptor file path
xds.file.path =data

Application Properties File for .NET

############################################
# Deployment Properties
# The locale to default to if we're displaying a screen that is not attached to a
# specific locale.
default.locale = en-US

# Set enable.debugger to true if you need to be able to debug from Oracle Policy
# Modeling

enable.debugger = true

###########################################################################
# Rulebase Loading Properties

rulebase.path = bin/rulebases
cache.loaded.rulebases = false
enable.second.person = true

# Screens file content can include html authored by users in oracle policy
# modelling as static content.
# These options determine whether to scan the content at application start time and
# verify that the tags deployed in the rulebase are in the whitelist of allowable
# content.

screens.validate.html = true

# any tag not on this list will cause an exception to be thrown during rulebase
# loading and the rulebase will not be available.
# if additional tags are required they must be added to this list.

screens.html.tags.whitelist = b;i;del;s;div;p;span;pre;table;td;tr;ol;ul;li;blockquote;font;a;h1;h2;h3;h4;h5;h6;img;hr;br

###########################################################################
# Resourcing Properties

messages.path = bin/configuration
cache.messages = false

images.path = bin/images
cache.images = false

properties.path = bin/configuration
cache.properties = false

templates.path = bin/templates
cache.templates = false

resources.path = bin/resources
cache.resources = false

###########################################################################
# Plugins Properties

# In Java, classpath for plugin files and dependencies, relative to the plugins
directory
# In .NET, names of plugin assembly files in the plugins directory
# If none specified, the plugins directory is recursively searched for plugin
directory

plugin.libraries = bin/plugins

# Default XDS data adaptor file path

)xds.file.path = data
Configure Oracle Web Determinations Error Messages

Key error messages can now be configured by Oracle Web Determinations users. Listed below are the error messages that can be modified:

#errors related to session and session data
error.no.rulebase.session.found=No rulebase session found, the session may have expired.
error.session.incompatible.with.rulebase=The current session is incompatible with the rulebase.
error.rulebase.session.existing=Cannot create new session - an existing session is currently in progress.
error.no.rulebase.session.exists=No session exists.
error.loading.session.data=The session data could not be loaded.
error.loading.session.data.bad.filename=The session data could not be loaded due to a validation exception with the filename.

#errors related to remotecontroller
error.remote.control.disabled=Remote control is not enabled on this site.
error.remote.control.local.only=Remote control is not configured to allow connections from non-local clients.
error.remote.control.command.param=The 'command' parameter was not specified.
error.remote.control.command.unknown=Unknown remote command:
error.remote.control.rulebase.name.invalid=Rulebase name expected to end in '.xml'.

#errors related to rulebase access manager
error.ram.rulebase.name.extension=The rulebase does not have the extension '.xml'.

To modify the messages:

1. Open the file messages.properties located in web-determinations/WEB-INF folder.
2. Look for the error message you wish to change; for example, if you wanted to change the session expired error message from:
   "No rulebase session found, the session may have expired."
   to:
   "No rulebase session found, the session may have expired. Please start a new assessment. If the problem still occurs, contact the administrator."

Deploy Oracle Web Determinations for Java on Tomcat

These instructions assume Tomcat version 6.0 is already installed onto a Windows-based machine. These installation instructions assume a Windows platform. Other platforms can be supported on request.

The steps described in the following topics assume that Oracle Web Determinations for Java is being installed for the first time on this Tomcat installation. If you are performing an update or a reinstall, the first two steps should be skipped.
Step 1 - Copy the web-determinations.war File

Copy the *web-determinations.war* file into the "webapps" directory of the Tomcat installation discovered in Step 1, as shown:

![Copy the web-determinations.war file into the "webapps" directory](image)

Step 2 - Start Tomcat

Run the "startup.bat" script from a command prompt, as shown:

During startup, a lot of messages will appear on screen, similar to the following (this is normal):

![During startup, a lot of messages will appear on screen](image)
Step 3 - Check for Error Messages

Once the window has finished generating messages, scroll up and look for any stack traces similar to the following:

Step 4 - Start the Application

To try the application, launch a web browser and type: http://localhost:8080/web-determinations/ a page similar to the following should display:
Deploy Oracle Web Determinations for Java on JBoss

These instructions assume JBoss is already installed and running on a Windows-based machine.

Pre-Installation Steps

Before you proceed with the steps that follow for installing Web Determinations for Java on JBoss, if you intend to load your rulebases from inside your WAR file when deploying it as unexploded, it is recommended that you do the following:

1. Unpack the web-determinations.war file.
2. Copy the rulebases you wish to install to <webroot>/WEB-INF/classes/rulebases
3. Navigate to your project \release\web-determinations\WEB-INF\classes\configuration and open the application.properties file.
4. Edit the following settings in the properties file:
   - load.rulebase.from.classpath=true
   - rulebase.path=rulebases
5. Zip up the four directories under the release\web-determinations folder (content, data, meta-inf and web-inf) into a file called web-determinations.zip.
6. Rename the web-determinations.zip file to web-determinations.war; this is the file you will deploy.
7. Proceed with the installation steps that follow.

Note:
If you are deploying unexploded with the rulebases inside the WAR file you may have to load the rulebases manually. The most obvious sign of this is when the front page on the Web Determinations list rulebases page shows no list of rulebases. For more information, see Step 2 – Test the service under Deploy Oracle Web Determinations for Java on Oracle WebLogic Server.

Step 1 - Copy the web-determinations.war File

1. Start up JBoss and proceed to the Administration Console.
2. In the tree on the left, and click on Applications-Web Application (WAR)s.
3. Click on the Add a new resource button.
4. On the presented *Add New Web Application (WAR)* page, browse to the *web-determinations.war* file.

5. Choose whether you want to deploy exploded and then click on the **Continue** button; you are returned to the Web Application (WAR) page which now includes the *web-determinations.war* file in the list.

---

**Step 2 - Start the Application**

1. Ensure that Web Determinations is running.
2. Launch a web browser and type: [http://localhost:8080/web-determinations/](http://localhost:8080/web-determinations/) a page similar to the following should be displayed:
Deploy Oracle Web Determinations for Java on Oracle WebLogic Server

This section provides instructions for installing the Oracle Web Determinations for Java on Oracle WebLogic Server. Unless otherwise specified, the installation instructions are common to all supported platforms (see System Requirements for further details).

Pre-Installation Steps

Before you proceed with the steps that follow for installing Web Determinations for Java on Oracle WebLogic Server, you need to make sure you do the following:

1. Unpack the web-determinations.war file.
2. Copy the rulebases you wish to install to <webroot>/WEB-INF/classes/rulebases
3. Navigate to your project \release\web-determinations\WEB-INF\classes\configuration and open the application.properties file.
4. Edit the following settings in the properties file:
   - load.rulebase.from.classpath =true
   - rulebase.path =rulebases
   **Note:**
   We do this to load rulebases from a classpath and not a directory, because WebLogic does not explode the war file like other servers.
5. Zip up the four directories under the release\web-determinations folder (content, data, meta-inf and web-inf) into a file called web-determinations.zip.
6. Rename the web-determinations.zip file to web-determinations.war; this is the file you will deploy.
7. Proceed with the installation steps that follow.

If you wish to enable the hot swapping of rulebases, then you will need to use one of the following two options:

**Option 1**

1. Manually unzip the war file.
2. Deploy it as an exploded folder.
3. Edit the following setting in the application.properties file (<webroot>/WEB-INF/classes/configuration):
   - load.rulebase.from.classpath =false
   - rulebase.path =rulebases

**Option 2**

1. Edit the following setting in the application.properties file (<webroot>/WEB-INF/classes/configuration):
   - load.rulebase.from.classpath =false
   - rulebase.path =<absolute filepath>

2. Deploy unexploded as per the installation instructions that follow, where the <absolute filepath> is the directory to where you will deploy the rulebase.
Step 1 - Deploy the web-determinations.war File

1. Start the WebLogic server and go to the Administration Console using a browser:

2. Choose **Deployments** in Domain Structure:
3. Click on the **Install** button and choose the path to the web-determinations war file (example `D:\CER Training\Rebate-estimator\Release\web-determinations.war`).

4. Click on the **Next** button and make sure the chosen **Targeting style** is **Install this deployment as an application**.
5. Click on the **Next** button and make sure that **Security** is set to **DD Only: Use only roles and policies that are defined in the deployment descriptors.** and leave the other settings to default.

6. Click on the **Finish** button.
Step 2 - Test the Service

1. Click on the web-determinations deployment.
2. Click on the Testing tab; you should see the standard web determinations page and the text "Select rulebase in which to conduct an investigation".

   **Note:**
   At this point you may not see your rulebase because WebLogic does not explode the war file, meaning that we cannot introspect the class path to find out the rulebases located in a given directory.

3. Start your session by either appending to the testing url or starting a new explorer (do not forget startsession)

The url is in the following format:

http://<web-determinations url>/startsession/<rulebase>/<locale>/

where:

- `<web-determinations url>`
  is the address of the web determinations application (for example, my.server:8080/web-determinations or localhost/web-determinations)

- `<rulebase>`
  is the name of the rulebase.

- `<locale>`
  is the locale that you want to start the session in.
Troubleshooting

Problem
When deploying Web Determinations on the Oracle 11g application server, an exception may be encountered; the error displayed should be similar to the following:
sun.management.ManagementFactory$1.run(ManagementFactory.java:240)
at java.security.AccessController.doPrivileged(Native Method)
at sun.management.ManagementFactory.addMBean(ManagementFactory.java:235)
at sun.management.ManagementFactory.addMBean(ManagementFactory.java:223)
at sun.management.ManagementFactory.createPlatformMBeanServer(ManagementFactory.java:266)
at java.lang.management.ManagementFactory.getPlatformMBeanServer(ManagementFactory.java:512)
at com.oracle.util.monitoring.JMXMonitor.register(JMXMonitor.java:181)
at com.oracle.determinations.web.platform.servlet.WebDeterminationsServletContext.initMonitoring
(WebDeterminationsServletContext.java:194)
at com.oracle.determinations.web.platform.servlet.WebDeterminationsServletContext.init
(WebDeterminationsServletContext.java:115)
at com.oracle.determinations.web.platform.servlet.WebDeterminationsServletContext.<init>
(WebDeterminationsServletContext.java:91)
at com.oracle.determinations.web.platform.servlet.WebDeterminationsServlet.init(WebDeterminationsServlet.java:51)
</snip...>

Solution
The solution is as follows:
In the oc4j container, add the following in the Start parameters:
java options.
-Doc4j.jmx.security.proxy.off=true
Deploy Oracle Web Determinations for Java on IBM WebSphere

This section provides instructions for installing the Oracle Web Determinations for Java into an IBM WebSphere Application Server servlet container on multiple platforms. Unless otherwise specified, the installation instructions are common to all platforms; see the System Requirements section for a list of supported platforms.

The steps that follow assume that Oracle Web Determinations for Java is being installed for the first time on this WebSphere Application Server V6.1 (32-Bit Edition) installation.

These instructions assume the following:

- WebSphere Application Server has already been correctly installed and configured on the target machine.
- Oracle Web Determinations for Java is being installed for the first time on the application server.
- A copy of the web-determinations.war file is located on the machine used to do the installation.
- That the user installing Oracle Web Determinations for Java has enough permissions to do the following:
  - Start and Stop WebSphere.
  - Copy files to WAS and sub-directories.
  - Either modify the system library path environment variable or copy files to a directory specified by it.

Step 1 - Deploy the web-determinations.war File

On all platforms, to deploy the web-determinations.war file, do the following:

1. Ensure that WebSphere is running. To start WebSphere do the following:

   **For Windows**
   
   Open a dos prompt and type:
   ```
   cd <WAS>\bin
   startServer.bat <server instance>
   ```
   
   Where:
   - `<WAS>` is the WebSphere Application Server install directory and
   - `<server instance>` is the instance of the server that Oracle Determinations Server for Java is being deployed to (by default this is server1).

   **For Solaris or AIX**
   
   Open a terminal and type:
   ```
   cd <WAS>/bin
   ./startServer.sh <server instance>
   ```
   
   Where:
   - `<WAS>` is the WebSphere Application Server install directory and
   - `<server instance>` is the instance of the server that Oracle Web Determinations for Java is being deployed to (by default this is server1).
2. Open the administration console by launching a web browser and go to:

http://<hostname>:<port>/admin

Where:
<hostname> is the name of the target machine and
<port number> is the port that the admin console runs on (default is 9060). Enter a User ID and login.


4. On the Preparing for the application installation page, select the Local file system radio button and enter the full path of the web-determinations.war file. In the Context root text box, enter web-determinations and click Next.
5. On the **Select installation options** page confirm the following details and click **Next**.
6. On the Map modules to server page select the Web Determinations module and click Next.

8. On the *Summary* page confirm the following details and click **Finish**.
9. On the next Page click the **Save** link to save the changes to the master configuration file.
10. Check that the application has been installed by going to the menu and select *Applications / Enterprise Applications*. You should see an application called `web-determinations_war` listed. If the application is not started (a red cross in the status column) Select the check box to the left of `web-determinations.war` and click on the **Start** button.
Step 2 - Test the Service

To try the application, launch a web browser and browse to (for example):

   http://localhost:9080/web-determinations/

Where the hostname is the name of the target machine and the port number is the port to which the WebSphere Application Server node is bound. You should see the Assessment Summary page for web determinations:
Deploy Oracle Web Determinations for Java on Sun Web Server 7.0

This section provides instructions for installing the Oracle Web Determinations for Java into a Sun Web Server 7.0 servlet container on multiple platforms. Unless otherwise specified, the installation instructions are common to all platforms; see the System Requirements section for a list of supported platforms.

These instructions assume the following:

- Sun Web Server 7.0 has already been correctly installed and configured on the target machine.
- Oracle Web Determinations for Java is being installed for the first time on the application server.
- A copy of the web-determinations.war file is located on the machine used to do the installation.
- That the user installing Oracle Web Determinations for Java has enough permissions to do the following:
  - Start and Stop Sun Web Server 7.0.
  - Copy files.
  - Either modify the system library path environment variable or copy files to a directory specified by it.

Pre-Installation Step

By default, the Sun Server assumes that all URIs map to files within the web application and as a security measure, implements a URI filter to check that a URI is actually a legal file path by default. However, this isn’t applicable in the case of Web Determinations as all URIs follow a rest/semantic interface pattern and never map directly to a file in the application itself.

As a result, the following pre-installation steps are required:

1. Comment out the following line in the obj.conf file which is located in the /conf directory of the node to which Web Determinations is being deployed:

   ```
   PathCheck fn="uri-clean"
   ```

2. Restart the server instance.
Step 1 - Deploy the web-determinations.war File

On all platforms, to deploy the web-determinations.war file, do the following:

1. Ensure that Sun Web Server 7.0 is running and start the Administration Console.
2. On the **Common Tasks** tab, select **Virtual Server Tasks / Add Web Application**.

3. In the presented **Add Web Application** window, select the **Specify a package file to upload to the Web Server** radio button and enter the full path of the web-determinations.war file; the **URL** field will be automatically populated when you click in it. Accept the default **Target Directory** and click **OK**. There is no need to enter a description or to check **JSP Pre-compilation Enabled**.
4. On clicking OK, you are taken to the **Web Applications** tab of the *Edit Virtual Servers* window.

5. Click on the alert at the top right of this window that states **Deployment Pending**; you are presented with the Configuration Deployment window.
6. Click on the **Deploy…** button; once deployed you are returned a message that states: "The Configuration has been deployed successfully to all available nodes". Click on **Close** to close the window and return to the **Web Applications** tab where the application now appears as **Enabled=true**.

**Step 2 - Test the Service**

To try the application, launch a web browser and browse to (for example):

http://localhost:81/web-determinations/

Where the hostname is the name of the target machine and the port number is the port to which the Sun Web Server node is bound. You should see the Assessment Summary page for web determinations:

```
Assessment Summary - Oracle Web Determinations - Windows Internet Explorer
```

```
Assessment Summary

- Click here to determine if the investigation is complete
- Global Workflow
- url
```

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Deploy Oracle Web Determinations for .NET on IIS 6.0

This section provides instructions for deploying the Oracle Web Determinations for .NET on IIS 6.0.

**Note:**
Microsoft’s Visual J# 2.0 Redistributable Package – Second Edition (x86) must be installed on IIS if you wish to use PDF document generation. This can be downloaded from:

Step 1 - Copy the .NET Template to the Required Location
Assuming that you have downloaded the Oracle Policy Automation Runtime Dotnet <version> file, copy the `web-determinations` folder to the location from where you want to run Web Determinations.

Step 2 - Create a Virtual Directory in IIS
To create a virtual directory in IIS, do the following:

1. Select the Web Site from which you want to run the Oracle Web Determinations for .NET, right click to present the context menu and select **New | Virtual Directory** option:
2. Click on **Next** to start the Virtual Directory Creation Wizard.

![Virtual Directory Creation Wizard](image1)

3. Name the Virtual Directory "web-determinations" and click **Next**:

![Virtual Directory Creation Wizard](image2)
4. Enter the path for the .NET Web Determinations directory (in this example it is the directory c:\web-determinations from Step 1) and click Next:

![Virtual Directory Creation Wizard](image1)

5. For permissions, make sure that **Read** and **Run scripts** options are checked and click Next. No other permissions need to be set:

![Virtual Directory Creation Wizard](image2)
6. The following dialog is displayed upon successful completion:

![Virtual Directory Creation Wizard](image)

You have successfully completed the Virtual Directory Creation Wizard.

To close this wizard, click Finish.

7. Restart IIS:
Step 3 – Copy Rulebase

In order to test that Web Determinations is working, you should copy a rulebase archive into the web-determinations rulebases directory. This can be found at web-determinations\bin\rulebases.

For example: c:\web-determinations\bin\rulebases

Step 4 - Test Web Determinations

To test that the Oracle Web Determinations is successfully installed do the following:

Start up a web browser and type in the URL for the Web Determinations Server WSDL; in this example the Oracle Web Determinations is running locally, so the URL is:

http://localhost/web-determinations/
Deploy Oracle Web Determinations for .NET on IIS 7.x

This section provides instructions for deploying the Oracle Web Determinations for .NET on IIS 7.x.

**Note:**
Microsoft's Visual J# 2.0 Redistributable Package – Second Edition (x86) must be installed on IIS if you wish to use PDF document generation. This can be downloaded from: http://www.microsoft.com/downloads/en/details.aspx?FamilyID=e9d87f37-2adc-4c32-95b3-b5e3a21bab2c&displaylang=en

**Step 1 - Copy the .NET Template to the Required Location**

Assuming that you have downloaded the Oracle Policy Automation Runtime Dotnet <version> file, copy the `web-determinations` folder to the location from where you want to run Web Determinations.

**Note:**
Ensure that the `web-determinations` folder has a minimum of **Read** and **Run scripts** permissions set; if the user is to create logs, then **Write** permission must also be set.

**Step 2 - Create a New Application in IIS**

To create a new application in IIS, do the following:

1. Select the Web Site from which you want to run the Oracle Web Determinations for .NET, right click to present the context menu and select the **Add Application**... option:
2. On the presented *Add Application* dialog, enter an Alias of "web-determinations" and the path for the .NET Web Determinations directory (in this example, `c:\web-determinations`).

![Add Application dialog]

3. Click **OK** and the new application is added.

**Step 3 – Copy Rulebase**

In order to test that Web Determinations is working, you should copy a rulebase archive into the `web-determinations\bin\rulebases` directory. This can be found at `web-determinations\bin\rulebases`. For example: `c:\web-determinations\bin\rulebases`.

**Step 4 - Test Web Determinations**

To test that the Oracle Web Determinations is successfully installed do the following:

Start up a web browser and type in the URL for the Web Determinations Server WSDL; in this example the Oracle Web Determinations is running locally, so the URL is: `http://localhost/web-determinations/`. 
Deploy a Rulebase on Web Determinations

Deploying a rulebase is a simple matter of copying the desired rulebase zip files over to the rulebase directory and then restarting your web server.

The relevant directories are:

**Java:** web-determinations /WEB-INF/classes/rulebases

**.Net:** web-determinations/bin/rulebases
Deploy Oracle Determinations Server

The following topics describe the methods for deploying Oracle Determinations Server on various platforms.

Customize Your Oracle Determinations Server Deployment

When deploying Oracle Determinations Server, your organization may have requirements that sit outside the standard deployment. The following are the core application properties that are used to configure the application and are not available in the templates.

**General Properties**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enable.request.validation</td>
<td>Turns on validation of requests against the service's WSDL. It is not recommended that this setting be turned on in production systems since it can have negatively affect performance.</td>
</tr>
<tr>
<td>enable.response.validation</td>
<td>Turns on validation of services responses against its WSDL. It is not recommended that this setting be turned on in production systems since it can have negatively affect performance.</td>
</tr>
<tr>
<td>enable.second.person</td>
<td>Set to true to enable second person text substitution on rulebases that support it.</td>
</tr>
</tbody>
</table>

**Rulebase Loading Properties**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>load.rulebase.from.classpath</td>
<td><strong>Java only.</strong> Set to true if you want the rulebases to be loaded from the classpath rather than the file system. This value must be set to true in order to deploy to Java application servers that do not explode the war file by default – for example, WebLogic</td>
</tr>
<tr>
<td>rulebase.path</td>
<td>The path to the directory to containing the rulebases. If load.rulebase.from.classpath = true then this path must be relative to the 'classes' directory. Otherwise the path can either be absolute or relative to the webroot.</td>
</tr>
<tr>
<td>cache.loaded.rulebases</td>
<td>If true rulebases will be cached and the server will required to be re-started in order to pick up rulebase changes. Otherwise it will operate in hot swapping mode which allows rulebase updates to be picked up without a server re-start. <strong>Note:</strong> If load.rulebase.from.classpath this property will always effectively be true. For more important notes on rulebase hotswapping on the NET platform see <em>Rulebase Hotswapping on .NET</em> in the Oracle Policy Automation Developer's Guide.</td>
</tr>
</tbody>
</table>

**Interview Service Specific Properties**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>screens.validate.html</td>
<td>Screens file content can include html authored by users in Oracle Policy Modeling as static content. These options determine whether to scan the content at application start time and verify that the tags deployed in the rulebase are in the whitelist of allowable content.</td>
</tr>
<tr>
<td>screens.html.tags.whitelist</td>
<td>If screens.validate.html = true any tag not on this list will cause an exception to be thrown during rulebase loading and the rulebase will not be available. If additional tags are required they must be added to this list.</td>
</tr>
</tbody>
</table>
Deploy Oracle Determinations Server for .NET on IIS 6.0

This section provides instructions for deploying the Oracle Determinations Server for .NET on IIS 6.0.

*Note:* Microsoft’s Visual J# 2.0 Redistributable Package – Second Edition (x86) must be installed on IIS if you wish to use PDF document generation. This can be downloaded from: http://www.microsoft.com/downloads/en/details.aspx?familyID=e9d87f37-2adc-4c32-95b3-b5e3a21bab2c&displaylang=en

**Step 1 - Copy the .NET Template to the Required Location**

Assuming that you have downloaded the Oracle Policy Automation Runtime Dotnet <version> file, copy the determinations-server folder to the location from where you want to run Determinations Server.

**Step 2 - Create a Virtual Directory in IIS**

To create a virtual directory in IIS, do the following:

1. Select the Web Site from which you want to run the Oracle Determinations Server for .NET, right click to present the context menu and select New | Virtual Directory option:
2. Click on **Next** to start the Virtual Directory Creation Wizard.

3. Name the Virtual Directory "determinations-server":

   ![Virtual Directory Creation Wizard](image)
4. Enter the path for the .NET Oracle Determinations Server directory (in this example it is the directory `c:\determinations-server` from Step 1):

![Virtual Directory Creation Wizard](image)

5. For permissions, make sure that **Read** and **Run scripts** options are checked. No other permissions need to be set:

![Virtual Directory Creation Wizard](image)
6. The following dialog is displayed upon successful completion:

![Virtual Directory Creation Wizard]

**You have successfully completed the Virtual Directory Creation Wizard.**

To close this wizard, click Finish.

### Step 3 - Secure the Rulebases Directory

Once you have created the determinations-server directory in IIS, you will want to make sure that any rulebases you deploy cannot be downloaded from the Oracle Determinations Server via an HTTP call. To do this:

1. Expand the **determinations-server** virtual directory, then expand the **bin** folder and right-click on the **rulebases** folder; select **Properties** from the presented context menu.
2. Go to the Directory Security tab and click the Edit button in the Anonymous access and authentication control section.
3. Uncheck the Anonymous access and Integrated Windows authentication boxes and click on the OK button to save the changes:

Step 4 - Complete the IIS Installation

1. From IIS, right-click on the determinations-server virtual directory and select Properties from the presented context menu.
2. Select the ASP.NET tab and make sure that the ASP.NET version is 2.0 or later.

3. Click the OK button to close.

4. Restart IIS:
Step 5 - Test the Oracle Determinations Server

To test that the Oracle Determinations Server is successfully installed do the following:

1. Start up a web browser and type in the URL for the Oracle Determinations Server WSDL; in this example the Oracle Determinations Server is running locally, so the URL is:
   
   http://localhost/determinations-server/server/soap.asmx?wsdl

2. Confirm that the Server WSDL is returned:

   ![WSDL Image]

Deploy Oracle Determinations Server for .NET on IIS 7.x

This section provides instructions for deploying the Oracle Determinations Server for .NET on IIS 7.x.

Note:

Microsoft’s Visual J# 2.0 Redistributable Package – Second Edition (x86) must be installed on IIS if you wish to use PDF document generation. This can be downloaded from:

Step 1 - Copy the .NET Template to the Required Location

Assuming that you have downloaded the Oracle Policy Automation Runtime Dotnet <version> file, copy the determinations-server folder to the location from where you want to run Determinations Server.
Step 2 - Create a New Application in IIS

To create a new application in IIS, do the following:

1. Select the Web Site from which you want to run the Oracle Determinations Server for .NET, right click to present the context menu and select the **Add Application...** option:

2. On the presented *Add Application* dialog, enter an Alias of "determinations-server" and the path for the .NET Determinations Server directory (in this example, c:\determinations-server).

3. Click **OK** and the new application is added.
Step 3 - Secure the Rulebases Directory

Once you have created the determinations-server directory in IIS, you will want to make sure that any rulebases you deploy cannot be downloaded from the Oracle Determinations Server via an HTTP call. To do this:

1. Find and highlight the 'rulebases' directory in the left hand side navigation pane and then locate the Authentication icon in the IIS section of the right hand pane and double click on it.

2. Ensure that everything has a status of Disabled; this is done by right clicking on the Status and selecting Disabled from the presented context menu.
Step 4 - Test the Oracle Determinations Server

To test that the Oracle Determinations Server is successfully installed do the following:

1. Start up a web browser and type in the URL for the Oracle Determinations Server WSDL; in this example the Oracle Determinations Server is running locally, so the URL is:
   
   http://localhost/determinations-server/server/soap.asmx?wsdl

2. Confirm that the Server WSDL is returned:

   ![WSDL Image]

Troubleshooting

Problem

When browsing Determinations Server for .NET on IIS 7.x the following error page with error code

0x80070021 appears:

![Server Error Page]

HTTP Error 500.19 - Internal Server Error
The requested page cannot be accessed because the related configuration data for the page is invalid.
Solution

The solution is to configure IIS 7.x by doing the following:

1. Stop IIS 7.x using IIS Manager.
2. Backup the file \%windir\%\System32\inetsrv\config\applicationHost.config (for example, to applicationHost.bak)
   
   *Note:* \%windir\% is the directory of your Microsoft Windows, usually it is c:\Windows.
3. Open \%windir\%\System32\inetsrv\config\applicationHost.config with Notepad or an XML editor.
4. Find the section group with name "system.webServer".
5. Within the section group find the section with name "handlers" and replace the attribute "overrideModeDefault" from "Deny" to "Allow".
6. Find also the section with name "modules" and replace the attribute "overrideModeDefault" from "Deny" to "Allow".
7. The resulting configuration should be similar to the following screenshot:

   ![Screenshot of the configuration file](image)

8. Start IIS 7.x using IIS Manager.
Problem
When browsing Determinations Server for .NET on IIS 7.x the following error page with error code 0x8007000d appears:

![Error Page](image)

Solution
The solution is to configure IIS 7.x by doing the following:

1. Stop IIS 7.x using IIS Manager.
2. In Control Panel, double click Programs and Features.
3. In the left pane, select "Turn Windows features on or off".
4. Locate "Internet Information Services" and expand it.
5. Expand "World Wide Web Services" in "Internet Information Services".
7. Tick "ASP.NET" in "Application Development Features".

![Turn Windows features on or off](image)

8. Press the "OK" button.
9. Start IIS 7.x using IIS Manager.
Deploy Oracle Determinations Server to a Java Application Server

The Oracle Determinations Server is a standard J2EE Web application, deployed as a Web application Archive (.war file). It should be possible to deploy the Oracle Determinations Server to an application server that supports the following:

- Java Runtime of at least 1.5
- Supports SAAJ 1.1
- Servlet 2.4 Specification

If you are unsure of whether the application server you intend to deploy the Oracle Determinations Server to supports these features, you should check the documentation for that application server. Most Java application servers will support these features.

There is a specific procedure for enabling SAAJ 1.1 support for Oracle WebLogic. This is outlined in the section, "Deploy Oracle Determinations Server for Java on JBoss."

Deploy Oracle Determinations Server for Java on Tomcat

This section provides instructions for installing the Oracle Determinations Server for Java into an Apache Tomcat servlet container on multiple platforms. Unless otherwise specified, the installation instructions are common to all platforms; see the System Requirements section for a list of supported platforms.

The following terminology applies:

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATALINA_HOME</td>
<td>Refers to the directory that Apache Tomcat is located in.</td>
</tr>
</tbody>
</table>

These instructions assume the following:

- Apache Tomcat has already been correctly installed and configured on the target machine.
- Oracle Determinations Server for Java is being installed for the first time on the application server.
- That the user installing Oracle Determinations Server for Java has enough permissions to do the following:
  - Start and Stop Tomcat.
  - Copy files to CATALINA_HOME and sub-directories.
  - Either modify the system library path environment variable or copy files to a directory specified by it.

The steps that follow assume that Oracle Determinations Server for Java is being installed for the first time on this Tomcat installation. If you are performing an update or a reinstall, you can skip steps 1 and 2.

Step 1 – Stop Tomcat

Before Oracle Determinations Server for Java can be installed, Apache Tomcat must be stopped. To do this locate and execute either:
CATALINA_HOME\bin\shutdown.bat file on Windows
or
CATALINA_HOME/bin/shutdown.sh file on AIX or Solaris
Step 2 – Deploy the determinations-server.war File

For all platforms, locate the `determinations-server.war` file and copy it to `CATALINA_HOME\webapps`.

Step 3 – Start Tomcat

Locate and execute the `CATALINA_HOME\bin\startup.bat` file on Windows or the `CATALINA_HOME/bin/startup.sh` file on AIX or Solaris.

Step 4 – Test the Service

To try the application launch a web browser and browse to (for example): `http://localhost:8080/determinations-server/server/soap?wsdl`

A page similar to the following should display:

Uninstalling Oracle Determinations Server for Java on Tomcat

To uninstall Oracle Determinations Server for Java on Tomcat, for all platforms, do the following:

1. Locate the determinations-server WebRoot directory (default is `CATALINA_HOME/webapps`), delete the determinations-server directory and the determinations-server.war file.
2. Restart Tomcat.
Deploy Oracle Determinations Server for Java on JBoss
These instructions assume JBoss is already installed and running on a Windows-based machine.

Pre-Installation Steps
Before you proceed with the steps that follow for installing Determinations Server for Java on JBoss, if you intend to deploy it as exploded, it is recommended that you do the following:

1. Unpack the determinations-server.war file.
2. Copy the rulebases you wish to install to determinations-server WEB-INF classes rulebases.
3. Navigate to your project determinations-server WEB-INF classes config and open the application.properties file.
4. Edit the following settings in the properties file:
   - load.rulebase.from.classpath = false
   - rulebase.path = /WEB-INF/classes/rulebases
5. Zip up the four directories under the determinations-server folder (META-INF and WEB-INF) into a file called determinations-server.zip.
6. Rename the determinations-server.zip file to determinations-server.war; this is the file you will deploy.
7. Proceed with the installation steps that follow.

**Note:**
If you are deploying unexploded with the rulebases inside the WAR file you may have to load the rulebases manually. The most obvious sign of this is when the front page on Determinations Server shows no list of rulebases. If this is the case, you will need to use the LoadRulebase action as described in the Oracle Policy Automation Developer’s Guide in the topic Server Service - LoadRulebase Operation.

Step 1 - Deploy the determinations-server.war File

1. Start up JBoss and proceed to the Administration Console.
2. In the tree on the left, and click on Applications-Web Application (WAR)s.
3. Click on the Add a new resource button.
4. On the presented *Add New Web Application (WAR)* page, browse to the *determinations-server.war* file.

5. Click on the **Continue** button; you are returned to the *Web Application (WAR)* page which now includes the *determinations-server.war* file in the list.

---

**Step 2 - Test the Service**

To try the application, launch a web browser and browse to the determination-server’s main page (for example [http://localhost:8080/determinations-server](http://localhost:8080/determinations-server)). The page should display the list of available services.
Deploy Oracle Determinations Server for Java on Oracle WebLogic Server

This section provides instructions for installing the Oracle Determinations Server for Java on Oracle WebLogic Server. Unless otherwise specified, the installation instructions are common to all platforms; see the System Requirements section for a list of supported platforms.

Step 1 - Deploy the oracle-determinations-server.war File

1. Start the WebLogic server and go to the Administration Console using a browser:
2. Choose Deployments in Domain Structure.

3. Click on the Install button and choose the path to the determinations-server war file (example D:\CER Training\Training 1\Release\determinations-server.war).
4. Click on the **Next** button and make sure the chosen **Targeting style** is **Install this deployment as an application**.

5. Click on the **Next** button and make sure that **Security** is set to **DD Only: Use only roles and policies that are defined in the deployment descriptors** and leave the other settings to default.
6. Click on the **Finish** button.

Step 2 - Test the Service

To try the application launch a web browser and browse to (for example):

Deploy Oracle Determinations Server for Java on IBM WebSphere

This section provides instructions for installing the Oracle Determinations Server for Java into an IBM WebSphere Application Server servlet container on multiple platforms. Unless otherwise specified, the installation instructions are common to all platforms; see the System Requirements section for a list of supported platforms.

The steps that follow assume that Oracle Determinations Server for Java is being installed for the first time on this WebSphere Application Server V6.1 (32-Bit Edition) installation.

These instructions assume the following:

- WebSphere Application Server has already been correctly installed and configured on the target machine.
- Oracle Policy Automation has been correctly installed on the target machine.
- Oracle Determinations Server for Java is being installed for the first time on the application server.
- A copy of the oracle-determinations-server.war file is located on the machine used to do the installation.
- That the user installing Oracle Determinations Server for Java has enough permissions to do the following:
  - Start and Stop WebSphere.
  - Copy files to WAS and sub-directories.
  - Either modify the system library path environment variable or copy files to a directory specified by it.

Step 1 - Deploy the determinations-server.war File

On all platforms, to deploy the determinations-server.war file, do the following:

1. Open the administration console by launching a web browser and go to:

   http://<hostname>:<port>/admin

   Where:
   - <hostname> is the name of the target machine and
   - <port number> is the port that the admin console runs on (default is 9060). Enter a User ID and login.

2. On the Menu select Applications / Install New Application.

3. On the Preparing for the application installation page, select the Local file system radio button and enter the full path of the determinations-server.war file. In the Context root text box, enter determinations-server and click Next.
4. On the **Select installation options** page confirm the following details and click **Next**.
5. On the **Map modules to server** page select the Determinations Server module and click **Next**.

6. On the **Map virtual hosts for Web Modules** page, select Oracle Determinations Server and click **Next**.
7. On the **Summary** page confirm the following details and click **Finish**.

8. On the next Page click the **Save** link to save the changes to the master configuration file.
9. To check that the application has been installed, go to the menu and select Applications / Enterprise Applications. You should see an application called oracle-determinations-server_war listed. If the determinations-server_war is not started (a red cross in the Application Status column), Select the check box to the left of the determinations-server_war and Click on Start.
Step 2 - Test the Service

To try the application launch a web browser and browse to (for example):


Where the hostname is the name of the target machine and the port number is the port to which the WebSphere Application Server node is bound. A page similar to the following should display:
Deploy Oracle Determinations Server for Java on Sun Web Server 7.0

This section provides instructions for installing the Oracle Determinations Server for Java into a Sun Web Server 7.0 servlet container on multiple platforms. Unless otherwise specified, the installation instructions are common to all platforms; see the System Requirements section for a list of supported platforms.

These instructions assume the following:

- Sun Web Server 7.0 has already been correctly installed and configured on the target machine.
- Oracle Determinations Server for Java is being installed for the first time on the application server.
- A copy of the determinations-server.war file is located on the machine used to do the installation.
- That the user installing Oracle Determinations Server for Java has enough permissions to do the following:
  - Start and Stop Sun Web Server 7.0.
  - Copy files.
  - Either modify the system library path environment variable or copy files to a directory specified by it.

Step 1 - Deploy the determinations-server.war File

On all platforms, to deploy the determinations-server.war file, do the following:

1. Ensure that Sun Web Server 7.0 is running and start the Administration Console.
2. On the Common Tasks tab, select Virtual Server Tasks | Add Web Application.
3. In the presented Add Web Application window, select the Specify a package file to upload to the Web Server radio button and enter the full path of the web-determinations.war file; the URL field will be automatically populated when you click in it. Accept the default Target Directory and click OK. There is no need to enter a description or to check JSP Pre-compilation Enabled.

4. On clicking OK, you are taken to the Web Applications tab of the Edit Virtual Servers window.
5. Click on the alert at the top right of this window that states **Deployment Pending**; you are presented with the Configuration Deployment window.

![Configuration Deployment Window](image)

6. Click on the **Deploy...** button; once deployed you are returned a message that states: "The Configuration has been deployed successfully to all available nodes". Click on **Close** to close the window and return to the **Web Applications** tab where the application now appears as **Enabled=true**.

**Web Applications**

<table>
<thead>
<tr>
<th>Web Applications (2)</th>
<th>New</th>
<th>Enable</th>
<th>Update</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="web-determinations" /></td>
<td><img src="image" alt="web-determinations" /></td>
<td><img src="image" alt="web-determinations" /></td>
<td><img src="image" alt="web-determinations" /></td>
<td><img src="image" alt="web-determinations" /></td>
</tr>
</tbody>
</table>

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Step 2 - Test the Service

To try the application, launch a web browser and browse to (for example):

```
```

Where the hostname is the name of the target machine and the port number is the port to which the Sun Web Server node is bound. A page similar to the following should display:
Deploy Oracle Determinations Document Generation Server

The following topics describe the methods for deploying the Oracle Determinations Document Generation Server on various platforms.

Deploy Oracle Determinations Document Generation Server on Tomcat

This section provides instructions for installing the Oracle Determinations Document Generation Server on Apache Tomcat.

*Note:*
In order to use the Oracle Determinations Document Generation Server, you must ensure that you have the appropriate BI Publisher runtime license.

The steps are as follows:

**Step 1 - Copy the document-generation-server.war file**

1. Stop Tomcat if it is currently running.
2. Copy the document-generation-server.war file into the "webapps" directory of the Tomcat installation.

**Step 2 - Start Tomcat**

1. Open a command prompt and go to `<tomcat installation directory>/bin`.
2. Run "startup.bat".

**Step 3 - Test the Service**

To test, open a browser and go to `http://<server>:<port>/document-generation-server`; in this example, the url is `http://localhost:8080/document-generation-server`:

![Welcome to Oracle Determinations Document Generation Server](image)

**Step 4 - Update web-determinations config file.**

Open `<web-determinations>/WEB-INF/classes/config/application.properties`. Check if the property `plugin.docgen.server.url` matches the url of the document generation server. The default value is:

```
# Location of the Document Generation Server
plugin.docgen.server.url=http://127.0.0.1:8080/document-generation-server/
```

**Step 5 - Start web-determinations/determinations server**

Start web-determinations.
Deploy Oracle Determinations Document Generation Server on Oracle WebLogic Server

This section provides instructions for installing the Oracle Determinations Document Generation Server on Oracle WebLogic Server.

**Note:**
In order to use the Oracle Determinations Document Generation Server, you must ensure that you have the appropriate BI Publisher runtime license.

The steps are as follows:

**Step 1 - Deploy the document-generation-server.war File**

1. Start the WebLogic server and go to the *Administration Console* using a browser:
2. Choose **Deployments** in Domain Structure.

3. Click on the **Install** button and choose the path to the `document-generation-server.war` file (example `D:\CER Training\Rebate-estimator\Release\document-generation-server.war`).
4. Click on the **Next** button and make sure the chosen **Targeting style** is **Install this deployment as an application.**

5. Click on the **Next** button and make sure that **Security** is set to **DD Only: Use only roles and policies that are defined in the deployment descriptors** and leave the other settings to default.
6. Click on the **Finish** button.

Step 2 - Test the Service

1. Click on the `document-generation-server` deployment on the **Summary of Deployments** page.
2. Click on the **Testing** tab on the presented **Settings for document-generation-server** page.
3. Start your session by clicking on the default **Test Point URL**; you should be presented with the following result:
Deploy Oracle Determinations Document Generation Server on IBM WebSphere

This section provides instructions for installing the Oracle Determinations Document Generation Server into an IBM WebSphere Application Server servlet container on multiple platforms. Unless otherwise specified, the installation instructions are common to all platforms; see the System Requirements section for a list of supported platforms.

The steps that follow assume that Oracle Determinations Document Generation Server is being installed for the first time on this WebSphere Application Server V6.1 (32-Bit Edition) installation.

These instructions assume the following:

- WebSphere Application Server has already been correctly installed and configured on the target machine.
- Oracle Determinations Document Generation Server is being installed for the first time on the application server.
- A copy of the document-generation-server.war file is located on the machine used to do the installation.
- That the user installing Oracle Determinations Document Generation Server has enough permissions to do the following:
  - Start and Stop WebSphere.
  - Copy files to WAS and sub-directories.
  - Either modify the system library path environment variable or copy files to a directory specified by it.

Note: In order to use the Oracle Determinations Document Generation Server, you must ensure that you have the appropriate BI Publisher runtime license. The steps are as follows:

Step 1 - Deploy the document-generation-server.war File

On all platforms, to deploy the document-generation-server.war file, do the following:

1. Ensure that WebSphere is running. To start WebSphere do the following:
   
   For Windows
   Open a dos prompt and type:
   ```
   cd <WAS>\bin
   startServer.bat <server instance>
   ```
   
   Where:
   - `<WAS>` is the WebSphere Application Server install directory and
   - `<server instance>` is the instance of the server that Oracle Determinations Document Generation Server is being deployed to (by default this is server1).

   For Solaris or AIX
   Open a terminal and type:
   ```
   cd <WAS>/bin
   ./startServer.sh <server instance>
   ```
   
   Where:
   - `<WAS>` is the WebSphere Application Server install directory and
   - `<server instance>` is the instance of the server that Oracle Determinations Document Generation Server is being deployed to (by default this is server1).
2. Open the administration console by launching a web browser and go to:

```
http://<hostname>:<port>/admin
```

Where:
<hostname> is the name of the target machine and
<port number> is the port that the admin console runs on (default is 9060). Enter a User ID and login.

3. On the Menu select *Applications / Install New Application*.

4. On the *Preparing for the application installation* page, select the **Local file system** radio button and enter the full path of the `document-generation-server.war` file. In the *Context root* text box, enter `document-generation-server` and click **Next**.
5. On the *Select installation options* page confirm the following details and click **Next**.

6. On the *Map modules to server* page select the Oracle Determinations BI Publisher Service module and click **Next**.
7. On the *Map virtual hosts for Web Modules* page, select Oracle Determinations BI Publisher Service and click **Next**.

8. On the *Summary* page confirm the following details and click **Finish**.
9. On the next Page click the **Save** link to save the changes to the master configuration file.

10. Check that the application has been installed by going to the menu and select **Applications / Enterprise Applications**. You should see an application called **document-generation-server_war** listed. If the application is not started (a red cross in the status column) Select the check box to the left of **document-generation-server_war** and click on the **Start** button.
Step 2 - Test the Service

To try the application, launch a web browser and browse to (for example):


Where the hostname is the name of the target machine and the port number is the port to which the WebSphere Application Server node is bound. You should see the Welcome page for the Document Generation Server:

![Welcome page screenshot]

Deploy Oracle Determinations Document Generation Server on Sun Web Server 7.0

This section provides instructions for installing the Oracle Determinations Document Generation Server into a Sun Web Server 7.0 servlet container on multiple platforms. Unless otherwise specified, the installation instructions are common to all platforms; see the System Requirements section for a list of supported platforms.

These instructions assume the following:

- Sun Web Server 7.0 has already been correctly installed and configured on the target machine.
- Oracle Determinations Document Generation Server is being installed for the first time on the application server.
- A copy of the document-generation-server.war file is located on the machine used to do the installation.
- That the user installing Oracle Determinations Document Generation Server has enough permissions to do the following:
  - Start and Stop Sun Web Server 7.0.
  - Copy files.
  - Either modify the system library path environment variable or copy files to a directory specified by it.

*Note:* In order to use the Oracle Determinations Document Generation Server, you must ensure that you have the appropriate BI Publisher runtime license.

The steps are as follows:
Step 1 - Deploy the document-generation-server.war file

On all platforms, to deploy the document-generation-server.war file, do the following:

1. Ensure that Sun Web Server 7.0 is running and start the Administration Console.
2. On the **Common Tasks** tab, select **Virtual Server Tasks | Add Web Application**.

3. In the presented **Add Web Application** window, select the **Specify a package file to upload to the Web Server** radio button and enter the full path of the document-generation-server.war file; the **URL** field will be automatically populated when you click in it. Accept the default **Target Directory** and click **OK**. There is no need to enter a description or to check **JSP Pre-compilation Enabled**.
4. On clicking OK, you are taken to the **Web Applications** tab of the *Edit Virtual Servers* window.

5. Click on the alert at the top right of this window that states **Deployment Pending**; you are presented with the **Configuration Deployment** window.
6. Click on the **Deploy…** button; once deployed you are returned a message that states: "The Configuration has been deployed successfully to all available nodes". Click on **Close** to close the window and return to the Web Applications tab where the application now appears as `Enabled=true`.

---

**Step 2 - Test the Service**

To try the application, launch a web browser and browse to (for example):

```
http://localhost:81/web-determinations/
```

Where the hostname is the name of the target machine and the port number is the port to which the Sun Web Server node is bound. You should see the *Welcome to Oracle Determinations Document Generation Server* page:
Deploy the Oracle Policy Automation Interview Portlet
The following topics describe the methods for deploying the OPA Interview Portlet.

Deploy the Interview Portlet Producer on WebCenter

Step 1 – Create an EAR file

1. Start with the `opa-interview-portlet.war` file.
2. Configure rulebases and custom plugins by following the instructions described in "Pre-Installation Steps" in "Deploy Oracle Web Determinations for Java on Oracle WebLogic Server" in this guide. **Note:** In particular, any custom plugins must be copied into the WEB-INF/lib directory.
3. Once the `opa-interview-portlet.war` file is ready, convert it to an .ear file suitable for deployment as a WSRP portlet. The following is a quick-start guide to this process, but for detailed instructions you must consult the relevant documentation for the version of WebCenter being used.
   - Use the "wsrp-predeploy.jar" utility which is found in:
     ```
     <MW_HOME>/<WC_HOME>/webcenter/modules/oracle.portlet.server_<version>
     ```
   - Invoke it using:
     ```
     java -jar wsrp-predeploy.jar opa-interview-portlet.war
     ```
   - The utility should report a message similar to the following:
     ```
     Running predeployment tool in default mode
     Destination EAR: "<path>/opa-interview-portlet-wsrp.ear"
     WSRP Service created successfully
     ```

Step 2 – Deploy the EAR file

1. Deployment of the EAR file can be done using either Fusion Middleware Control or Oracle WebLogic Server Administration Console.
2. Upload the Ear file created in Step 1 part 3 above; use the default options on each of the steps to deploy the EAR file to any instance of WebLogic that has Portlet WSRP installed.

Step 3 – Prepare to consume the portlet

1. In Fusion Middleware Control, click \textbf{Application Deployments}.
2. In the left-hand pane, find the newly deployed application \textit{opa-interview-portlet-wsrp}.
3. In the right-hand pane, find the Entry Points area which should contain an opa-interview-portlet Web Module; click on the link under Test Point to display the WSRP Producer Test Page.

4. From the WSRP Producer Test Page, copy (or note) the URL for the WSDL; this will be required when consuming the portlet.

Consume the Interview Portlet on WebCenter

This can be done on any instance of WebCenter and will require you to have a working portal application. The following steps describe what you must do to consume the Interview Portlet on WebCenter.

1. Access the Fusion Middleware Control Enterprise Manager website; it should look something like this:
2. Under *Application Deployments*, locate and click on the portal application that will consume the interview portlet; in this case, **AviTrustSamplePortal**.
3. Go to the Application Deployment drop down menu and select **WebCenter – Register Producer**; the Add New Portlet Producer form is presented.

4. Copy the URL from *Step 5 – Test the deployment,* into the WSDL URL field in the Connection Details area, then click on the Test button to test the connection.

5. After the test is completed, click on the OK button to register the portlet; you should see a confirmation message.
6. Open the page where you wish to add the interview portlet and go into **Edit** mode; for example, from the Administration Console.

7. Click on **Add Content – Portlets**.

8. Click on **Remote Interview Portlet** and add the **OPA Interview Portlet**; the portlet will be added to the page in **Edit** mode.
9. Click on **Save** and exit.
10. Click on a rulebase link to test that the portlet is working correctly.

---

**Deploy the Interview Portlet on JBoss Enterprise Portal Platform**

These instructions assume JBoss is already installed and running on your machine.

**Pre-Installation Steps**

Before you proceed with installing the Interview Portlet on JBoss, do the following:

1. Unzip the provided **opa-interview-portlet.war** file.
2. Copy any plugins into the `WEB-INF\lib` directory.
3. Edit the `application.properties` file and set `load.rulebase.from.classpath=false` and set `rulebase.path` to some absolute path on your file system.
4. Place all required rulebases into the location specified at `rulebase.path`.
5. Re-zip the **opa-interview-portlet.war** file.

**Step 1 - Deploy the opa-interview-portlet.war File**

1. Start up JBoss and proceed to the **Administration Console**.
2. In the tree on the left, and click on **Applications-Web Application (WAR)s**.
3. Click on the **Add a new resource** button.

4. On the presented **Add New Web Application (WAR) page**, browse to the **opa-interview-portlet.war** file.
5. Set **Deploy Exploded to No** and click on the **Continue** button; you are returned to the Web Application (WAR) page which now includes the *opa-interview-portlet.war* file in the list.

---

**Step 2 – Add Portlet as a Local Portlet**

1. Login to the portal (default http://localhost:8080/portal) using the root account.
2. Go to **Group -> Administration -> Application Registry:**
3. If Opa-Interview-Portlet is not visible on the left hand side, click "Import Applications" in top right. "Opa-Interview-Portlet" should now appear on the left hand side.

Step 3 – Create a test page containing the Portlet

1. Navigate to **Group Editor -> Add New Page**.

2. In step 1 of the **Page Creation Wizard**, give the page a **Node Name** and a **Display name**.
3. Skip through step 2 and in step 3 drag and drop the OPA Interview Portlet from the Page Editor at the right of the screen and onto the new page.

4. Save the page by clicking on the floppy disk button on top right of the wizard.

5. You are presented with the completed OPA Interview Portlet page from which you can select the rulebase in which you wish to conduct an investigation:
Deploy the Interview Portlet on the JBoss Enterprise Portal Platform via WSRP

1. Use the "WSRP Configuration" portlet by navigating to Group -> WSRP.

2. The WSRP Configuration portlet should have two default consumers: selfv1 and selfv2; ensure the status of selfv2 is active. Click Activate if it is not.

3. In the Application Registry, click on the Import Applications button at the top right; this will add the category Selfv2 Producer containing OPA Interview Portlet (Remote).

4. Follow the process in Step 3 – Create a test page containing the Portlet above, to add the OPA Interview Portlet (Remote) portlet to any portal page.

5. You are presented with the completed OPA Interview Portlet page from which you can select the rulebase in which you wish to conduct an investigation:
**Note:**
If you experience out of memory exceptions while running the portlet over WSRP, you may need to increase the `-Xmn` setting in `JAVA_OPTS` to `-Xmn64m` or more. This can be done by updating `run.conf.bat` in the JBoss bin directory.