Oracle® Application Server

Release Notes

10*g* Release 3 (10.1.3.2) for Solaris Operating System (SPARC 64-Bit)

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Oracle Application Server Release Notes, 10g Release 3 (10.1.3.2) for Solaris Operating System (SPARC 64-Bit)

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Preface

This preface includes the following topics:

- Audience
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Audience

This document is intended for users of Oracle Application Server 10*g*.

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible to all users, including users that are disabled. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Accessibility standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For more information, visit the Oracle Accessibility Program Web site at http://www.oracle.com/accessibility/.

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`http://www.fcc.gov/cgb/consumerfacts/trs.html`, and a list of phone numbers is available at `http://www.fcc.gov/cgb/dro/trsphonebk.html`.

Related Documents

For more information, see these Oracle resources:

- Oracle Application Server Documentation on Oracle Application Server Disk 1
- Oracle Application Server Documentation Library 10*g* Release 3 (10.1.3.2)

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

What's New in the *Oracle Application Server Release Notes*?

This chapter provides a listing of new topics introduced with this version of the *Oracle Application Server Release Notes*. The new topics are in the following chapters:

- Chapter 2, "Installation Issues"
- Chapter 3, "General Management and Security Issues"
- Chapter 4, "Oracle HTTP Server"
- Chapter 9, "Oracle Containers for J2EE"

Chapter 2, "Installation Issues"

- Section 2.2.3, "Clarification of VIRTUAL_HOST_NAME Environment Variable Setting"

Chapter 3, "General Management and Security Issues"

- Section 3.3.6, "Incorrect request Attribute Description"
- Section 3.3.7, "Incorrect Title"

Chapter 4, "Oracle HTTP Server"

- Section 4.1.2, "Changing the Location of the PID File Requires a Change in apachectl"
- Section 4.1.3, "Routing Requests to Different Middle Tiers Based on the URL of the Request"
- Section 4.2.7, "Clarification for the Name of the Oracle Application Server Proxy Plug-In Definition File"

Chapter 9, "Oracle Containers for J2EE"

- Section 9.3.5, "Using a Tag Library with the ojspc Utility"
- Section 9.4.1, "EJB 3.0 Support"
- Section 9.10.3.5, "Incorrect Subswitch Names for admin_client.jar Commands"
- Section 9.10.7.1, "Incorrect Example for Disabling Text File Logging"

- Section 9.10.7.6, "Configuration of OPMN Gateway Element Shows Incorrect Order"

- Section 9.10.7.7, "Starting Order Incorrect for Static Peer-to-Peer Replication"

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Introduction

This chapter introduces Oracle Application Server Release Notes, 10*g* Release 3 (10.1.3.2). It includes the following topics:

- Section 1.1, "Latest Release Information"
- Section 1.2, "Purpose of this Document"
- Section 1.3, "Operating System Requirements"
- Section 1.4, "Certification Information"
- Section 1.5, "Licensing Information"

1.1 Latest Release Information

This document is accurate at the time of publication. Oracle will update the release notes periodically after the software release. You can access the latest information and additions to these release notes on the Oracle Technology Network at:

http://www.oracle.com/technology/documentation/

1.2 Purpose of this Document

This document contains the release information for Oracle Application Server 10*g* Release 3 (10.1.3.2). It describes differences between Oracle Application Server and its documented functionality.

Oracle recommends you review its contents before installing, or working with the product.

1.3 Operating System Requirements

Oracle Application Server installation and configuration will not complete successfully unless users meet the hardware and software pre-requisite requirements before installation. See the *Oracle Application Server Installation Guide* for a complete list of operating system requirements.

1.4 Certification Information

The latest certification information for Oracle Application Server 10*g* Release 3 (10.1.3.2) is available at:

http://metalink.oracle.com

1.5 Licensing Information

Licensing information for Oracle Application Server is available at:

http://oraclestore.oracle.com

Detailed information regarding license compliance for Oracle Application Server is available at:

http://www.oracle.com/technology/products/ias/index.html

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Installation Issues

This chapter describes installation and their workarounds associated with Oracle Application Server. It includes the following topics:

- Section 2.1, "Installation Issues"
- Section 2.2, "Documentation Errata"

2.1 Installation Issues

This section describes issues with installation of Oracle Application Server. It includes the following topics:

- Section 2.1.1, "Response Files Created through the Record Mode Are Not Supported"
- Section 2.1.2, "IPv6 Not Supported"
- Section 2.1.3, "Port Conflict When Oracle WebCenter Framework and Oracle Content DB are Installed on the Same Machine"
- Section 2.1.4, "Installation Failure for Turkish Locale"
- Section 2.1.5, "Set db_create_file_dest Before Installing Against a File System Database"
- Section 2.1.6, "Java Virtual Machine Parameters for Installation"

2.1.1 Response Files Created through the Record Mode Are Not Supported

If you want to run the installer with a response file (to perform a silent or non-interactive installation), you cannot use response files created through the `-record` command-line option in the installer, as described in the "Creating Response Files by Using the Record Mode in the Installer" section in the *Oracle Application Server Installation Guide*. Instead, you must use response files that were created from the provided response file templates; you replace the placeholder values in the template files with your own values.

2.1.2 IPv6 Not Supported

This release of Oracle Application Server is not certified to run on machines that are configured with IPv6. You have to install and run this release of Oracle Application Server on machines that are configured with IPv4.

2.1.3 Port Conflict When Oracle WebCenter Framework and Oracle Content DB are Installed on the Same Machine

If Oracle WebCenter Framework and Oracle Content DB are installed on the same machine, you may see a message in `opmn.log` that is similar to the following:

If your host contains an Oracle Application Server 10*g* (9.0.4) installation, you may have installed `gcc-2.95` or `gcc-2.96` on your system, as outlined in *Oracle Application Server Quick Installation and Upgrade Guide 10g (9.0.4) for Linux x86*. The procedure involved creating symbolic links for `/usr/bin/gcc` and `/usr/bin/cc` to the appropriate version of the executables.

```
06/06/07 06:22:52 [ons-connect] Passive connection 127.0.0.1,6100 missing connect
```

To check whether these links exist:

```
ls -l /usr/bin/gcc /usr/bin/cc
```

Check if the `gcc` and `cc` commands are symbolic links, for example:

```
gcc -> /opt/gcc295/bin/gcc
cc -> /opt/gcc295/bin/gcc
```

This is due to a port conflict. To correct this problem, perform the following steps:

1. Open the *DB_ORACLE_HOME*`/opmn/conf/ons.config` file for editing.

2. Set the `localport` to a port other than 6100. For example:

    ```
    localport=7100
    ```

3. Restart the database listener:

    ```
    DB_ORACLE_HOME/bin/lsnrctl stop
    DB_ORACLE_HOME/bin/lsnrctl start
    ```

4. Restart the Oracle WebCenter Framework instance:

    ```
    opmnctl stopall
    opmnctl startall
    ```

2.1.4 Installation Failure for Turkish Locale

All installation types fail with the Turkish locale:

This is because Oracle WebCenter Framework Configuration Assistant fails with the following errors:

```
ERROR:  'Instruction unknown: load?nstruction'
FATAL ERROR:  'Could not compile stylesheet
```

For all installation types, the component toolbox on the Configuration Assistants page of Oracle Universal Installer is not displayed properly for the Turkish locale.

Oracle recommends that you avoid running the Oracle Universal Installer to install Oracle Application Server using the Turkish locale.

2.1.5 Set db_create_file_dest Before Installing Against a File System Database

If you are installing against a file system-based database, you must set the db_create_file_dest parameter to the location of the DB data files before starting the installation. For example:

```
SQL> ALTER SYSTEM SET db_create_file_dest='C:\oradata' SCOPE=BOTH
```

This is because Oracle WebCenter Framework Configuration Assistant fails with the following errors:

```
ERROR:  'Instruction unknown: load?nstruction'
FATAL ERROR:  'Could not compile stylesheet
```

If you are installing against a raw database, this parameter must be null.

Note that the cdb_alter_system.sql script does not set this parameter. You must set it manually.

2.1.6 Java Virtual Machine Parameters for Installation

After installing Oracle Application Server, and then, Oracle Communication and Mobility Server, you must edit the following Java Virtual Machine (JVM) parameters in the `$ORACLE_HOME/opmn/conf/opmn.xml`file:

```
-Xgcpolicy:gencon -Xmos128m -Xmox128m -Xss128k -Xms1280M -Xmx1280M

-Xss128k -Xms1280m -Xmx1280m -Xmn16m
-XX:SurvivorRatio=16 -XX:CICompilerCount=1 -Xoptgc -XX:+ForceMmapReserved
-XX:-UseHighResolutionTimer -XX:SchedulerPriorityRange=SCHED_NOAGE
-Djava.nio.channels.spi.SelectorProvider=sun.nio.ch.DevPollSelectorProvider
-XX:-ExtraPollBeforeRead
-XX:+UseTLAB -XX:TLABSize=32k -XX:-UseFastAccessorMethods
-XX:+UseConcMarkSweepGC -XX:CMSInitiatingOccupancyFraction=80
-XX:+UseParNewGC -XX:PermSize=128m -XX:MaxPermSize=128m

-XX:NewRatio=3 -XX:+UseConcMarkSweepGC -XX:+UseParNewGC
-XX:PermSize=128m -XX:MaxPermSize=128m -Xss128k -Xmx1280M -Xms1280M
```

The JVM parameters are used to activate the Oracle Communication and Mobility Server instance.

> **Note:** To perform standalone installation of Oracle Communication and Mobility Server, you need to run these parameters in the command-line interface along with the startup command.

You must also upgrade Java Development Kit (JDK) to version 1.5.0_05 after installing Oracle Communication and Mobility Server. For more information on upgrading JDK, refer to 396096.1 note available on Oracle*MetaLink* at:

https://metalink.oracle.com

2.2 Documentation Errata

The section describes documentation errata in installation documentation. It includes the following topics:

- Section 2.2.1, "Length Restrictions on Content Database Schema Password is Incorrect in the Oracle Universal Installer Online Help"

- Section 2.2.2, "Incorrect DVD-ROM File Structure Mentioned in Oracle Application Server Installation Guide"

- Section 2.2.3, "Clarification of VIRTUAL_HOST_NAME Environment Variable Setting"

2.2.1 Length Restrictions on Content Database Schema Password is Incorrect in the Oracle Universal Installer Online Help

The following topic in the Application Server Control online help incorrectly states the valid length of the Content Database schema password when installing Oracle Application Server 10*g* Release 3 (10.1.3.2):

- "Specify Content Database Schema Password"

The length of the Content Database schema password must be between 5 and 30 characters long.

2.2.2 Incorrect DVD-ROM File Structure Mentioned in *Oracle Application Server Installation Guide*

The *Oracle Application Server Installation Guide* lists incorrect paths to files on the DVD-ROM. The DVD-ROM does not have a directory called `application_server`. Instead, it has the following top-level directories:

- `bpel`
- `companioncd`
- `esb`
- `owsm`
- `soa`

Copying Files for Installation

If you want to copy the files from the DVD-ROM to a drive, you can copy each of the main directories listed above separately. You do not need to copy the entire DVD-ROM, unless you need to install all the products and components.

runInstaller Location

The `runInstaller` command is found in the following directories:

- `bpel/bpel_oc4j`
- `companioncd/Disk1`
- `esb/esb`
- `owsm/owsm`
- `soa`

Use the one that corresponds to the product or component that you want to install.

2.2.3 Clarification of VIRTUAL_HOST_NAME Environment Variable Setting

Section 6.4.4, "OracleAS Cold Failover Cluster: Details of Installation Steps", in the *Oracle Application Server Installation Guide 10g Release 3 (10.1.3.2.0)* for all UNIX/Linux platforms contains the following statement:

"Set the VIRTUAL_HOST_NAME environment variable to the virtual hostname on either node of the hardware cluster."

For all UNIX/Linux platforms, the cloned instance will use the hostname of the machine, rather than the virtual hostname, even if you set the VIRTUAL_HOST_

NAME environment variable during installation of the source instance and before performing the cloning operation.

Use the ORACLE_HOSTNAME environment variable and the OUI_HOSTNAME install option instead of the VIRTUAL_HOST_NAME environment variable to set the virtual hostname.

For Windows platforms, you can use the VIRTUAL_HOST_NAME environment variable for the virtual hostname installation.

3

General Management and Security Issues

This chapter describes management and security issues associated with Oracle Application Server. It includes the following topics:

3.1 General Issues and Workarounds

This section describes general management and security issues. It includes the following topics:

3.1.1 Deploying an Application Hangs During File Upload

When you deploy an application using Application Server Control, the upload page may keep showing the "upload in progress" message until you manually refresh the page. In the `ASControl.log` file, you may see these messages:

```
WARN  util.MultipartRequestUtil _getMultiPartRequestParameter.263 -
 java.io.IOException: Cannot create temp directory: The system cannot find the
```

```
path specified
```

You get this message if the temporary directory specified by the `java.io.tmpdir` system property does not exist.

To determine the value of the `java.io.tmpdir` system property, go to the Application Server Control's System Property page, which lists the values of system properties. If the directory specified by the `java.io.tmpdir` system property does not exist, create the directory and restart the server.

3.1.2 Limited Management Support for Multiple-JVM OC4J Instances

With Oracle Application Server 10*g* Release 3 (10.1.3.2), you can configure any OC4J instance to use multiple Java Virtual Machines (JVMs). You can perform this configuration change by using the Application Server Control Console or by setting the `numprocs` argument in the `opmn.xml` file to a number greater than one (1).

The `opmn.xml` file is located in the following directory in your Oracle Application Server Oracle home:

To set the number JVMs in the Application Server Control Console, see "Creating Additional JVMs for an OC4J Instance" in the Application Server Control online help.

To set the number of JVMs by editing the `numprocs` argument in the `opmn.xml` file, refer to the following example, which shows the `numprocs` entry you must modify:

```
<ias-component id="OC4J">
  <process-type id="home" module-id="OC4J" status="enabled">
       .
       .
       .
      <process-set id="default_group" numprocs="2"/>
   </process-type>
</ias-component>
```

Note, however, that this feature is not supported by Application Server Control. Specifically, Application Server Control (represented by the `ascontrol` application) cannot run on an OC4J instance that is running multiple JVMs. As a result, be sure that you do not configure multiple JVMs for the administration OC4J instance (the OC4J instance that is hosting the active ascontrol).

If you choose to configure the number of JVMs for the administration OC4J to more than one (1), then you must use command line tools to manage your Oracle Application Server environment. For example, you must use:

- `admin_client.jar` for deployment, re-deployment, undeployment, start and stop applications, and shared library management
- Apache Ant for deployment, redeployment, and undeployment of your applications
- `opmnctl` commands for starting, stopping, and other life cycle operations on the Oracle Application Server

Further, if you are using multiple JVMs on the administration OC4J and, as a result, the Application Server Control Console is not available, then you must make any Oracle Application Server instance configuration changes manually. Manual configuration changes often require you to shut down the Oracle Application Server instance, manually configure the relevant XML files, and then restart Oracle Application Server.

3.1.3 Problem Removing a Property from a Native Data Source

If you use the Application Server Control Console to remove a property from a native data source, Enterprise Manager does not remove the property from the underlying connection factory. As a result, the property (and its current value) is not changed.

This is expected behavior. To set a value on the underlying connection factory, use the `setProperty` operation of the `JDBCDataSource` MBean for the native Data Source to do this. You can use the MBean Browser, which is available in the Application Server Control Console, to invoke an MBean operation.

> **See Also:** "About the MBean Browser" in the Application Server Control online help

3.1.4 Use the Command-Line to Restart Standalone OC4J Instances

Some OC4J configuration pages in the Application Server Control Console (including the JTA Administration and Oracle Internet Directory Association pages) require a restart of the OC4J instance for changes to take affect. Users are notified of this with on screen warnings during configuration operations on these components.

If are using the Application Server Control Console in a standalone OC4J environment, and you use the **Restart** link, which is displayed after applying changes to one of these pages, the operation may take a few minutes because it performs an internal restart of the OC4J instance. As a result, instead of using the **Restart** link, Oracle recommends that OC4J standalone users use the command line to restart the OC4J instance.

3.1.5 TopLink Sessions Not Available in Application Server Control Console

If the TopLink Sessions for a TopLink-enabled application are not available in Application Server Control Console, check to be sure the TopLink session is configured to create the MBeans at login time. This is done by ensuring that the application has a `serverPlatform` class defined, and that the `ServerPlatform` class has its is `RuntimeServicesEnabled` flag enabled.

For Oracle Application Server 10*g* Release 3 (10.1.3.2), you should be using the following platform class, which can be set in the `sessions.xml` or through the session API:

```
oracle.toplink.platform.server.oc4j.Oc4j_10_1_3_Platform
```

When developing a TopLink-enabled application using Oracle JDeveloper, make sure to use version 11 or higher.

> **See Also:** "Configuring the Server Platform" in the *Oracle TopLink Developer's Guide*

3.1.6 Unable to Receive MBean Notification Using OPMN to Start or Stop OC4J

You will not be able to receive notification from the `ias:j2eeType=J2EEServer,name...` MBean entity if you start or stop Oracle Containers for J2EE (OC4J) using OPMN. This happens using either the Application Server Control or the `opmnctl stop` or `opmnct start` command from the command line.

There is presently no workaround for this issue.

3.1.7 Using the Java Server Pages Standard Tag Libraries

The Java Server Pages Standard Tag Library (JSTL) makes use of Jaxp 1.2 classes that are packaged with Java Developer Kit 1.4.

Oracle Application Server 10*g* Release 3 (10.1.3.2) makes use of JDK 1.5 which uses Jaxp 1.3 classes. However, the JSTL still requires the Jaxp1.2 classes. If you run the JSTL with XML related tags in JDK 1.5 you may receive an error message similar to:

```
: missing class org.apache.xpath.encounter failure.
```

To avoid JSTL failure, include the `xalan.jar` file in the required `.war` file. Add the `xalan.jar` file into your `/WEB-INF/lib` directory with the `.war` file and then re-package.

For more information refer to the JSTL release notes at:

http://java.sun.com/webservices/docs/1.6/jstl/ReleaseNotes.html.

3.1.8 RMD Conditional Does Not Fully Evaluate

As documented in the *Oracle Process Manager and Notification Server Administrator's Guide* and functional specifications for Dynamic Resource Management (DRM), a Resource Management Directive (RMD) conditional can have a fully qualified path. However, the conditional may not evaluate at all. It may fail to trigger any action or exception even though the `opmn.xml` file is valid.

RMD definitions can be either:

- Hierarchical: if defined at the `ias-instance` level or lower. Hierarchical RMDs assume an association within the OPMN configuration components in which they are defined.

- Global: if defined at the `process-manager` level. Global RMDs require explicit OPMN component specifications.

If you are referencing a hierarchical RMD, instead of a fully qualified path use a hierarchical relative reference.

For example, if the average request time is greater than 500 milliseconds for at least 60 seconds and there are less then 4 processes running for the `process-set` at which the hierarchical RMD was configured for OC4J, you would use the following in the `opmn.xml` file:

```
([process].avgReqTime > 500 {duration(60)})&([process-set].numProcs < 4)
```

If you are referencing a global RMD use a global absolute reference.

For example, if the heap size of a Java Virtual Machine (JVM) has exceeded 500 MBs, you would use the following in the `opmn.xml` file:

```
[process-set=home][process].heapSize > 500000
```

Note that the `opmn.xml` file is located in the following directory in your Oracle Application Server Oracle home:

```
ORACLE_HOME/opmn/conf/
```

3.1.9 Cannot Browse System MBeans If Application Server and OC4J Instance Share the Same Name

When you install Oracle Application Server 10g Release 3 (10.1.3.2) and specify a name for the default OC4J instance, do not use a name that matches the name of the Oracle

Application Server instance or the first few characters of the Oracle Application Server instance name; otherwise, you will be unable to browse the system or applications MBeans using the Application Server Control MBean Browser.

For example, you will not be able to browse the MBeans for the instance if the name of your OC4J instance and the name of your Oracle Application Server instance are as follows:

```
Oracle Application Server instance name: instance1_as10132.node1.acme.com OC4J
instance name: instance1
```

Similarly, keep this restriction in mind when you are creating additional OC4J instances. Do not use a name that matches the name of the Oracle Application Server that is hosting the OC4J instance.

3.1.10 Application Server Control Does Not Check for Multibyte Characters in Routing ID Text Fields

From the Application Server Control Console, you can modify the routing IDs assigned to the various components of your Oracle Application Server cluster topology.

> **See Also:** "Changing Routing IDs" in the in the Application Server Control online help

However, when you enter a unique identifier for a Routing ID, be sure to use only alphanumeric characters and underscores. If you attempt to create a routing ID using multibyte characters, you will be unable to stop or start Oracle Process Manager and Notification Server (OPMN).

If you inadvertently use multibyte characters in a routing ID field, you can remedy the problem by editing the opmn.xml file and replacing the multibyte characters with regular ASCII characters.

The opmn.xml file is located in the following directory in your Oracle Application Server Oracle home:

ORACLE_HOME/opmn/conf/

The routing ID for each component is defined within a data element similar to the following:

```
<category id="start-parameters">
    <data id="routing-id" value="g_rt_id"/>
</category>
```

3.1.11 Application Server Control Does Not Check for All Invalid Characters in the Context Root Field When Deploying an Application

When you deploy an application from Application Server Control, you are prompted to specify the context root for the application. Application Server Control verifies the text you enter in the **Context Root** field to prevent you from entering invalid characters.

However, Application Server Control does not check for all invalid characters, such as some Western European characters. As a result, if you enter a context root that contains these types of characters, Application Server Control allows you to proceed

with the deployment of the application, but after deployment, you will not be able to access the application using the Web server URL that contains the context root.

Only alphanumeric characters and the underscore (_), plus sign (+), and dash (-) characters are allowed when specifying a context root.

If you inadvertently enter an invalid character, such as a Western European character, in the **Context Root** field, you can remedy the problem by redeploying the application using a context root that contains only ASCII alphanumeric characters and underscores.

3.2 Clustering and Replication Issues

This section describes clustering and replication issues. It includes the following topic:

- Section 3.2.1, "Using Oracle Universal Installer Provided Sample Cluster Discovery Address May Inadvertently Cluster Servers"

3.2.1 Using Oracle Universal Installer Provided Sample Cluster Discovery Address May Inadvertently Cluster Servers

Oracle Universal Installer provides an example cluster discovery address as part of the advanced installation option. The provide example discovery address is 225.0.0.1:6789. This *is not* a recommended address; rather it is an example intended to provide the type of cluster discovery address users may ask for from their network administrator.

Because the cluster configuration of Oracle Application Server is fully dynamic it is possible for installations using the example cluster discovery address (225.0.0.1:6789) to be inadvertently clustered with other servers installed with the same example cluster discovery address.

The cluster discovery address of a specific Oracle Application Server instance can be set from the command line using the following opmnctl command:

```
> $ORACLE_HOME/opmn/bin/opmnctl config topology update discover=<cluster config
address>
```

For example, to update a cluster discovery address in a specific Oracle Application Server instance to be 225.0.0.1:9876, the command would be:

```
> $ORACLE_HOME/opmn/bin/opmnctl config topology update discover="*225.0.0.1:9876"
```

Details on configuring topologies and the cluster discovery address can be found in Chapter 8, "Configuring and Managing Clusters" of the *Oracle Containers for J2EE Configuration and Administration Guide*.

3.3 Documentation Errata

The section describes documentation errata in management documentation. It includes the following topics:

- Section 3.3.1, "Default Ping Timeout Value in OPMN Is 30 Seconds, Not 20"

- Section 3.3.2, "Incorrect Gateway Example in Oracle Process Manager and Notification Server Administrator's Guide"

- Section 3.3.3, "Valid Range of Multicast Addresses is Incorrect in the Application Server Control Online Help"

- Section 3.3.4, "Additional Information About Cloning"
- Section 3.3.5, "Enabling and Disabling Components Is Supported"
- Section 3.3.6, "Incorrect request Attribute Description"
- Section 3.3.7, "Incorrect Title"

3.3.1 Default Ping Timeout Value in OPMN Is 30 Seconds, Not 20

The *Oracle Process Manager and Notification Server Administrator's Guide* incorrectly states that the default ping timeout value is 20 seconds. It is actually 30 seconds.

3.3.2 Incorrect Gateway Example in Oracle Process Manager and Notification Server Administrator's Guide

In chapter 6, "opmn.xml Common Configuration", of the *Oracle Process Manager and Notification Server Administrator's Guide,* the last example shown in the `<gateway>` section may produce a validation error. The example shows these two lines:

```
<gateway
list="host1a.subA.com:6200&host2a.subA.com:6200/host1b.subB.com:6200&host2b.subB.c
om:6200"/>
<gateway
list="host1b.subB.com:6200&host2b.subB.com:6200/host1a.subA.com:6200&host2a.subA.c
om:6200"/>
```

You may get the following error if you use the lines above:

```
In line 9 of /scratch/aime1/10133/ohs/opmn/conf/opmn.xml:
LPX-00241: entity reference is not well formed
XML parse failed: error 241.
opmnctl: opmn.xml validation failed.
```

To fix this, you should merge the two lines into a single line, as follows:

```
<gateway
 list="host1a.subA.com:6200&
 host2a.subA.com:6200/host1b.subB.com:6200&host2b.subB.com:6200,
 host1b.subB.com:6200&host2b.subB.com:6200/host1a.subA.com:6200&
 host2a.subA.com:6200"/>
```

3.3.3 Valid Range of Multicast Addresses is Incorrect in the Application Server Control Online Help

The following topics in the Application Server Control online help incorrectly state the valid range of addresses you can use for a multicast address when configuring an Oracle Application Server 10*g* Release 3 (10.1.3.2) cluster topology:

- "Tips When Configuring the Cluster Topology"
- "Summary of the Supported Cluster Topologies"

The multicast address must be within the following range: `224.0.1.0` to 239.255.255.255.

3.3.4 Additional Information About Cloning

Note the following points about cloning:

- If *ORACLE_HOME*/portal/conf/javacache.xml is present in the source environment, you must manually modify this file in the cloned environment

  In this file, change the following:

  – In the <location> element, replace the value of the source ORACLE_HOME with the value of the cloned ORACLE_HOME.

  – In the <coordinator discovery-port> element, change the value to the new port number.

- The cloned instance will use the hostname of the machine, rather than the virtual hostname, even if you set the VIRTUAL_HOST_NAME environment variable during installation of the source instance and before performing the cloning operation.

- Oracle recommends that you stop the source instance completely before you run the prepare_clone.pl script.

3.3.5 Enabling and Disabling Components Is Supported

The *Oracle Application Server Administrator's Guide* incorrectly states that enabling and disabling components is not supported. Although it is not supported in Application Server Control Console, it is supported by OPMN. For more information on enabling and disabling components, see the *Oracle Process Manager and Notification Server Administrator's Guide*.

3.3.6 Incorrect request Attribute Description

In *Oracle Process Manager and Notification Server Administrator's Guide*, section 6.2, "opmn.xml Element and Attribute Descriptions", the request attribute description contains the following incorrect statement:

"The request attribute is for the IP address or host name to which ONS will bind its remote port."

The correct statement is:

"The request attribute is for the IP address or host name to which ONS will bind its request port."

3.3.7 Incorrect Title

In Section 7.6, "Generic Apache (Linux only)", of the Oracle Process Manager and Notification Server Administrator's Guide the title is incorrect. The listed configuration for the Oracle HTTP Server process module to manage generic Apache processes is valid for Linux and Microsoft Windows operating systems.

4

Oracle HTTP Server

This chapter describes issues associated with Oracle HTTP Server. It includes the following topics:

- Section 4.1, "Issues and Workarounds"
- Section 4.2, "Documentation Errata"

4.1 Issues and Workarounds

This section contains the following topics:

- Section 4.1.1, "Configuring Weighted Routing for AJP13 Destinations"
- Section 4.1.2, "Changing the Location of the PID File Requires a Change in apachectl"
- Section 4.1.3, "Routing Requests to Different Middle Tiers Based on the URL of the Request"

4.1.1 Configuring Weighted Routing for AJP13 Destinations

In the `Oc4jMount` directive, weighted load balancing works only when the destinations are instances or clusters. Weighted load balancing does not work for AJP13 destinations. For AJP13 destinations, the load is distributed evenly in a round-robin manner. For example, if your `mod_oc4j.conf` file contains the following lines, Host_A and Host_B will get an equal number of requests despite the settings in the `Oc4jRoutingWeight` directives.

```
Oc4jSelectMethod roundrobin:weighted
Oc4jRoutingWeight Host_A 1
Oc4jRoutingWeight Host_B 25
Oc4jMount /j2ee   ajp13://Host_A:<AJP Port>,Host_B:<AJP Port>
Oc4jMount /j2ee/* ajp13://Host_A:<AJP Port>,Host_B:<AJP Port>
# Instance weighted routing work as expected
#Oc4jMount /j2ee   instance://Host_A:home,Host_B:home
#Oc4jMount /j2ee/* instance://Host_A:home,Host_B:home
```

A possible workaround to achieve weighted load balancing for AJP13 destinations is to specify the same host multiple times in the `Oc4jMount` directive. The following example specifies Host_B twice.

```
Oc4jMount /j2ee ajp13://Host_A:<AJP Port>,Host_B:<AJP Port>,Host_B:<AJP Port>
```

4.1.2 Changing the Location of the PID File Requires a Change in apachectl

The `PidFile` directive specifies the location of the PID file. When Oracle HTTP Server starts up, it writes its process ID in the PID file.

If you edit the `PidFile` directive to change the location of the PID file, you must also make a corresponding change in the `ORACLE_HOME/Apache/Apache/bin/apachectl` file.

4.1.3 Routing Requests to Different Middle Tiers Based on the URL of the Request

It is not possible to configure two separate Oracle HTTP Servers using the same virtual hostname and port, where the proxy server routes the requests based upon the URL path, and also have them participate as partners in the same SSO configuration.

For example: You configure your load balancer or Oracle Web Cache on the web tier to route requests to applications that use Oracle Single Sign-On to the appropriate middle tier, based on the URLs.

- You have an Oracle HTTP Server configured to handle requests for `http://wwww.mycompany.com`.

- You have an Oracle Web Cache configured to route requests for `http://www.mycompany.com/app1` to midtier1.

- You have an Oracle Web Cache configured to route requests for `http://www.mycompany.com/app2` to midtier2.

`app1` and `app2` are applications that use Oracle Single Sign-On.

When a user issues a request for `/app1`, the request is redirected to midtier1. mod_osso on midtier1 redirects the request to the SSO server for authentication. After authentication, the SSO server calls the success URL, which is always `www.mycompany.com/osso_login_success` regardless of which application the request was for, and this success URL is handled by the Oracle HTTP Server for `www.mycompany.com`. Because the success URL does not specify which application the request is for, the Oracle HTTP Server for `www.mycompany.com` does not know where to redirect the request (whether to redirect it to midtier1 or midtier2). The load balancer or Oracle Web Cache cannot be configured to redirect the success URL correctly as there is no application information in the success URL.

A possible solution to this issue is described in MetaLink note 390358.1, which can be obtained from Oracle Customer Services via a Service Request.

4.2 Documentation Errata

This section describes documentation errata. It includes the following topic:

- Section 4.2.1, "Oracle HTTP Server Apache Version Number"

- Section 4.2.2, "Log Level Choices for Configuring IIS Listener for Single Sign-On are Incorrect"

- Section 4.2.3, "Correction to SSLCARevocationFile Directive Description"

- Section 4.2.4, "Correction to SSLCARevocationPath Directive Description"

- Section 4.2.5, "Incorrect Tags Listed for 40-Bit and 56-Bit Export Ciphers"

- Section 4.2.6, "Incorrect Web Address for mod_php Extensions Information"

- Section 4.2.7, "Clarification for the Name of the Oracle Application Server Proxy Plug-In Definition File"

4.2.1 Oracle HTTP Server Apache Version Number

Oracle HTTP Server is based on Apache version 1.3.34.

4.2.2 Log Level Choices for Configuring IIS Listener for Single Sign-On are Incorrect

The "Configuring IIS Listener for Single Sign-On" section in *Oracle HTTP Server Administrator's Guide* incorrectly states that the valid log levels are `debug`, `inform`, `error`, and `emergency`.

The valid log levels are `debug`, `inform`, `error`, and `emerg`.

4.2.3 Correction to SSLCARevocationFile Directive Description

The description for the `SSLCARevocationFile` directive in *Oracle HTTP Server Administrator's Guide*, Chapter 10, "Enabling SSL for Oracle HTTP Server," should be corrected as follows:

Specifies the file where you can assemble the Certificate RevocationLists (CRLs) from CAs (Certificate Authorities) that you accept certificates from. These are used for client authentication. Such a file is the concatenation of various PEM-encoded CRL files in order of preference. CRL files should be from a single issuer. Files specified by `SSLCARevocationFile` should not be hashed. There should be only one `SSLCARevocationFile` entry; if there are multiple entries, then the last one will be used. `SSLCARevocationFile` can be used alternatively and/or additionally to `SSLCARevocationPath`.

4.2.4 Correction to SSLCARevocationPath Directive Description

The description for the `SSLCARevocationPath` directive in *Oracle HTTP Server Administrator's Guide*, Chapter 10, "Enabling SSL for Oracle HTTP Server," should be corrected as follows:

Specifies the directory where PEM-encoded Certificate Revocation Lists (CRLs) are stored. These CRLs come from the CAs (Certificate Authorities) that you accept certificates from. If a client attempts to authenticate itself with a certificate that is on one of these CRLs, then the certificate is revoked and the client cannot authenticate itself with your server.

CRL files in the `SSLCARevocationPath` directory must be hashed. You can find the instructions to hash a CRL in *Oracle Application Server Administrator's Guide*, Section 11.2.5.2.1, "Renaming CRLs with a Hash Value for Certificate Validation." Note that `orapki` creates a file with a "`.rN`" extension. `SSLCARevocationPath` will not work with this extension and it is still possible to access with a revoked certificate. To get it to work with Oracle HTTP Server, change the extension from "`.rN`" to "`.r0`".

`SSLCARevocationPath` can be used alternatively and/or additionally to `SSLCARevocationFile`.

4.2.5 Incorrect Tags Listed for 40-Bit and 56-Bit Export Ciphers

Table 10-1, "SSLCipher Suite Tags", in the *Oracle HTTP Server Administrator's Guide* listed incorrectly the aliases for the 40-bit and the 56-bit export ciphers.

For 40-bit export cipher, do not use `EXP40`. Use `EXPORT40` instead.

For 56-bit export cipher, do not use `EXP56`. Use `EXPORT56` instead.

4.2.6 Incorrect Web Address for mod_php Extensions Information

The Web site provided for additional information on mod_php extensions was incorrect. The correct Web site is

http://www.php.net/manual/en/funcref.php

4.2.7 Clarification for the Name of the Oracle Application Server Proxy Plug-In Definition File

The "Using Oracle Application Server Proxy Plug-In" appendix in the *Oracle HTTP Server Administrator's Guide* mentions the proxy definition file without mentioning the actual filename. This is because the definition file can have any name.

If you are using the Oracle Application Server Proxy Plug-In with Microsoft IIS, you specify the full path to the definition file in the server_defs entry in the Windows registry. See the "Using Oracle Application Server Proxy Plug-In" appendix in the *Oracle HTTP Server Administrator's Guide* for the specific location in the registry.

If you are using the Oracle Application Server Proxy Plug-In with Sun Java System listener, you specify the full path to the definition file using the server_defs parameter on the Init line in the magnus.conf (or obj.conf, depending on the version of your Sun Java System listener) configuration file. In the following example, /oracle/proxyplugin/proxydefs is the definition file:

```
Init fn="op_init" server_defs="/oracle/proxyplugin/proxydefs" log_
file="/oracle/proxyplugin/oproxy.log" log_level=error
```

5

Oracle Content Database

This chapter describes issues associated with Oracle Content Database. It includes the following topic:

- Section 5.1, "Documentation Errata"

5.1 Documentation Errata

The section describes documentation errata in Content Database documentation. It includes the following topics:

- Section 5.1.1, "Additional Information for Content Database Administration Guide"

5.1.1 Additional Information for Content Database Administration Guide

The Managing Users chapter of the *Oracle Content Database for Oracle WebCenter Suite Administrator's Guide* neglects to state that Content Database does not support changing the security provider post-installation. After Installing Content Database with File Based Security Option, you cannot change the Security provider to OID.

6

Oracle WebCenter Suite

This chapter describes issues associated with Oracle WebCenter Suite. It includes the following topics:

- Section 6.1, "Oracle WebCenter Suite Issues and Workarounds"
- Section 6.2, "Documentation Errors"

6.1 Oracle WebCenter Suite Issues and Workarounds

This section describes issues and workarounds related to Oracle WebCenter Suite. This section includes the following topic:

- Section 6.1.1, "Installing Oracle WebCenter Suite 10g (10.1.3.2) on the Same Host as Oracle Database 10.1.x or 10.2.x Will Cause Performance Issues"
- Section 6.1.2, "Cloning the Oracle Home that Contains the OC4J_WebCenter Instance Does Not Clone the Java Object Cache Configuration"
- Section 6.1.3, "Standalone OC4J Requires Configuration to Run Java Object Cache"
- Section 6.1.4, "Use of Portal Adapter Requires Patch Update"
- Section 6.1.5, "JAZN Migration Tool Incorrectly Prefixes ADFRolePrincipal"
- Section 6.1.6, "Rich Text Portlet Customization Not Supported in Safari"
- Section 6.1.7, "Portlets with ADF Data Binding on the Same Page Cannot Be Customized"
- Section 6.1.8, "Issue with SES Securely Crawling Content in Oracle ContentDB"
- Section 6.1.9, "Language Setting Issue with the Federated Portal Adapter"
- Section 6.1.10, "Using the Search Feature with the File System Adapter"
- Section 6.1.11, "Using the Search Feature with the Federated Portal Adapter or Oracle ContentDB in Turkish"
- Section 6.1.12, "Use of Oracle WebCenter Adapters for Microsoft SharePoint, EMC Documentum, and IBM Lotus Domino Requires Patch Update"
- Section 6.1.13, "Using the Search Feature with Oracle WebCenter Adapters for Microsoft SharePoint, EMC Documentum, and IBM Lotus Domino"
- Section 6.1.14, "Reexecuting a Page that Uses Oracle WebCenter Adapters for Microsoft SharePoint, EMC Documentum, and IBM Lotus Domino"
- Section 6.1.15, "Incorrect Query Execution in Oracle WebCenter Adapter for IBM Lotus Domino"

- Section 6.1.16, "Supplying a Domain Name as Part of Administrator Credentials for Oracle WebCenter Adapter for EMC Documentum"

- Section 6.1.17, "Testing a JCR SharePoint Repository Connection"

- Section 6.1.18, "Running the Predeployment Tool in Scripts"

- Section 6.1.19, "Log Messages While Starting Preconfigured OC4J"

- Section 6.1.20, "Error When Compiling JSP with PDK Struts Components"

6.1.1 Installing Oracle WebCenter Suite 10*g* (10.1.3.2) on the Same Host as Oracle Database 10.1.x or 10.2.x Will Cause Performance Issues

If you install Oracle WebCenter Suite 10*g* (10.1.3.2) on the same host machine as an Oracle database, version 10.1.x or 10.2.x., Oracle Process Manager and Notification Server (OPMN) may consume a significant percentage of the machine's CPU time, and the OPMN log file will rapidly increase in size with messages, such as the following:

```
06/06/07 06:22:52 [ons-connect] Passive connection 127.0.0.1,6100 missing connect.
```

To prevent this issue from occurring, you can perform one of two actions:

- Install Oracle WebCenter Suite 10*g* (10.1.3.2) on a different machine than your Oracle database 10.1.x or 10.2.x, including the database you use for Oracle ContentDB, or

- Locate *ORACLE_HOME*/opmn/conf/ons.config in your database installation and change the port number to 6150 or higher.

6.1.2 Cloning the Oracle Home that Contains the OC4J_WebCenter Instance Does Not Clone the Java Object Cache Configuration

If you clone an Oracle Home that contains an OC4J_WebCenter instance, the Java Object Cache configuration for the instance, located in *ORACLE_HOME*/portal/conf/javacache.xml, is not automatically cloned. You must manually copy this file to the cloned Oracle Home.

6.1.3 Standalone OC4J Requires Configuration to Run Java Object Cache

When running WebCenter applications or WSRP producers on a standalone OC4J version 10.1.3.1.1 (specifically, the version that ships on the Companion CD with Oracle Application Server 10*g* Release 3 (10.1.3.2.0), Java Object Cache may not be correctly configured. In this situation, the WebCenter application or WSRP producer will run, but caching will be disabled and the application may run more slowly.

To determine whether this issue is occurring, check the log file in *ORACLE_HOME*/bin/javacache.log for the entry "java.lang.ArrayIndexOutOfBoundsException: -1."

To address this issue, create two directories: ORACLE_HOME/javacache/admin and ORACLE_HOME/javacache/persistence. Copy ORACLE_HOME/j2ee/home/config/javacache.xml to ORACLE_HOME/javacache/admin. Then, restart your standalone OC4J.

6.1.4 Use of Portal Adapter Requires Patch Update

The Oracle WebCenter Suite Portal Adapter enables you to view and search content in OracleAS Portal. To use the Portal Adapter, you must ensure that you are using

OracleAS Portal Release 10*g* (10.1.4), then apply patchset 10.1.4.1 and patch 5697918. The patchset and patch are both available on Oracle Metalink (`http://metalink.oracle.com`).

For more information on installing the patch, refer to the patch install notes included with the patch ZIP file.

6.1.5 JAZN Migration Tool Incorrectly Prefixes ADFRolePrincipal

When executed with the destination type LDAP (`-dt ldap`), the JAZN Migration Tool incorrectly prefixes the ADFRolePrincipal in the LDIF file with the realm root determined from Oracle Internet Directory. An example of the incorrect prefix is "us/".

To fix this issue, after creating the LDIF file with the JAZN migration tool, remove the incorrect prefix, for example "`us/`", from all occurrences of the grantee **anyone**, before uploading the entries of the LDIF file to the LDAP server.

6.1.6 Rich Text Portlet Customization Not Supported in Safari

When customizing the Rich Text portlet in a Safari browser, users can only perform basic HTML editing. To take advantage of rich text editing, users should customize the portlet in another browser.

6.1.7 Portlets with ADF Data Binding on the Same Page Cannot Be Customized

When a JSF page contains both ADF data binding and portlets, the portlets cannot be customized. When you click Customize in the portlet, an error occurs.

The workaround for customizing the portlets is as follows:

1. Click the **Back** button of your browser.

2. Click **Refresh**.

3. The portlet switches to the customize mode in a shared screen and you can customize it.

6.1.8 Issue with SES Securely Crawling Content in Oracle ContentDB

Currently, SES can crawl public content from Oracle ContentDB. However, there is an issue with crawling the secured content in Oracle ContentDB. Therefore, the search may not display files even when the user has the appropriate rights to view them.

6.1.9 Language Setting Issue with the Federated Portal Adapter

When using the Federated Portal Adapter, ensure the Oracle JDeveloper environment matches the available languages installed in the OracleAS Portal instance.

6.1.10 Using the Search Feature with the File System Adapter

When using the File System Adapter, multibyte keywords in a search operation only work with UTF-8 encoded files.

6.1.11 Using the Search Feature with the Federated Portal Adapter or Oracle ContentDB in Turkish

When using Oracle ContentDB or the Federated Portal Adapter, the search feature cannot distinguish among the four versions of the Turkish character `I`.

6.1.12 Use of Oracle WebCenter Adapters for Microsoft SharePoint, EMC Documentum, and IBM Lotus Domino Requires Patch Update

The Oracle WebCenter adapters for Microsoft SharePoint, EMC Documentum, and IBM Lotus Domino enable you to retrieve content from SharePoint, Documentum, and Domino repositories. To use the adapters you must ensure that you have applied the 10.1.3.3 patchset, or are using JDeveloper 10.1.3.3, and have applied patch 6447083. The patchset and patch are both available on Oracle Metalink (http://metalink.oracle.com). The patch 6447083 applies to both JDeveloper, Oracle Application Server, and Microsoft Windows (32bit) and Linux platforms. To locate this patch on Metalink, from the **Quick Find** dropdown, select **Patch Number** and then enter the patch number in the field next to it. Then click **Go**.

For more information on installing the patch, refer to the patch install notes included with the patch ZIP file.

6.1.13 Using the Search Feature with Oracle WebCenter Adapters for Microsoft SharePoint, EMC Documentum, and IBM Lotus Domino

Keyword and `namePattern` search for the `&` (ampersand) symbol is not supported.

6.1.14 Reexecuting a Page that Uses Oracle WebCenter Adapters for Microsoft SharePoint, EMC Documentum, and IBM Lotus Domino

Reexecuting a page in JDeveloper that uses either the Oracle WebCenter adapter for Microsoft SharePoint, EMC Documentum, or IBM Lotus Domino throws an error.

The workaround is to stop the OC4J before reexecuting the page.

6.1.15 Incorrect Query Execution in Oracle WebCenter Adapter for IBM Lotus Domino

The query `/jcr:root/VIEWS/element(*, nt:base)` will return all documents in the Lotus Domino database and not just the names of the views within the database. A query such as `/jcr:root/views/MyView/element(*, nt:file)` will return all documents visible through the view.

6.1.16 Supplying a Domain Name as Part of Administrator Credentials for Oracle WebCenter Adapter for EMC Documentum

For the Oracle WebCenter adapter for EMC Documentum, supplying a domain name as part of admininstrator credentials, for example `EM\alison`, may fail the repository connection.

The workaround is to omit the domain name, if the Documentum repository is configured such as to not require domain names.

6.1.17 Testing a JCR SharePoint Repository Connection

The **Test** button in the Create Data Control wizard does not work for the JCR SharePoint adapter.

6.1.18 Running the Predeployment Tool in Scripts

If you run the Predeployment tool repeatedly in a script, you may experience intermittent failures of the tool. To avoid this problem, allow a minute or two to elapse between executions of the tool.

6.1.19 Log Messages While Starting Preconfigured OC4J

When you start the Preconfigured OC4J in Oracle JDeveloper, the following may occur:

- You may see a notification as follows:

```
Executing: C:\jdev_4044\jdk\jre/..\bin\java
Note the odd path containing forward slashes, backslashes, and "..".
```

- You may see a warning message as follows:

```
WARNING WARNING: No Repository Type selected,
deferring initialization
```

You can safely ignore these log messages.

6.1.20 Error When Compiling JSP with PDK Struts Components

A JSP containing Portal Development Kit (PDK) struts components does not compile. It fails with the following error:

```
java.lang.NoClassDefFoundError: org/apache/struts/taglib/html/FormTag
```

This happens when using the Oracle PDK struts extension from JDeveloper 10.1.3.2.0. It happens only for the following components:

- FormTag
- ImgTag
- LinkTag
- RewriteTag
- TextTag

6.2 Documentation Errors

This section describes known errors in Oracle WebCenter Suite documentation. It includes the following topics:

- Section 6.2.1, "Help for WebCenter Application Metrics Incorrect in All Languages"
- Section 6.2.2, "Error in the Manually Creating and Editing the orion-application.xml File section of Oracle WebCenter Framework Developer's Guide"

6.2.1 Help for WebCenter Application Metrics Incorrect in All Languages

In the Enterprise Manager Application Server Control Console, the HTTP-response code categories HTTP2xx, HTTP3xx, HTTP4xx, and HTTP5xx are used to present performance information for WebCenter applications. However, not all WebCenter application metrics relate to HTTP requests, so successful requests without an associated HTTP request are also logged as HTTP2xx, and unsuccessful requests without an associated HTTP request are logged HTTP5xx.

For example:

- Cache hits are logged as HTTP2xx
- Timeouts before an HTTP request started are logged HTTP5xx

■ Timeouts after a cache hit are logged HTTP5xx

Accurate descriptions for all performance metrics are documented in the *Oracle WebCenter Framework Developer's Guide*, Chapter 10.3 "Interpreting the Information in Enterprise Manager". The online Help implies that all WebCenter application metrics relate to HTTP requests and this is no longer accurate.

6.2.2 Error in the Manually Creating and Editing the orion-application.xml File section of Oracle WebCenter Framework Developer's Guide

Steps 13 to 16 in the *Manually Creating and Editing the orion-application.xml File* section of the Deploying Your WebCenter Application chapter are required to be performed only if the program uses `data-sources.xml` or `jazn-data.xml`, that is, these files need to be created either manually or automatically by choosing to deploy to an OC4J platform in the deployment descriptor profile. If the program does not use `data-sources.xml` or `jazn-data.xml` files, then performing these steps (13 to 16) can cause errors.

7

Oracle JDeveloper

This chapter describes issues associated with Oracle JDeveloper. It includes the following topics:

- Section 7.1, "Introduction"
- Section 7.2, "General IDE Issues and Workarounds"
- Section 7.3, "Deployment Issues and Workarounds"
- Section 7.4, "Database Issues and Workarounds"
- Section 7.5, "Modeling Issues and Workarounds"
- Section 7.6, "Toplink Issues and Workarounds"
- Section 7.7, "EJB Issues and Workarounds"
- Section 7.8, "Web Services Issues and Workarounds"
- Section 7.9, "JavaServer Faces (JSF) Issues"
- Section 7.10, "Miscellaneous Issues and Workarounds"

7.1 Introduction

For additional information not available at the time of this document's publication. Please review the Oracle JDeveloper (10.1.3.1.0) Release Notes Addendum at
`http://www.oracle.com/technology/products/jdev/htdocs/10.1.3.1/index.html`

For more information and technical resources for JDeveloper, visit the JDeveloper product center on the Oracle Technology Network at
`http://www.oracle.com/technology/products/jdev/101`.

7.2 General IDE Issues and Workarounds

This section describes general IDE issues and workarounds. It includes the following topic:

- Section 7.2.1, "Incompatibility Between Internal CVS Client and CVSNT Server"

7.2.1 Incompatibility Between Internal CVS Client and CVSNT Server

In some cases binary files can become corrupted when using JDeveloper's internal CVS client against a CVSNT server. The workaround is to use CVSNT's client within JDeveloper. This can be configured on the **Versioning** | **CVS** panel of IDE preferences.

7.3 Deployment Issues and Workarounds

This section describes general deployment issues and workarounds. It includes the following topic:

- Section 7.3.1, "EJB Web Service Fails to Deploy to JDeveloper's Embedded Server"
- Section 7.3.2, "ADF Web Application with Ejb3 Model Project Dependency Fails to Deploy"
- Section 7.3.3, "Deploying JDeveloper Deployment Profiles to Archive Files on the File System"

7.3.1 EJB Web Service Fails to Deploy to JDeveloper's Embedded Server

JDeveloper may exceed the length of the path names permitted by Windows when you compile an EJB session bean with a web service annotation. The path name JDeveloper generates for the web service class file is concatenated from three elements: the path to the application-deployment folders (set by system and not editable), the path to the web service source folder (also set by system), and the path to the class file specified by its package name (set by user and must be as short as possible).

For example, the following path would be created for a web service class file, where the user-specified portion of the path name is based on the package name `com.oracle.myapp.ejb.webservice.test`.

```
<JDev_Install>jdev\system\oracle.j2ee.10.1.3.37.58\embedded-oc4j
\application-deployments\\current-workspace-app
\MyApplication_MyProject\ws-src\com\oracle\myapp\ejb\webservice\test
```

and results in the exception:

```
oracle.j2ee.ws.common.tools.api.SeiValidationException: Interface
<classname>.SessionEJBBeanPortType: The class could not be loaded
from the class path.
```

You can workaround this limitation by shortening the name of the package you enter when you create the EJB session bean. For example, instead of `com.oracle.myapp.ejb.webservice.test`, as shown in the above example, the package name com.oracle.myapp will result in a legal class path length.

7.3.2 ADF Web Application with Ejb3 Model Project Dependency Fails to Deploy

When you deploy an ADF web application WAR file to Standalone OC4J you may encounter the following error due to multiple persistence unit definitions resulting from an EJB3 model project dependency:

```
DeployerRunnable.run[application1:ejb3_mdnav_adffaces] -
Multiple persistence units with name "model" are defined at the
same scope.oracle.oc4j.admin.internal.DeployerException:
[application1:ejb3_mdnav_adffaces] - Multiple persistence units
with name "model" are defined at the same scope.
```

To avoid this error, update the ViewController project settings to remove the dependency on the Model project before deploying the ADF Web application to Standalone OC4J.

7.3.3 Deploying JDeveloper Deployment Profiles to Archive Files on the File System

When deploying JDeveloper deployment profiles to an archive file the default behavior is to deploy the archive as standard J2EE. In order to deploy an archive to a file for a specific application server platform to incorporate platform specific descriptor handling, the user must set the Target Connection in the **Deployment Profiles - Platform page**. The Target Connection can only be set to something other than the default (J2EE) after creating an application server connection in the connection navigator.

7.4 Database Issues and Workarounds

This section describes database issues and workarounds. It includes the following topic:

- Section 7.4.1, "Entity Created Only for First Table in Entity Beans from Tables in Oracle Lite"

7.4.1 Entity Created Only for First Table in Entity Beans from Tables in Oracle Lite

Oracle Lite version 10.2.0.2 does not support standard JDBC metadata for column definitions, resulting in an inability to create EJB entities. Oracle expects this to be fixed in Oracle Lite 10.2.0.3.

7.5 Modeling Issues and Workarounds

This section describes modeling issues and workarounds. It includes the following topic:

- Section 7.5.1, "Refactoring Context Menu and UML"
- Section 7.5.2, "Java Modeler Accessibility"

7.5.1 Refactoring Context Menu and UML

From the Application Navigator context menu, the refactoring submenu is visible for navigator packages containing UML artifacts. However, refactoring the package will NOT cause UML artifact to be refactored, though Java and other types will be refactored as expected.

7.5.2 Java Modeler Accessibility

The Java Modeler's popup code editor is not currently accessible when using the JAWS screen reader. The workaround is to invoke **Go To Source** instead of **Edit** for Java elements on the diagram, which will invoke the main code editor.

7.6 Toplink Issues and Workarounds

This section describes Toplink issues and their workarounds. It includes the following topics:

- Section 7.6.1, "Importing Tables with Multibyte Characters"

7.6.1 Importing Tables with Multibyte Characters

When importing database tables named with multibyte characters, you must change the JDeveloper encoding to UTF-8.

1. Select **Tools > Preferences > Environment**.

2. Change **Encoding** to **UTF-8**.

3. Restart JDeveloper, then import the tables.

7.7 EJB Issues and Workarounds

This section describes EJB issues and their workarounds. It includes the following topics:

- Section 7.7.1, "EJB 3.0 Application Migration Issue (10.1.3 to 10.1.3.1)"
- Section 7.7.2, "Running EJB 3.0 Applications"

7.7.1 EJB 3.0 Application Migration Issue (10.1.3 to 10.1.3.1)

In 10.1.3.1 the life span of an entity's Persistence Context is strictly tied to the life span of its associated transaction, since by default, a PersistenceContext's type is `PersistenceContextType.TRANSACTION`.

This requirement was relaxed in JDeveloper 10.1.3, and some applications were found to be dependent on this requirement not being met.

To operate under the stricter requirement in JDeveloper 10.1.3.1, EJB 3.0 Stateless Session beans migrated from JDeveloper 10.1.3 and interacting with web clients may need to be changed to Stateful Session beans.

In addition to this change, the generated statement:

```
@Resource
EntityManager em;
```

should be changed to:

```
@PersistenceContext(type=PersistenceContextType.EXTENDED)
EntityManager em;
```

to allow web clients to perform additional operations on entities returned from the (newly Stateful) Session bean.

7.7.2 Running EJB 3.0 Applications

EJB 3.0 runtime is different between JDeveloper 10.1.3 and JDeveloper 10.1.3.1. An EJB 3.0 application that was created in JDeveloper 10.1.3 will only work with Oracle Application Server 10.1.3, and an EJB 3.0 application created in JDeveloper 10.1.3.1 will only work with Oracle Application Server (SOA) 10.1.3.1.

You can migrate EJB 3.0 applications from JDeveloper 10.1.3 to JDeveloper 10.1.3.1 by following the instructions in the online help topic *Migrating EJB 3.0 Applications from Oracle JDeveloper 10g Release 10.1.3 to 10.1.3.1* by selecting **Getting Started with Oracle JDeveloper > Migrating to Oracle JDeveloper 10g**.

7.8 Web Services Issues and Workarounds

This section describes Web Services issues and their workarounds. It includes the following topics:

- Section 7.8.1, "Top-Down SOAP 1.2 Services Changed to SOAP 1.1 after Editing"

7.8.1 Top-Down SOAP 1.2 Services Changed to SOAP 1.1 after Editing

If you create a web service top-down from a WSDL that contains SOAP 1.2 bindings, then modify that service in the web service editor, the bindings are changed to SOAP 1.1.

The workaround is in the Web Services Editor dialog, manually deselect SOAP 1.1 Binding and select SOAP 1.2 Binding instead.

7.8.2 Top-Down Service with One-Way Operations Changed to Two-Way Methods after Editing

If you create a top-down web service that has one-way operations, then use the Web Service Editor to change the service or invoke **Regenerate Web Service from Source**, the one-way operations are changed to two-way operations.

The workaround is in the Web Services Editor dialog, manually select the **Create One-Way Operations From Void Methods** checkbox.

7.8.3 Top-down Web Services Generated with Enumerated Types Fail Validation

When you generate a top-down web service a WSDL with enumerated types, subsequent changes made to the service in the Web Service Editor cannot be committed due to an error in validation.

7.8.4 Deleting InitParam or Header in a Web Service Handler Causes an Error

If you have created a web service handler that uses an InitParam and/or a Header, and you subsequently edit the handler to remove the InitParam or the Header, JDeveloper displays an error message.

The workaround is to remove the handler, then recreate it without the initial parameter.

7.8.5 Web Service Proxy Fails when Running with Reliability Settings

When you run a proxy to a web service that has reliability enabled, you may find that it fails, and on examination with the HTTP Analyzer the SOAP message returned from the server has an empty body. This can occur because the default value of **Expiry Time** on the **Operation Settings** tab of the Proxy Reliability wizard.

The workaround is to increase the expiry time to 2 seconds or more.

7.8.6 'Invoke' Button Not Present in Enterprise Manager for Testing EJB3.0 Web Service on External OC4J

If you deploy an EJB3.0 web service to external OC4J, and try to test it from Oracle Enterprise Manager, the **Invoke** button is not always present.

There is no workaround.

7.8.7 Invalid Web Service Endpoint in Generated Proxy for Multi-Port WSDLs

When you create a proxy to a web service with more than one port, the proxy may be generated with an invalid endpoint for the web service.

The workaround is to examine the WSDL to find the correct endpoint URL, and paste this into the generated proxy class.

7.8.8 Runtime Exception when More than One Web Service Exists in a Project

If you create two or more web services in a project that use the same mapping file, you will get a runtime exception.

The workaround is:

- For bottom-up web service generation, specify a `serviceName` argument value that does not already exist for the second web service.

- For top-down web service generation, make sure the web services are each in a different WAR for deployment so that the same deployment descriptor is not used.

7.9 JavaServer Faces (JSF) Issues

This section describes JavaServer Faces issues and workarounds. It includes the following topic:

- Section 7.9.1, "In JSF 1.1_02 Pages under /WEB-INF Fail to Load"

7.9.1 In JSF 1.1_02 Pages under /WEB-INF Fail to Load

JDeveloper 10.1.3.1 upgrades to the JavaServer Faces reference implementation version 1.1_02. This maintenance release of the JSF runtime from Sun introduces a new restriction preventing the processing of any JSF page located in the `./WEB-INF` directory (or subdirectory thereof). If your JSF applications contain pages in the `WEB-INF` directory, you will need to move those pages to another directory under the web root other than `WEB-INF` for them to function correctly. If your JSF pages use ADF Model data binding, after moving the JSP/JSPX pages from `./WEB-INF` (or subdirectory) to a new directory under your web root, you will need to reflect the change in the "path" value inside the <pageMap> section of your DataBindings.cpx file. For example, if your page previously had a "path" value of `/WEB-INF/page/Test.jspx` and you moved this Test.jspx page to `./public_html/page/Test.jspx`, where `./public_html` is the HTML root directory of your view controller project -- then you must edit the value of the path and change it from `/WEB-INF/page/Test.jspx` to `/page/Test.jspx`.

7.10 Miscellaneous Issues and Workarounds

This section describes documentation errata. It includes the following topic:

- Section 7.10.1, "Using JAZNMigrationTool with JDeveloper"
- Section 7.10.2, "Running ADF Installer against Application Server 10.1.2 Instance"
- Section 7.10.3, "Restore Option Does Not Restore bc4j.ear"

7.10.1 Using JAZNMigrationTool with JDeveloper

The JAZNMigrationTool provides a way to migrate the contents of one store to another that can then be loaded to the LDAP directory. The command to be used is:

```
java JAZNMigrationTool -D binddn -w passwd [-h ldaphost] [-p ldapport]
[-sf filename] [-df LDIF_filename]
[-sr source_realm] [-dr dest_realm]
[-m policy|realm|all]
[-help]
```

Below is an example of migrating all users, roles, and JAAS policies from embedded-oc4j\config\system-jazn-data.xml to j2ee\home\config\system-jazn-data.xml

```
set CLASSPATH=JDEV_HOME\j2ee\home\jazn.jar;%CLASSPATH%JDEV_
HOME\jdk\bin\Java oracle.security.jazn.tools.JAZNMigrationTool
-w welcome -sf JDEV_
HOME\jdev\system\oracle.j2ee.xxxx\embedded-oc4j\config\system-ja
zn-data.xml -df JDEV_HOME\j2ee\home\config\system-jazn-data.xml
-dt xml
```

Note that JDEV_HOME should be the directory where they install JDeveloper. XXXX represents the final build number.

For more information issue `Java JAZNMigrationTool -help`.

7.10.2 Running ADF Installer against Application Server 10.1.2 Instance

When running the ADF installer within JDeveloper (**Tools | ADF Installer**) against an Oracle Application Server 10.1.2 instance, you may encounter the error `Cannot finish the installation` even if the server is shut down. In addition to stopping the Application Server instance, you must also shut down the Application Server Control Manager (Enterprise Manager) service before running the ADF Installer against the Oracle Application Server 10.1.2 instance.

7.10.3 Restore Option Does Not Restore bc4j.ear

Use of the restore facility does not redeploy bc4j.ear to the Oracle Application Server 10.1.3.0.0. This should not affect functionality, as `datatags.ear` is the same as bc4j.ear. However, if required, bc4j.ear must be manually deployed using the Enterprise Manager console.

8

Oracle Sensor Edge Server

This chapter describes issues with Oracle Sensor Edge Server. It includes the following topics:

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8.1 Installation and Configuration Issues

This section describes installation and configuration issues regarding Oracle Sensor Edge Server. It includes the following topics:

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8.1.1 OC4J 10.1.2 Must be Stopped if Installing Against It

As noted in *Oracle Sensor Edge Server Guide*, you can install Oracle Sensor Edge Server along with OC4J 10.1.2 (versus the current 10.1.3 version). If you choose to install Oracle Sensor Edge Server with OC4J 10.1.2, ensure that OC4J is not running at the time. If OC4J 10.1.2 is running when you try to install Oracle Sensor Edge Server against it, the installation fails.

OC4J 10.1.3 standalone is also deployed in this release (it is in an ear file, and not deployed through Oracle Installed).

8.1.2 Default Database Tablespaces

The scripts included with Oracle Sensor Edge Server are for a simple, generic installations. Our testing is accomplished against such generic installations.

However, in enterprise environments, there may be many custom requirements and configurations that customers must design and implement themselves.

For this reason, please ensure that you are familiar with tablespace creation. To learn about database tablespace creation, see the *Oracle SQL Reference* and *Oracle Database Concepts* guides for your particular release.

Once you have set up your database (including the server, datafiles, and tablespaces across datafiles), you can modify Oracle Sensor Edge Server install scripts as needed.

`create_edg_user.sql` is used for SDS, and `create_edg_sda_user.sql`is used for SDR.

These scripts must be modified to use newly-created tablespaces for specific customer requirements.

Under the create user command where you specify which tablespace the user is to use, change the line containing 'create user' in the .sql scripts, according to the manual.

8.1.3 DBMS Lock Problem

In rare circumstances when Oracle Universal Installer is attempting to install the SDS into a database that already has an SDR installed, an error occurs. This happens due to a conflict in privileges for the components (you can see the specifics in `createedgeuser_SDS.log`). To resolve the problem, shut down any other Oracle Sensor Edge Server-related DBMS jobs, then try the installation again.

8.1.4 Unable to Create a JMX Connection

An error was reported in which users were not able to create a JMX connection. The error was caused by the client code trying to access an invalid OC4J instance. To avoid this problem, ensure that your code is connecting to a valid OC4J instance (verify that the name is correct).

8.1.5 Restart Server for Changes to Take Effect

OC4J Enterprise Manager does not automatically warn that the server must be restarted in order for changes to take effect. In order for your server changes to take effect, you must restart the server.

8.1.6 Oracle Sensor Edge Server Installation Fails

When installing the Oracle Sensor Edge Server, do not select the Oracle Containers for J2EE 10.1.3.0.0 option from the companion CD Oracle Universal Installer (OUI); selecting this option along with the SES option causes the Oracle Sensor Edge Server installation to fail. The valid OC4J instance is installed using the Oracle Application Server CD-ROM (or DVD-ROM), not the companion CD OUI. For more information, see the *Oracle Application Server Installation Guide* appropriate to your platform.

8.1.7 Resolving the Reboot Issue for XML Configuration

Error messages regarding invalid jms.xml typically occur because of an abnormal termination of OC4J, an OC4J crash, or the IP address of the server running OC4J changes.

If you encounter OC4J JMS Server startup problems after an abnormal shutdown, first check that no other OC4J JMS Server is running and using the same persistence files. Remove any.lock files from the ORACLE_HOME/j2ee/instance_name/persistence directory and then try restarting again.

If problems persist, confirm that the jms.xml file is valid.

If problems still persist, remove the jms.state file from the persistence directory and try again. Removing this file may result in the loss of transaction information. See also the section entitled "Abnormal Termination", located in the "Resource Providers" in "Chapter 3: Oracle Enterprise Messaging Service (OEMS)" of *Oracle Containers for J2EE Services Guide*.

In rare instances, one may be able to log in to Oracle Sensor Edge Server, but not into Oracle Enterprise Manager. If you encounter this problem, try to log in repeatedly (4-6 times); this will clear the error.

8.2 General Issues

This section describes general issues encountered in Oracle Sensor Edge Server. It includes the following topics:

- Section 8.2.1, "Using UTL_EDG.REMOVE_RULE Displays an Error"

- Section 8.2.2, "Adding a Rule Displays an Error"

- Section 8.2.3, "Localization -- Navigation Tree in the SES Console Renders as the Server Locale-Defined Character Set"

- Section 8.2.4, "Reassignment of Audio Event Type (207)"

8.2.1 Using UTL_EDG.REMOVE_RULE Displays an Error

When using the `API UTL_EDG.REMOVE_RULE`, an error may be encountered. This API only works if your rule was created through other Oracle Sensor Edge Server APIs.

8.2.2 Adding a Rule Displays an Error

In this release, be sure to use the syntax `':event'` instead of `'TAB.USER_DATA'`.

8.2.3 Localization -- Navigation Tree in the SES Console Renders as the Server Locale-Defined Character Set

The character set defined in the Server Locale overrides the characters set in the browser locale even when you switch the browser locale. For example, if you switch the browser locale to *Japanese*, the Server Locale is defined as traditional Chinese, the strings in the Navigation Tree of the SES Console (such as the `Available Extensions`, filters, devices, and device group nodes) and the error and confirmation messages render in traditional Chinese rather than in Japanese. To correct this problem, reset the Server Locale, or override the Server Locale-defined character set by overloading `MsgTranslator` methods to take locale. String literals in the SESConfig tree control must be non-static and fetched using `Locale` on each page request.

8.2.4 Reassignment of Audio Event Type (207)

The Audio Event Type (which is the event supported by the Simple Audio Driver) has been reassigned from *207* to *104*, and is now included in the group Generic Instructions to Devices (Event Types 100 - 199). Its Subtype remains *1* (`Play audio jobs in the .xml file in the Datafield`).

8.3 Documentation Issues

This section describes documentation issues regarding Oracle Sensor Edge Server. It includes the following topic:

- Section 8.3.1, "Documentation for Oracle Sensor Edge Server Extensions"
- Section 8.3.2, "Manually Deploying Sensor Data Streams Against an Existing Sensor Data Repository"

8.3.1 Documentation for Oracle Sensor Edge Server Extensions

Once the server is installed, you can see documentation for extensions at: `http://<host on which SES is installed>:<oc4j port>/edge/extensions`. Or, see Oracle Sensor Edge Server information on Oracle Technology Network at: `http://www.oracle.com/technology/products/sensor_edge_ server/extensions.html`.

8.3.2 Manually Deploying Sensor Data Streams Against an Existing Sensor Data Repository

Oracle Sensor Edge Server Guide omits a step in describing how to manually deploy Sensor Data Streams if you have already created a Sensor Data Repository. The procedure for manually deploying Sensor Data Streams if the Sensor Data Repository exists is as follows:

1. Use SQL*Plus to connect to the database as *sysdba*, by running `sqlplus /nolog`.

2. Run sqlplus; connect as `sys/your_pwd@your_db as sysdba`.

3. Run the script `grant_edg_user.sql`, located in `Oracle_Home /edge/stage/sql/10.1.3`.

4. Disconnect as *sys* and then reconnect to the database as the *edge user*.

5. Run the script `edg_create_streams.sql`, located in `Oracle_Home /edge/stage/sql/10.1.3`.

6. Follow the procedure described in "Connecting Oracle Sensor Edge Server to Sensor Data Streams".

   When installing the SDS on an Oracle 10g database, this privilege must be granted to the EDGE database user. This step is not necessary on an Oracle 9i database. If you do it on an Oracle 9i database, you receive an error during user creation, but you may ignore the error message.

9

Oracle Containers for J2EE

This chapter discusses release notes for Oracle Containers for J2EE (OC4J) for 10.1.3.2.0. It includes the following topics:

You can access Oracle manuals mentioned in this document at the following URL:

http://www.oracle.com/technology/index.html

9.1 Configuration, Deployment, and Administration Issues and Workarounds

This section describes configuration, deployment, and administration issues for Oracle Application Server Containers for J2EE (OC4J). This section covers the following topics:

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For information on configuring OC4J, see the *Oracle Containers for J2EE Configuration and Administration Guide* for OC4J at:

http://www.oracle.com/technology/index.html

9.1.1 Remove the Tomcat Examples

OC4J ships the Tomcat examples by default. Many of the Tomcat examples do not conform to the Oracle Secure Coding Standards. Oracle recommends that you remove the Tomcat examples except when used in demonstration and testing environments.

9.1.2 Deprecated Environment Variables KeepWrapperCode, WrapperCodeDir, and DoNotReGenerateWrapperCode

System properties `KeepWrapperCode`, `WrapperCodeDir`, and `DoNotReGenerateWrapperCode` are deprecated.

These options apply only to EJB 2.1 CMP entity beans; they do not apply to session beans, message-driven beans, or EJB 3.0 entities. OC4J generates only one file per EJB 2.1 CMP entity bean. OC4J does not generate any artifacts if you use only EJB 3.0 entities. Because wrappers contain very little content, debugging them is not useful.

For more information, see "Debugging Generated Wrapper Code" in the *Oracle Containers for J2EE Enterprise JavaBeans Developer's Guide*.

9.1.3 Deprecated System Property ejb.batch.compile

System property `ejb.batch.compile` is deprecated.

To enable or disable batch compilation, use the `orion-application.xml` file `<orion-application>` element `batch-compile` attribute.

9.1.4 Desupported orion-ejb-jar.xml Attributes

The following `orion-ejb-jar.xml` file attributes are desupported:

- `max-instances-per-pk`

- `min-instances-per-pk`

- `disable-wrapper-cache`

- `instance-cache-timeout`

- `locking-mode="old_pessimistic"`

> **Note:** Do not use these attributes in this release. Doing so will lead to deployment failure.

9.1.5 System Property for File Information Cache Size

When a client accesses an application using path information, OC4J looks for files as applicable and stores related file information into a cache. Previously, OC4J did not free objects from this cache, resulting in memory loss.

There is now a system property, `http.maxFileInfoCacheEntries`, to control the cache, as follows:

- `http.maxFileInfoCacheEntries < 0` to never cache

- `http.maxFileInfoCacheEntries == 0` to not change the previous behavior

- `http.maxFileInfoCacheEntries > 0` to set the maximum number of cached entries

The default value is 2000.

9.1.6 Use of '/' for Context Root

Specification of "/" for the context root when deploying an application to OC4J is supported now. This includes support by Application Server Control and `admin_client.jar`.

Background: The 10.1.3.1 release of the *Oracle Containers for J2EE Configuration and Administration Guide* states that "Specifying a `root` setting of "/" will override the OC4J default Web application. This setting or a null setting is not allowed by the `admin_client.jar` utility when binding a Web application to the Web site."

Now, however, a `root` setting of "/" *is* allowed. You can use this as the context root when deploying an application. The following example uses `admin_client.jar` to deploy a WAR file and bind to "/".

```
% java -jar admin_client.jar deployer:oc4j:localhost oc4jadmin welcome1 \
  -deploy -file d:how-to-rolling-upgrade-web-v1.war -deploymentName h2ru_2 \
  -bindAllWebApps -contextRoot "/"
```

Be aware that if an EAR file includes an `application.xml` file that has the context root set to "/", such as in the following example, then "/" will be the default context root when the application is deployed using either Application Server Control or `admin_client.jar`.

```
<application>
  <display-name>How-To Rolling Upgrade</display-name>
  <module>
    <web>
```

```
            <web-uri>how-to-rolling-upgrade-web.war</web-uri>
            <context-root>/</context-root>
        </web>
    </module>
</application>
```

> **Note:** Because the default ping URL for Oracle HTTP Server is also "/", using "/" as the context root when you deploy an application may result in the following issues:
>
> - Pings intended for Oracle HTTP Server go directly to OC4J instead.
>
> - Extraneous HEAD requests appear in the `*-web-access.log` file.
>
> You can avoid these issues by placing the following directive:
>
> ```
> Oc4jMountCopy off
> ```
>
> Into the following file:
>
> *ORACLE_HOME*`/Apache/Apache/conf/dms.conf`

9.1.7 Allowed Format for Version Numbers in MANIFEST.MF File

Previously, version numbers in the `Specification-Version` and `Implementation-Version` attributes of a `MANIFEST.MF` file were limited to five elements: `n1.n2.n3.n4.n5`. (OC4J would not start if there were more than five elements in a `Specification-Version` or `Implementation-Version` value.)

Now, version numbers of up to eight elements are allowed: `n1.n2.n3.n4.n5.n6.n7.n8`.

The maximum allowed value for an element is `99999999`.

9.1.8 Having the AJP Listener Use the Loopback Interface Only

There may be situations where you are concerned about AJP security but do not need to run AJP over a network (such as when OC4J and Oracle HTTP Server are on the same system) and would prefer not to configure AJP over SSL.

If you specify "127.0.0.1" as host in `default-web-site.xml`, as in the following example, the AJP listener will listen only on the "loopback interface". This allows you to use TCP/IP facilities without actually accessing any network hardware or drivers. The connection just loops back to `localhost`.

```
<web-site host="127.0.0.1" protocol="ajp13" port="..." ... >
   ...
</web-site>
```

9.1.9 Determining JVM, OC4J Instance, or Application Server Instance

Developers, when debugging in a cluster, frequently need to determine what JVM, what application server instance (in a multi-instance cluster), or what OC4J instance they are running on within the cluster. This is useful for debugging as well as building management utilities on top of Oracle Application Server.

In Oracle Application Server 10.1.3.x, there are several properties that developers can access programmatically through `System.getProperty()` calls to obtain this kind of information. Specifically:

- `oracle.home`: a string containing the physical directory in which Oracle Application Server is installed

- `oracle.oc4j.instancename`: a string containing the name of the OC4J instance

- `oracle.ons.instancename`: a string containing the name of the Oracle Application Server instance

- `oracle.ons.indexid`: a string containing a combination of the OC4J instance name, the group it belongs to, and the JVM executing it, in the following format:

  oc4j_instance_name.oc4j_groupname.jvm_number

  For example: `java_ee1.javaee_group.2`

In a Java process running on OC4J you could print this information to the system console as follows:

```
System.out.println("Oracle home name: " + System.getProperty("oracle.home"));
System.out.println("OC4J Instance name: " +
                   System.getProperty("oracle.oc4j.instancename"));
System.out.println("AS Instance name: " +
                   System.getProperty("oracle.ons.instancename"));
System.out.println("Instance:Group:JVM PID: " +
                   System.getProperty("oracle.ons.indexid"));
```

9.1.10 Invocation by Servlet Name without Mapping Is Disabled by Default

The 10.1.3.x *Oracle Containers for J2EE Servlet Developer's Guide* notes that by default, servlet invocation by class name is now disabled, but can be enabled through the property setting `-Dhttp.webdir.enable=true`. (Servlet invocation by class name was enabled by default in versions 10.1.2.x and prior.)

What is similar, but undocumented, is that this also applies to invoking a servlet through its `<servlet-name>` value when there is no corresponding `<servlet-mapping>` entry. Invoking a servlet through its servlet name in this way was enabled by default in 10.1.2.x and prior, but requires the setting `-Dhttp.webdir.enable=true` in 10.1.3.x versions.

For example, consider the following `web.xml` entry, with no corresponding `<servlet-mapping>` entry:

```
<servlet>
   <servlet-name>TestIt</servlet-name>
   <servlet-class>mypackage.TestIt</servlet-class>
</servlet>
```

In 10.1.2.x, you could access this servlet using `/servlet/TestIt` without any property setting. In 10.1.3.x, you must set `-Dhttp.webdir.enable=true` to access the servlet in this way with the given configuration.

9.1.11 Warning Regarding Maximum Concurrent Timers

This release note provides background information and workarounds for warnings, such as the following examples, that occur when the number of concurrent timers exceeds the maximum.

```
WARNING J2EE OJR-10002

The number of concurrent Timers has reached the maximum limit
```

By default in 10.1.3.1 and 10.1.3.2, OC4J allows only eight concurrent timers. (A timer can be triggered through an EJB timer, the timer service, or the scheduler.) This limit is low by default because we expect each timer to be of short duration. When the number of timers is at the limit, such as if timers are running longer for any reason, timers are no longer executed; when a new timer occurs, you will see the warning messages. There are two OC4J flags you can use in this circumstance:

- `timer.service.debug`: Determines whether to output additional diagnostic information for the timer service, including information about the current number of running timers. For example: `-Dtimer.service.debug=true`

- `executor.concurrent.tasks`: Specifies the number of concurrent tasks for the Executor Service. Through this flag you can increase the maximum number of concurrent timers allowed by OC4J. For example: `-Dexecutor.concurrent.tasks=12`

> **Note:** Each timer executes in a separate thread. If the maximum is set too high, resulting in numerous timers executing, then many threads will be used. It is advisable to recycle threads once they finish executing.

9.1.12 Use of the http.file.allowAlias Property

By default, OC4J now ships with the `http.file.allowAlias` property set to `false`. This setting prevents the use of symbolic links. Oracle strongly recommends that this setting not be changed to `true`, which might allow JSP source code to be visible to end users in some circumstances.

Instead of changing the property setting, you can use one of the following workarounds:

- Temporarily switch from using the OC4J lightweight HTTP listener to front ending the OC4J application through Oracle HTTP Server, so that browsers access the pages indirectly through MOD_OC4J and Apache JServ Protocol (AJP), rather than directly through HTTP.

- Replace all symbolic links in an application with the names of the real files they represent.

  You can use a shell script to automate the replacement of symbolic links. For example:

```
#!/bin/ksh

PROGNAME="${0##*/}"
LN_EXTN="ln"

function displaySyntax
{
echo "${PROGNAME}! SYNTAX: ${PROGNAME} <some_dir_path>"
exit 1
}

if [[ $# < 0 ]]
then
```

```
displaySyntax
fi

DIR="$1"

if [[ ! -d ${DIR}
then
displaySyntax
fi

find ${DIR} -type l|while read filepath
do
echo "FIXING: ${filepath} (=> ${filepath}.${LN_EXTN})"
mv ${filepath} ${filepath}.${LN_EXTN}
cp -L ${filepath}.${LN_EXTN} ${filepath}
done
```

This example KSH script would be invoked on Unix as follows:

```
$ fixLinks <web_module_root>
```

The script will recurse through any directory and, for any file it finds that is a symbolic link, will rename each link with an additional `.ln` extension and then place a copy of the link target in the original location where the link was found.

9.1.13 Starting OC4J Using JDK 1.4.2 for a Headless Console

For a headless console, the `-Djava.awt.headless=true` parameter is necessary for starting OC4J using JDK 1.4.2 in an Oracle Application Server 10.1.3.1 or later 10.1.3.*x* release.

If you are using JDK 1.5, the default JDK for 10.1.3.*x* releases, you do not need this option to start OC4J applications from headless consoles.

Here is a sample `opmn.xml` section for an OC4J component with `-Djava.awt.headless=true` added:

```
<ias-component id="default_group">
<process-type id="home" module-id="OC4J" status="enabled">
<module-data>
<category id="start-parameters">
<data id="java-options" value="-server
-Dcom.sun.management.jmxremote
-Djava.security.policy=$ORACLE_HOME/j2ee/home/config/java2.policy
-Djava.awt.headless=true -Dhttp.webdir.enable=false"/>
</category>
<category id="stop-parameters">
<data id="java-options"
value="-Djava.security.policy=$ORACLE_HOME/j2ee/home/config/java2.policy
-Djava.awt.headless=true -Dhttp.webdir.enable=false"/>
</category>
</module-data>
```

The *Oracle Containers for J2EE Configuration and Administration Guide*, Version 10.1.3.1, describes the `java.awt.headless` system property under "Overview of General System Properties" in Chapter 4, "OC4J Runtime Configuration."

9.1.14 New Wait Option for Sequential Redeployment to a Cluster

When an application is deployed to a group using the `sequential` option, the deployment operation is serialized, with deployment done to one OC4J instance at a time so that the target application is never entirely in a stopped state. In a sequential deployment, the deployment manager immediately commences deployment on the next instance as soon as the deployment operation completes on the current instance. The result is that the system may not be able to stabilize itself so that the new application is fully active before the next deployment commences, which introduces the following possible side effects:

- The application can become inaccessible while it is stopped on one instance and before `mod_oc4j` is notified that the application is available on another instance.

- Session replication activities may not have had an opportunity to execute.

In some circumstances the session state of an application may be lost when you redeploy an application to a cluster using the `admin_client.jar` command or the `redeploy` Ant task, even if you specify the `sequential` and `keepsettings` options.

In Oracle Containers for J2EE release 10.1.3.2 or 10.1.3.1, you can use either the `waitsec` parameter of the `admin_client.jar -sequential` *waitsec* subswitch or the `sequentialDelay` property of the `redeploy` Ant task to specify a number of seconds between redeployments to different OC4J instances in a cluster. This delay can provide enough time for replication of session state.

With the introduction of the optional *waitsec* or sequentialDelay value, the deployment manager will wait for the prescribed period between deployment operations on OC4J instances within a group. This delay enhances the ability of administrators to perform a group redeployment operation that enables the system to stabilize as redeployment operations occur across a group, reducing the opportunities for applications to be inaccessible or session state to be lost.

The new syntax of the `admin_client.jar` command for redeployment to a cluster follows:

```
java -jar admin_client.jar uri adminId adminPassword -redeploy -file path/filename
-deploymentName appName [-keepSettings] [-sequential [waitsec
-removeArchive
```

For example, the following `admin_client.jar` command specifies a wait time of 15 seconds between redeployments to different OC4J instances:

```
java -jar admin_client.jar deployer:cluster:opmn://host:port/home oc4jadmin
password -redeploy -file "myapp.ear" -deploymentName rolling -sequential 15
-keepsettings
```

The new *waitsec* parameter also applies to the `-sequential` subswitch of the `admin_client.jar deploy` command.

An example of the `redeploy` Ant task with the new `sequentialDelay`property follows:

```
<oracle:redeploy
deployerUri="${deployer.uri}"
userid="${oc4j.admin.user}"
password="${oc4j.admin.password}"
file="${lib.dir}/${app.name}.archiveType"
deploymentName="${app.name}"
keepsettings="true"
sequential="true"
```

```
sequentialDelay="15"
logfile="${log.dir}/deploy-ear.log"/>
```

The new `sequentialDelay` option also applies to the `deploy` Ant task.

For more information on the `admin_client.jar` command or on the `redeploy` or `deploy` Ant task, see the *Oracle Containers for J2EE Deployment Guide.*

9.1.15 Job Scheduler Redeployment

If you redeploy an application with scheduled jobs, the scheduled jobs will not run after the application is redeployed.

When redeploying an application with scheduled jobs, you should:

1. Remove all scheduled jobs.

2. Redeploy the application.

3. Resubmit all the jobs.

9.1.16 Incompatible ONS Versions

The Oracle Notification Service (ONS) that is included with the Oracle Application Server 10.1.3.x releases is incompatible with the ONS version included with the Database 10.1.0.x releases. The following error is received when the two versions attempt a connection:

```
invalid connect server IP format
...
Terminating connection
...
```

The incompatibility causes RAC features, such as Fast Connection Failover, to fail. The workaround is to install the 10.1.0.6 patch set for the Oracle Database Server. The patch set includes an updated ONS. The patch can be downloaded from https://metalink.oracle.com.

9.1.17 Incorporating Ant Tasks Using Ant 1.6.5 Outside OC4J with the OC4J Administrative Client

You can use the OC4J Administrative Client Utility for incorporating Ant tasks using Ant 1.6.5 outside OC4J. *Oracle Containers for J2EE Deployment Guide* describes how to incorporate Ant tasks outside OC4J without the Administrative Client Utility in Chapter 10, "Using OC4J Ant Tasks for Deployment," available from the Oracle Technology Network at

http://download.oracle.com/docs/cd/B31017_
01/web.1013/b28951/anttasks.htm#CHDGHFIE

The Administrative Client Utility enables you to use OC4J Ant tasks for configuration and deployment.

To incorporate Ant tasks using Ant 1.6.5 Outside OC4J with the OC4J Administrative Client Utility:

1. Download the `oc4j_admin_client_` *release_number* `.zip` file from the Oracle Technology Network at

http://www.oracle.com/technology/software/products/ias/htdocs/utils
oft.html

For information about the Administrative Client Utility and how to use it, see "Downloading and Extracting the Remote Administration Client" in *Oracle Containers for J2EE Configuration and Administration Guide*, Chapter 6, "Using the admin_client.jar Utility," available from the Oracle Technology Network at

`http://download.oracle.com/docs/cd/B31017_01/web.1013/b28950/adminclient.htm#CHDBEBHD`

2. Extract the contents of `oc4j_admin_client_` *release_number*`.zip` into a local directory of your choice, such as `oc4j_admin_client`.

3. Copy the *ORACLE_HOME*`/ant/lib/ant-oracle.jar` file from your Oracle Application Server 10*g* Release 3 (10.1.3.2) home directory to *OC4J_ADMIN_CLIENT_DIR*`\ant\lib`, in the local directory to which you extracted the contents of `oc4j_admin_client_` *release_number*.

4. Set the `ORACLE_HOME` environment variable to the *OC4J_ADMIN_CLIENT_DIR* directory.

5. Add *ANT_HOME*`/ant/bin` to the system `PATH` environment variable.

6. Set the `ANT_HOME` environment variable to point to your Ant installation and the `JAVA_HOME` environment variable to point to the location of the Java 2 Standard Edition SDK.

   The common ANT installation directory is *ORACLE_HOME*`/ant`.

7. Declare the `oracle` namespace in the `<project>` element in the Ant build file (`build.xml`).

```
<project name="test" default="all" basedir="."
  xmlns:oracle="antlib:oracle">
```

   References to the OC4J Ant tasks in `build.xml` will use this namespace.

8. Copy the `ant-oracle.properties` file from the *ORACLE_HOME*`/j2ee/utilities` directory to the directory containing your build file (`build.xml`).

   Although you can modify the file in ORACLE_HOME/j2ee/utilities and reference it from your build scripts, it is better to maintain the original file as a template.

9. Set the values for arguments to pass to the Ant tasks in the `ant-oracle.properties` file.

   The properties within the file are set to the OC4J default values. The file also reads in environment variable settings, such as for `ORACLE_HOME` and `JAVA_HOME`. You can edit any of these properties as necessary to reflect the configuration of the target OC4J instance or instances.

10. Copy the `ant-oracle.xml` file from the *ORACLE_HOME*`/j2ee/utilities` directory to the directory containing your build file (`build.xml`).

11. At the top level of your build file, add this `<import>` element:

```
<import file="ant-oracle.xml"/>
```

9.1.18 Specifying the Mapping Attribute

For X.509 Certificate Authentication (X509Certificate), JAZN sets the mapping attribute for the Oracle Internet Directory (OID) provider to `"DN"` by default.

To change the default value, you can configure the value of the `mapping.attribute` property:

1. Locate the `$Oracle_Home/j2ee/<oc4j_inst>/config/jazn.xml` file.

2. Add the `mapping.attribute` property configuration to the <jazn> tag. For example:

```
<jazn provider... >
...
    <property name = "mapping.attribute" value="cn"/>
...
</jazn>
```

3. Restart the OC4J instance.

Likewise, other login modules now rely on the `mapping.attribute` property in the `jazn.xml` file, including:

■ WS-Security Username token with no password (`WSSLoginModule`)

■ SAML (`SAMLLoginModule`)

   `SAMLLoginModule` first looks at the `SubjectNameIdentifier` to determine the mapping. If blank, then the `mapping.attribute` is used.

■ X.509 client certificate authentication (`X509LoginModule`)

■ Third party login module (`LDAPLoginModule`)

The mapping attribute for these login modules must be set in the `jazn.xml` file as described here.

9.1.19 Using opmn Settings for OC4J home Instance As Template for New Instance

When you create an OC4J instance, a new `<process-type>` element containing the instance configuration is added to the `opmn.xml` configuration file. The `<process-type>` element for the OC4J `home` instance serves as a template for the new instance, which is created with the same settings as the `home` instance.

You can change the configuration for the new instance by changing settings such as `heapsize`, `numprocs`, and `timeout` in the `<process-type>` element for the instance in the `opmn.xml` file. If you change the configuration for an OC4J instance, you need to restart it for the changes to take effect.

9.1.20 How to Specify Ports for State Replication in OPMN

When you deploy an application utilizing state replication in a managed Oracle Application Server, OPMN dynamically allocates the ports that are used to propagate state across the cluster. You can restrict this allocation to a range of ports for an application that has peer-to-peer replication enabled. Specifying ports for state replication might be necessary in an installation with a firewall or network that uses a well-defined port range.

To specify a range of ports for peer-to-peer state replication

1. Add a `<port>` element to an OC4J instance configuration in the `opmn.xml` file.

2. Specify the name of an application that has peer-to-peer replication enabled as the value of the `id` attribute of the `<port>` element.

3. Specify a range of ports in the `range` attribute of the `<port>` element.

For example, for deployment of an application named `rac-web` that is set up for peer-to-peer replication, the line labeled `<port id=rac-web .../>` in the following OC4J instance configuration tells OPMN to use ports 15213 to 15214 for state replication:

```
<port id="default-web-site" range="80-100" protocol="http"/>
<port id="rmi" range="12401-12500"/>
<port id="rmis" range="12701-12800"/>
<port id="jms" range="12601-12700"/>
<port id="rac-web" range="15213-15214"/>
```

For more information about state replication, see Chapter 9, "Application Clustering in OC4J," in the *Oracle Containers for J2EE Configuration and Administration Guide*.

9.1.21 OC4J Instances in a Group Must Have Same Version

All OC4J instances in a group within an Oracle Application Server cluster must have the same version, such as 10.1.3.1.0. For more information about groups of OC4J instances, see Chapter 8, "Configuring and Managing Clusters and OC4J Groups," in *Oracle Containers for J2EE Configuration and Administration Guide*.

9.1.22 Same Destination for Trace Output from Two OC4J Instances Not Supported

Through the `oc4j.properties` file, you can configure an OC4J instance to generate trace files to a specific debug destination instead of the default destination. Oracle does not support the configuration of two different OC4J instances to generate trace output to the same destination, even if the instances are in the same group. Each OC4J instance manages its own trace files.

For more information about default locations of component loggers for trace output, see Chapter 11, "Logging in OC4J", in *Oracle Containers for J2EE Configuration and Administration Guide*.

9.2 Servlet Issues and Workarounds

This section describes release notes for servlets. It covers the following topic(s):

- Section 9.2.1, "Servlet Invocation by Classname Disabled by Default"

- Section 9.2.2, "Enabling Access Logging for Web Applications"

- Section 9.2.3, "OC4J 10.1.3.1.0 Honors Session id Value Differently"

- Section 9.2.4, "Exception and Stack Trace No Longer Displayed in HTML Error Page"

- Section 9.2.5, "Disabling Servlet Reloading"

9.2.1 Servlet Invocation by Classname Disabled by Default

In the 10.1.3.x implementation, servlet invocation by class name is not enabled by default. Therefore, in default mode, you must use standard servlet configuration in `web.xml` before a servlet can be invoked. For example:

```
<servlet>
   <servlet-name>mytest</servlet-name>
```

```
      <servlet-class>mypackage.MyTestClass</servlet-class>
   </servlet>
   ...
   <servlet-mapping>
      <servlet-name>mytest</servlet-name>
      <url-pattern>/servlet/mytest</url-pattern>
   </servlet-mapping>
```

Without this configuration, attempts to invoke the servlet will result in a `404 NOT FOUND` error. This differs from the default behavior in previous releases, where invocation by class name was enabled.

Alternatively, you can choose to enable invocation by class name when they start OC4J, by setting the `http.webdir.enable` property as follows:

```
-Dhttp.webdir.enable=true
```

9.2.2 Enabling Access Logging for Web Applications

In releases previous to 10.1.3.1.0, the default value of the `access-log` attribute of the `<web-app>` element of `*-web-site.xml` files was `true`. As of 10.1.3.1.0, the default value of `access-log` is `false`.

If you want to enable access logging, then set `access-log` to `true` in the appropriate `<web-app>` elements.

9.2.3 OC4J 10.1.3.1.0 Honors Session id Value Differently

In 10.1.2.x, If SSL is enabled and a session cookie (a cookie with the name `JSESSIONID`) is present in the request from the browser, OC4J will honor the value from the cookie over the session id embedded in the SSL stream. In 10.1.3.x, the behavior is reversed, so that OC4J will attempt to honor the value from the SSL stream first.

9.2.4 Exception and Stack Trace No Longer Displayed in HTML Error Page

In previous releases of OC4J, the default behavior when an error occurred in a Web application was to display both the exception and the stack trace in the HTML error page returned to the client.

This default behavior has changed and these details are no longer displayed by default; instead, a generic error message is displayed in the HTML error page. The exception and stack trace details are sent to the log file of the relevant application.

The previous behavior can be restored by setting the `development` attribute of the `<orion-web-app>` element to a value of "true" in the `orion-web.xml` file for the Web application, as in the following example:

```
<orion-web-app
    jsp-cache-directory="./persistence"
    jsp-cache-tlds="standard"
    temporary-directory="./temp"
    context-root="/myapp"
    development="true">
 ...
</orion-web-app>
```

See the "Web Module Configuration Files" appendix in the *Oracle Containers for J2EE Servlet Developer's Guide* for more information about the `development` attribute.

9.2.5 Disabling Servlet Reloading

In the `global-web-application.xml` file, you can force OC4J to not reload a specific servlet if the servlet is modified. This feature is enabled by setting the undocumented `auto-reload` attribute of the `<servlet>` element to `false`.

`auto-reload="false">`.

This parameter is not documented in the OC4J 10.1.3.x Servlet documentation.

The following example shows that this can be done for a single servlet.

In `global-web-application.xml`:

```
...
  <servlet auto-reload="false">
     <servlet-name>nlservlet</servlet-name>
       <servlet-class>com.netledger.core.requesthandler.NLServlet
       </servlet-class>
  </servlet>
```

9.3 JavaServer Pages (JSP) Issues and Workarounds

This section describes release notes for JavaServer Pages. It covers the following topic(s):

9.3.1 Workaround to View JSP Demo Files

When you are running the JSP demos, if you receive a "Resource not found" exception when you attempt to view .jsp or .java files of the demo, then use the following workaround:

1. Add the following to the `web.xml` file located at `j2ee/ojspdemos/applications/ojspdemos/ojspdemos-web/WEB-INF/web.xml`.

```
   <servlet-mapping>
      <servlet-name>viewsrc</servlet-name>
      <url-pattern>/servlet/ViewSrc/*</url-pattern>
   </servlet-mapping>
```

2. Then, restart the OC4J server.

9.3.2 Deprecated JSP Configuration Parameters

The following JSP configuration parameters of the `<init-param>` element of the `global-web-application.xml` and `orion-web.xml` files are deprecated in release 10.1.3.1.0.

- `external_resource`
- `extra_imports`

- `forgive_dup_dir_attr`
- `old_include_from_top`
- `setproperty_onerr_continue`
- `jsp-print-null`

In addition, Oracle plans to remove the following JSP configuration parameters of the `<init-param>` element of the `global-web-application.xml` and `orion-web.xml` files in a future release. These parameters are the only way to implement their behaviors in release 10.1.3.1.0. If you implement their behaviors, you will have to modify your code when you upgrade to a release where these parameters are removed.

- `xml_validate`
- `no_tld_xml_validate`

9.3.3 ojsp Tag Libraries Deprecated

Oracle-proprietary ojsp tag libraries are deprecated in OC4J 10.1.3.x releases. They will be desupported in OC4J release 11g.

9.3.4 Specifying justrun for Production Environment Efficiency

For efficiency in the production environment, the `sample-web.war` that is to be precompiled using `ojspc` should include the following declaration in its `sample-web.war\WEB-INF\web.xml` just after the `<web-app>` element:

```
<servlet>
   <servlet-name>jsp</servlet-name>
   <servlet-class>oracle.jsp.runtimev2.JspServlet</servlet-class>
   <init-param>
      <param-name>main_mode</param-name>
      <param-value>justrun</param-value>
   </init-param>
</servlet>
```

The settings of the `main_mode` parameter, including `justrun`, are described in Chapter 3, Configuring the OC4J JSP Environment, of the *Oracle Containers for J2EE Support for JavaServer Pages Developer's Guide* .

9.3.5 Using a Tag Library with the ojspc Utility

To use your own tag library with `ojspc`, the best method is to put your tag library under `WEB-INF/lib` in a WAR that contains a JSP page and then precompile the archive, which can be either a standalone WAR or an EAR that contains the WAR.

For example, `mytaglib.war` contains these files:

```
jsp/mytaglib_example.jsp
WEB-INF/web.xml
WEB-INF/orion-web.xml
WEB-INF/lib/mytaglib.jar
```

The `mytaglib.jar` file contains `META-INF/mytaglib.tld` as well as the class files for all tags declared in that tag library descriptor (`mytaglib.tld`).

In this example, the WAR (`mytaglib.war`) is inside an EAR file along with `META-INF/application.xml`.

The following `ojspc` command precompiles the EAR file:

```
ojspc -output out/mytaglib.ear mytaglib.ear
```

After the precompilation, the EAR file will be in `out/mytaglib.ear` and will contain a WAR file with the precompiled JSP page under `WEB-INF/lib`, `__oracle_jsp_mytaglib_web.jar mytaglib.jar`, as well as the original `mytaglib.jar` file.

You could deploy this EAR file to OC4, and if you set the `<ojsp-init>` attribute `main-mode` to the value `justrun` in the `orion-web.xml` deployment descriptor, the precompiled version in `WEB-INF/lib` will be used. Alternatively, you could set the `main_mode` parameter to `justrun` in an `<init-param>` element of the `jsp` servlet configuration for the OC4J instance in `$J2EE_HOME/config/global-web-applications.xml`.

9.4 EJB Issues and Workarounds

This section describes release notes for EJBs. It covers the following topics:

- Section 9.4.1, "EJB 3.0 Support"
- Section 9.4.2, "EJB 3.0 Interceptors Supported in JDK 1.5 Only"
- Section 9.4.3, "Remote EJB 3.0 Stateful Session Bean Does Not Failover When Using Extended Persistence"
- Section 9.4.4, "Orion CMP Is Deprecated"
- Section 9.4.5, "ejb-module Attribute remote Deprecated"
- Section 9.4.6, "Default IP Address Stack"
- Section 9.4.7, "Set Managed Datasource Attribute manage-local-transactions To False When Using Oracle JMS Connector"

9.4.1 EJB 3.0 Support

In release 10.1.3.2.0, OC4J supports all but a small subset of the functionality specified in the final EJB 3.0 specification.

You may need to make code changes to your EJB 3.0 OC4J application when you upgrade your OC4J instance to 10.1.3.1.

For information on migrating a 10.1.3.0 JPA preview application to 10.1.3.1 JPA, see "Migrating a 10.1.3.0 TopLink JPA Preview Application to 10.1.3.1 TopLink Essentials JPA" in the *Oracle Containers for J2EE Enterprise JavaBeans Developer's Guide*.

9.4.2 EJB 3.0 Interceptors Supported in JDK 1.5 Only

Most EJB 3.0 session bean and message-driven bean features are supported with deployment descriptors with JDK 1.4. However, you cannot use EJB 3.0 interceptors in JDK 1.4. This is due to the fact that `InvocationContext` method `getContextData()` returns a JDK 1.5 generic type.

9.4.3 Remote EJB 3.0 Stateful Session Bean Does Not Failover When Using Extended Persistence

The EJB 3.0 specification states: "Propagation of persistence contexts only applies within a local environment. Persistence contexts are not propagated to remote tiers."

In a clustered OC4J environment, this means that an EJB 3.0 stateful session bean with a remote interface using an extended persistence context does not failover.

To work-around this limitation, you must configure your stateful session bean to use the `ejbPassivate` callback to null out any references to entities managed in the extended persistence context and then re-establish them in the `ejbActivate` callback.

9.4.4 Orion CMP Is Deprecated

The Orion persistence manager is deprecated. Oracle recommends that you use OC4J and the TopLink persistence manager for new development. Using the TopLink migration tool, you can migrate an existing OC4J application that uses EJB 2.0 entity beans with the Orion persistence manager to use EJB 2.0 entity beans with the TopLink persistence manager.

For more information, see "Migrating OC4J Orion Persistence to OC4J TopLink Persistence" in the *Oracle TopLink Developer's Guide*.

9.4.5 ejb-module Attribute remote Deprecated

In this release, `ejb-module` attribute `remote` is deprecated in `orion-ejb-jar.xml` and `orion-web.xml`.

To access a remote EJB in an unclustered separate Web tier and EJB tier, use `ejb-ref-mapping` attributes `remote-server-ref` and `jndi-properites-file`.

For information, see "Configuring an Environment Reference to a Remote EJB: Unclustered Separate Web Tier and EJB Tier" in the *Oracle Containers for J2EE Enterprise JavaBeans Developer's Guide*

9.4.6 Default IP Address Stack

Due to a bug in JDK 1.5 (and below), you cannot bind a socket to an IPv6 address on RedHat 4 (Linux 2.6).

To work around this problem, OC4J uses IPv4 as its default IP address stack.

To override this default, set system property `java.net.preferIPv4Stack=false`.

9.4.7 Set Managed Datasource Attribute manage-local-transactions To False When Using Oracle JMS Connector

When you configure an OC4J managed data source in `data-sources.xml`, you must set attribute `manage-local-transactions` to `false` if you plan to use the managed data source with Oracle JMS Connector (OJMS). This applies in both the queue and topic case.

The default algorithm that the managed data source uses to determine whether or not a connection may participate in a global transaction is inappropriate when using OJMS and may falsely prevent an MDB from joining a global transaction.

When this attribute is set to `false`, it allows OJMS and the underlying database management system to correctly determine the actual transaction status of a connection.

9.5 Web Services Issues and Workarounds

This section describes release notes for Web Services. It covers the following topics:

- Section 9.5.1, "Configuration Issues"
- Section 9.5.2, "WebServicesAssembler Issues"
- Section 9.5.3, "WSDL-Related Issues"
- Section 9.5.4, "Schema Features Limitations"
- Section 9.5.5, "Test Page Issues"
- Section 9.5.6, "Deployment Issues"
- Section 9.5.7, "Other Issues"

> **Note:** You can exercise your Web service and pinpoint errors by running it with a client created by WebServicesAssembler or JDeveloper. For more information on creating clients, see the *Oracle Application Server Web Services Developer's Guide* and the JDeveloper online help.

9.5.1 Configuration Issues

This section describes problems that might arise as a result of incorrect configuration:

- Section 9.5.1.1, "Installation Fails in Web Services Inspection Language (WSIL) Configuration"

9.5.1.1 Installation Fails in Web Services Inspection Language (WSIL) Configuration

The Ant scripts used to install the WSIL-App component are sensitive to certain external configuration options. If Ant is not configured correctly, then the WSIL install might fail with a `NoClassDefFound` error.

When deploying the WSIL application using Ant, you must be sure that you are using the Ant distribution that is provided with OracleAS Web Services 10g. This release contains all of the Ant tasks needed for deployment.

For more information about the contents and functionality of the Ant distribution that is provided with OracleAS Web Services 10*g*, see the *Oracle Containers for J2EE Deployment Guide*.

9.5.2 WebServicesAssembler Issues

This section describes problems that might arise in the operation of WebServicesAssembler.

- Section 9.5.2.1, "Multiple Service Elements in Top Down Web Service Assembly"
- Section 9.5.2.2, "Relative Path Names Are Not Supported in WSDL or XSD Imports"

- Section 9.5.2.3, "WebServicesAssembler Requires Schema Imports in the WSDL to Be Qualified by the schemaLocation Attribute"

- Section 9.5.2.4, "The assemble Ant Task Raises an Exception when Java Files Contain J2SE 5.0 Annotations"

9.5.2.1 Multiple Service Elements in Top Down Web Service Assembly

WebServicesAssembler does not support multiple service elements for the `topDownAssemble` command.

9.5.2.2 Relative Path Names Are Not Supported in WSDL or XSD Imports

WebServicesAssembler does not support relative path names, such as the following, in WSDL or XSD files.

```
<import location="../../file" ...>
```

As a work around use the WebServicesAssembler `fetchWsdl` command or the `fetchWsdlImports` argument. The `fetchWsdl` command is used in top down Web service assembly to copy the base (or top level) WSDL file and all of its imported and included WSDLs and schemas into a specified output directory. The boolean `fetchWsdlImports` argument indicates whether you want to make a local copy of the WSDL and everything it imports.

9.5.2.3 WebServicesAssembler Requires Schema Imports in the WSDL to Be Qualified by the schemaLocation Attribute

The `schemaLocation` attribute provides hints to a schema processor about where to find the schema for one or more namespaces. Values are provided as a list of URIs, separated by white-space characters. URIs must appear in pairs—first the namespace URI, then the location of the schema document for that namespace.

To process a schema successfully, WebServicesAssembler requires schema imports to be qualified by the `schemaLocation` attribute.

The following example specifies the schema location for the WS-I Basic Profile.

```
<xsd:import namespace="http://ws-i.org/profiles/basic/1.1/xsd"
schemaLocation="http://ws-i.org/profiles/basic/1.1/xsd"/>
```

9.5.2.4 The assemble Ant Task Raises an Exception when Java Files Contain J2SE 5.0 Annotations

If you use the `assemble` Ant task to generate Web services from Java files that contain J2SE Annotations, then an exception will be raised. The `assemble` Ant task cannot correctly process annotated Java files.

To avoid this exception, use `assemble` on the command line.

9.5.3 WSDL-Related Issues

This section describes problems that might arise in how OracleAS Web Services interprets WSDL files.

- Section 9.5.3.1, "Support for Globalization Support (NLS) Characters in the WSDL"

- Section 9.5.3.2, "Services that use Multiple Message Formats Cannot be Deployed in a Single Web Application"

- Section 9.5.3.3, "genWsdl Command Does not Preserve Order of Variables"

9.5.3.1 Support for Globalization Support (NLS) Characters in the WSDL

Globalization Support (also known as" NLS" or "National Language Support") characters that occur in names in the WSDL, such as in the name of a service, port type, operation, binding or port, are not supported. This may also result in errors on the Web Services Test Page.

9.5.3.2 Services that use Multiple Message Formats Cannot be Deployed in a Single Web Application

Multiple message formats, such as RPC-encoded and document-literal, are not supported in a single Web application.

To avoid this problem, ensure that your Web application defines only one message format.

9.5.3.3 genWsdl Command Does not Preserve Order of Variables

If you use the WebServicesAssembler `genWsdl` command or Ant task, then the variables in the generated WSDL file will be in a different order from those in the original Java class files. This can cause problems if you continue to modify your Java code after generating the WSDL file. For example, clients may no longer be able to access the server's Web services.

To work around this problem:

1. Generate the WSDL file with `genWSDL`.

2. Edit the generated WSDL file to place the variables in the desired order.

3. If you are assembling the Web service bottom up, then replace the original WSDL file in the EAR/WAR file with the edited WSDL file.

9.5.4 Schema Features Limitations

This section describes Web Services schema features limitations. It covers the following topics:

- Section 9.5.4.1, "RPC Encoded Does Not Support Complex Types With Attributes"

- Section 9.5.4.2, "XML Types xsd:choice and xsd:group Are Not Supported for Proxy or Top Down Web Service Assembly"

9.5.4.1 RPC Encoded Does Not Support Complex Types With Attributes

If the schema contains a binding with an RPC-encoded message format and WebServicesAssembler encounters a `complexType` with attributes, then it will throw an "unsupported type encountered" error message.

9.5.4.2 XML Types xsd:choice and xsd:group Are Not Supported for Proxy or Top Down Web Service Assembly

If you are assembling Web services to- down or assembling Web service proxies, WebServicesAssembler cannot consume WSDLs that contain the `xsd:choice` or `xsd:group` XML types. If you want to consume a WSDL that contains these XML types, set the WebServicesAssembler `dataBinding` argument to `false` and code the `SOAPElement` so that the payload conforms to the schema definition in the WSDL file.

9.5.5 Test Page Issues

This section describes Web Services test page issues. It covers the following topics:

- Section 9.5.5.1, "Recursive Schema Definitions Are Not Supported in the Web Services Test Page"

- Section 9.5.5.2, "Formatted XML Content Returned from a Service Invocation on the Web Services Test Page May Be Shown Incorrectly"

- Section 9.5.5.3, "Test Page May Not Show Errors Originating from an Invalid Web Service WSDL"

- Section 9.5.5.4, "Invalid Values in a Web Services Test Page Form Field May Result in an "Unable to get header stream in saveChanges" Error"

- Section 9.5.5.5, "Web Services Test Page Does Not Support Globalization Support (NLS) Characters in User Name or Password"

- Section 9.5.5.6, "Web Services Test Page Does Not Support the Schema Features: group, choice, union, or Derived Simple Types as Attributes"

- Section 9.5.5.7, "Test Page Stress Test Report May Be Displayed Incorrectly Under Firefox or Mozilla"

9.5.5.1 Recursive Schema Definitions Are Not Supported in the Web Services Test Page

Services that use recursive schema definitions are not fully supported from the Web Services Test Page. The HTML form in the Test Page allows you to add a recursive element, but when the message is sent, the recursive elements will be empty. An example of a recursive schema definition is shown below, where the element with the name of list has a reference back to itself:

```
<xs:element name="list">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="list" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
        <xs:attribute name="name" type="xs:string" use="required"/>
        <xs:attribute name="value" type="xs:string"/>
    </xs:complexType>
</xs:element>
```

If you wish to construct a message in the Test Page that contains a recursive element, then you must select the **XML Source** radio button and enter the contents of the message manually.

9.5.5.2 Formatted XML Content Returned from a Service Invocation on the Web Services Test Page May Be Shown Incorrectly

The returned content on the Formatted XML Test Page may be missing or display incorrectly if it includes a string containing XML entities for greater than (>) or less than (<) characters.

To check the content of the returned content, switch to the **XML Source** view.

9.5.5.3 Test Page May Not Show Errors Originating from an Invalid Web Service WSDL

If the Web Services Test Page invokes a service with an invalid WSDL, then you may see an empty or broken page. Neither the Test Page nor the logs will display any WSDL errors when such a service is invoked.

You can pinpoint WSDL errors in a Web service in any of the following ways:

- Generate a service client with JDeveloper or with WebServicesAssembler.

- Use the WSDL validation command in JDeveloper.

- Use the WS-I validation tool in JDeveloper.

9.5.5.4 Invalid Values in a Web Services Test Page Form Field May Result in an "Unable to get header stream in saveChanges" Error

If you submit an invalid value in one of the Web Services Test Page's form fields, the field will be highlighted in red. If you submit the Test Page with an invalid value, then you may receive the following response:

```
Unable to get header stream in saveChanges
```

To avoid this error, correct invalid entries before submitting the page for execution.

9.5.5.5 Web Services Test Page Does Not Support Globalization Support (NLS) Characters in User Name or Password

If you include Globalization Support (also known as "NLS" or "National Language Support") characters in a user name or password for authentication in the Web Services Test Page, then authentication may fail with the following message:

```
Unable to authenticate <username>
```

In addition, the Test Page displays Globalization Support characters in the user name as "?" (question marks).

9.5.5.6 Web Services Test Page Does Not Support the Schema Features: group, choice, union, or Derived Simple Types as Attributes

If the Web Services Test Page encounters any of the following schema features: `group`, `choice`, `union`, or derived simple type as an attribute, then the HTML form will not display input controls for them.

For example, if the schema contains the following code:

```
<xsd:element name="workflowContext" type="workflowContextType"/>
   <xsd:complexType name="workflowContextType">
     <xsd:choice>
       <xsd:element name="credential" type="credentialType"/>
       <xsd:element name="token" type="xsd:string"/>
     </xsd:choice>
   </xsd:complexType>
```

The HTML form will not display an input control for `workflowContext`.

As a work around, you can select the **XML Source** radio button and enter the message content manually.

9.5.5.7 Test Page Stress Test Report May Be Displayed Incorrectly Under Firefox or Mozilla

If you run the Web services stress test from the Test Page in the Firefox or Mozilla browsers, then the report that is returned may not show correct aggregate values. To obtain the correct aggregate values, use the Internet Explorer browser instead.

9.5.6 Deployment Issues

This section describes problems that might arise during Web services deployment:

- Section 9.5.6.1, "EJB 2.1 Web Services Deployed with an Invalid oracle-webservices.xml File"

9.5.6.1 EJB 2.1 Web Services Deployed with an Invalid oracle-webservices.xml File

If an EJB 2.1 Web service is not available after you deploy it, then check whether the service deployment descriptor file, `oracle-webservices.xml`, is valid. It is possible to deploy a service with invalid resource references without an alert being sent.

9.5.7 Other Issues

This section describes other problems that might arise during the operation of OracleAS Web Services:

- Section 9.5.7.1, "Get NodeLists by Using getFirstChild and getNextSibling Instead of getChildNode"
- Section 9.5.7.2, "Using the 'class' Attribute in Ant Build Scripts to Specify JAX-RPC Web Service Handlers"
- Section 9.5.7.3, "BEA Clients are Unable to Deserialize Responses from OC4J Web Services"
- Section 9.5.7.4, "Mapping Issue with Simple Types (with Restrictions) on the .NET Platform"
- Section 9.5.7.5, "genValueType Command Does Not Validate Restrictions"
- Section 9.5.7.6, "XML Serialization Does Not Accept the Array Java Data Type for Document-Literal-Bare Message Format"

9.5.7.1 Get NodeLists by Using getFirstChild and getNextSibling Instead of getChildNode

You may see a performance degradation when iterating over a `NodeList` obtained by using `node.getChildNode()`. This degradation will only be significant for a `NodeList` with a very long length.

Instead of using the `NodeList` obtained by `node.getChildNode()`, the current Oracle XDK implementation offers an optimization of navigating a list of child nodes by using `node.getFirstChild()` and looping over `node.getNextSibling()`. The following code sample illustrates this technique.

```
Node n = ...;
if (n.hasChildNodes()) {
   for(Node nd=n.getFirstChild(); nd!=null; nd=nd.getNextSibling()){
        nd.getValue(); // do something with nd
      }
}
```

9.5.7.2 Using the 'class' Attribute in Ant Build Scripts to Specify JAX-RPC Web Service Handlers

If you edit a build.xml file that defines web service handlers in an Ant task, the handler code allows you to specify the handler class name using either the 'class' or 'handlerClass' attributes. However, if you use handlerClass to specify the class name in JDeveloper, the editor will display a red line under handlerClass and incorrectly indicate that it is not defined on the handler element. This occurs because the XML schema that is registered with JDeveloper does not recognize the handlerClass attribute.

To avoid this error, use the class attribute to specify the handler class name.

9.5.7.3 BEA Clients are Unable to Deserialize Responses from OC4J Web Services

When OracleAS Web Services uses a soap encoded array of complex types, the element's xsi type is always set to the value of `soapenc:Array` (that is, `xsi:type=soapenc:Array`). OracleAS Web Services then uses the soap encoded arrayType to specify the actual type and length of the array (that is, `soapenc:arrayType=<the Actual type>[length]`).

In contrast, BEA 9.0 clients expect an element's `xsi:type` to reflect the actual type. If a BEA client receives a response from OracleAS We Services that contains a soap encoded array of complex types, then the client throws an error similar to the following:

```
internal error: no builtin runtime type for
com.bea.staxb.buildtime.internal.bts.BuiltinBindingType
```

If interoperability with BEA and one or more of the following platforms: @ AXIS, IBM, or .NET are required, then avoid using soapenc arrays.

9.5.7.4 Mapping Issue with Simple Types (with Restrictions) on the .NET Platform

If you define an element of type simpleType with a restriction of xs:integer, it will be mapped to java.math.BigInteger on all Java platforms, such as OC4J, AXIS, and BEA.

For example, the element maxconcat in the following XML code sample will be mapped to BigInteger on all Java platforms:

```
    <xs:element name="maxconcat" minOccurs="0" maxOccurs="1"
type="aqltype:maxconcat"/>
com.bea.staxb.buildtime.internal.bts.BuiltinBindingType
    <xs:simpleType name="maxconcat">
    <xs:restriction base="xs:integer">
    <xs:minInclusive value="1"/>
    <xs:maxInclusive value="255"/>
    </xs:restriction>
    </xs:simpleType>
```

However, all versions of the .NET platform (1.1, 2.0, and 3.0) map simpleType elements with a restriction of xs:integer to System.String. This can cause interoperability problems in the runtime if the value of this type is not an integer.

As a workaround, .NET developers should ensure that the string value passed for simpleType is an integer when this type is used in an outbound message.

9.5.7.5 genValueType Command Does Not Validate Restrictions

In JAX-RPC Web services, the `genValueType` command generates bean classes for data types but does not validate restrictions in the XSD file.

For example, the following XSD fragment defines a `SerialNumber` data type based on string that restricts its length to 16 characters. When `genValueType` creates the bean classes, it does not validate the length.

```
    ...
    xsd:element name="SerialNumber">
            <xsd:simpleType>
              <xsd:restriction base="xsd:string">
                <xsd:length value="16"/>
              </xsd:restriction>
            </xsd:simpleType>
```

```
            </xsd:element>/
...
```

This is a known limitation: the Oracle Web Services JAX-RPC stack does not enforce most restrictions. To work around this problem, write your own bean classes instead of using generated bean classes.

9.5.7.6 XML Serialization Does Not Accept the Array Java Data Type for Document-Literal-Bare Message Format

If you attempt to expose a Java method that uses the `array` Java type as a Web service that uses the `document-literal-bare` (unwrapped) message format, then the serialization of the method will fail.

For example, assume that you want to expose the method
`public SearchResult[] WebServiceClass()`
which has the following definition:

```
public class SearchResult implements Serializable {
public SearchResult() { }
private String name;
private String value;
public void setName(String name) { this.name = name; }
public String getName() { return name; }
public void setValue(String value) { this.value = value; }
public String getValue() { return value; }
 }

 public SearchResult[] WebServiceClass(String testTriger) {
        System.out.println(testTriger);
        return STATIC_RESULT_A;
    }
```

If you create the Web service bottom up, the WSDL file will contain the following XML for the `SearchResult` method:

```
    ...
  <sequence>
  <element name="result" type="tns:SearchResult" nillable="true"
minOccurs="0"
  maxOccurs="unbounded"/>
  </sequence>
  ...
```

However, on executing the service, the following error will be returned:

```
ERROR OWS-04046 serialization error: java.lang.ClassCastException:
```

The work around for this issue is to use `doc-literal-wrapped` message format.

9.6 OC4J Services Issues and Workarounds

This section describes release notes for OC4J Services. OC4J Services include: Java Naming and Directory Interface (JNDI), Oracle Enterprise Messaging Service (OEMS), Data Sources, Remote Method Invocation (ORMI and IIOP), OC4J Transaction Support, Java Object Cache (JOC), XML Query Service (XQS), and Application Client Container.

The section contains release notes for the following OC4J Services:

9.6.1 JNDI

This section describes release notes for JNDI. It covers the following topics:

9.6.1.1 Spaces in Application Names

In this release, when accessing an application through OPMN using ORMI, an application's name cannot contain spaces. For example:

```
opmn:ormi://<host>:<port>:home/my deploy
```

If the application name contains spaces, the following exception is thrown:

```
StrangeAppName not found
```

Remove any spaces in the name of the application to work around this issue.

9.6.1.2 Wrong Provider URL in the jndi.properties File

In this release, when you deploy a client JAR to a clustered server, the `jndi.properties` file written to the `/applications/appname/appname_client` directory does not have the correct provider URL to connect to one of the clustered instances. The correct provider URL for accessing an application instance in a cluster is:

```
java.naming.provider.url=opmn:ormi://myhost:6003:home/appname
```

The example assumes the OPMN port is `6003` and the instance name is `home`.

9.6.1.3 Deprecated JNDI Environment Variables

In this release, the JNDI environment variables `dedicated.connection`, `dedicated.rmicontext`, and `LoadBalanceOnLookup` are deprecated.

To configure replication-based load balancing, use environment variable `oracle.j2ee.rmi.loadBalance` with the settings that Table 9–1 lists.

Table 9–1   Settings for Environment Variable oracle.j2ee.rmi.loadBalance

Setting	Description
Client	The client interacts with the OC4J process that was initially chosen at the first lookup for the entire conversation (Default)

Table 9–1 (Cont.) Settings for Environment Variable oracle.j2ee.rmi.loadBalance

Setting	Description
Context	The client goes to a new server when a separate context is used (similar to deprecated `dedicated.rmicontext`).
Lookup	The client goes to a new server for every lookup.

9.6.1.4 Local Host Not Supported

The `java.naming.provider.url` JNDI property does not support the value `localhost` when a remote client connects to an application server instance that is managed by OPMN. The value must be the complete hostname or IP Address. This does not affect clients that connect to standalone application server instances.

9.6.2 Oracle Enterprise Messaging Service (OEMS)

This section describes release notes for the Oracle Enterprise Messaging Service (OEMS). It covers the following topics:

- Section 9.6.2.1, "Error Starting OC4J after OracleASjms is Undeployed"

- Section 9.6.2.2, "OC4J May Fail to Restart after Abnormal OC4J Shutdown"

- Section 9.6.2.3, "XA-styled JMS Connections Not Supported Between OC4J Versions"

- Section 9.6.2.4, "JMS Auto-Enlisting in Global Transactions is Desupported"

- Section 9.6.2.5, "Changes in JMS Client Properties Require Restart"

- Section 9.6.2.6, "New JMS Provider"

- Section 9.6.2.7, "Poor Performance When Persisting Messages to a Database"

9.6.2.1 Error Starting OC4J after OracleASjms is Undeployed

In this release, additional changes are necessary to start OC4J when the default instance of the OracleASjms resource adapter is undeployed.

The following additional changes must be made:

- In `$J2EE_HOME/config/application.xml` comment out the following lines:

```
<web-module id="jmsrouter_web" path="../../home/applications/jmsrouter.war" />
<ejb-module id="jmsrouter_ejb" path="../../home/applications/jmsrouter-ejb.jar"
 />
```

- In `$J2EE_HOME/config/default-web-site.xml`, comment out the following line:

```
  <web-app application="default" name="jmsrouter_web" root="/jmsrouter"
   load-on-startup="true" />
```

If these changes are made, OC4J may be started, but the OracleAS JMS Router will not work.

To reinstate the JMS Router:

1. Fully redeploy the OracleASjms resource adapter instance.

2. Uncomment the lines mentioned above in `$J2EE_HOME/config/application.xml` and `$J2EE_HOME/config/default-web-site.xml`.

When OC4J is restarted, the OracleAS JMS Router should be available.

9.6.2.2 OC4J May Fail to Restart after Abnormal OC4J Shutdown

There are situations where you may encounter OC4J JMS Server startup problems, such as the following, after an abnormal OC4J shutdown:

```
(SEVERE) Failed to set the internal configuration of the OC4J JMS Server with:
XMLJMSServerConfig[file:/D:/oas0104_web/j2ee/BLUE/config/jms.xml]
WARNING: Application.setConfig Application: default is in failed state as
initialization failed.
```

If this occurs, check that no other OC4J JMS Server is running and using the same persistence files. Then remove any `.lock` files from the following directory:

ORACLE_HOME/j2ee/*instance_name*/persistence

And try restarting again.

If problems persist, confirm that the `jms.xml` file is valid.

If problems still persist, remove the `jms.state` file from the persistence directory and try again, but be aware that removing this file may result in loss of transaction information. For additional information, see the section "Abnormal Termination" in the "Oracle Enterprise Messaging Service" chapter of the *Oracle Containers for J2EE Services Guide*.

9.6.2.3 XA-styled JMS Connections Not Supported Between OC4J Versions

In this release, Oracle Application Server does not support XA-styled JMS connections with Oracle Application Server 10.1.2.

9.6.2.4 JMS Auto-Enlisting in Global Transactions is Desupported

For backward-compatibility reasons, it is still possible (but discouraged) to use the auto-enlisting feature in this release. The feature is disabled by default. Applications that previously relied on the auto-enlist feature to enlist XA and non-XA JMS connection into a global transaction, must now set the `oc4j.jms.pseudoTransactionEnlistment` configuration property to `true` in the `jms.xml` configuration file.

9.6.2.5 Changes in JMS Client Properties Require Restart

The OC4J server must be restarted when changes are made to the following JMS client properties:

- `oc4j.jms.serverPoll`
- oc4j.jms.messagePoll
- oc4j.jms.noDms

The server must be restarted for the changes to take effect no matter what method is used to update the properties (either manually editing `jms.xml` or using the Application Server Control Console).

9.6.2.6 New JMS Provider

The 10.1.3.2 release includes an early-access version of a new, high-performance, fully CTS-compliant JMS provider. Use the following system property when starting OC4J to enable the new JMS provider (overriding the default OC4J-JMS provider):

`-Doc4j.jms.implementation=oracle.j2ee.jms`

The `-Doc4j.jms.implementation=oc4j.j2ee.jms` system property is also supported but has been deprecated.

> **Note:** The new JMS provider is configured by editing the `J2EE_HOME\config\jms.xml` file. Configuration using the Enterprise Manager Application Server Control console is not supported.

9.6.2.7 Poor Performance When Persisting Messages to a Database

The OEMS database persistence feature performs poorly if the queue tables are configured to use old compatibility modes. The compatibility mode is set using the `compatible` parameter. For example:

```
DBMS_AQADM.CREATE_QUEUE_TABLE(
        Queue_table            => 'demoTestQTab',
        Queue_payload_type     => 'SYS.AQ$_JMS_MESSAGE',
        sort_list              => 'PRIORITY,ENQ_TIME',
        multiple_consumers     => false,
        compatible             => '8.1.5');
```

The `compatible` parameter should only be set to older modes if there are issues migrating to the new schema layouts or if existing queue tables cannot be exported to the new schema layouts.

When using the latest schema layouts, set the `compatible` parameter to `10.0.0.0.0` or omit the parameter to use the default compatibility mode. Either option ensures that the most efficient schema and locking mechanisms are used.

9.6.3 Data Sources

This section describes release notes for Data Sources. It covers the following topics:

- Section 9.6.3.1, "The oracleFatalError method is no Longer Available"
- Section 9.6.3.2, "OracleConnectionCacheImpl Deprecated"
- Section 9.6.3.3, "Orion CMP Fails Due to JDBC Driver Clash"
- Section 9.6.3.4, "Upgrading the Oracle THIN JDBC Driver"

9.6.3.1 The oracleFatalError method is no Longer Available

The `com.evermind.sql.DbUtil.oracleFatalError()` method is no longer available for retrieving fatal errors (e.g. during RAC failover scenarios). The method has been replaced by the `oracle.oc4j.sql.DataSourceUtils.isOracleFatalError()` method. This is an internal method that is not intended for public use and should only be used for backwards compatibility. The method should not be used for new development.

9.6.3.2 OracleConnectionCacheImpl Deprecated

The class `oracle.jdbc.pool.OracleConnectionCacheImpl` has been deprecated because it does not support multiple schemas. When defining the `factory-class` for connection factories and `data-source-class` for native data sources, use `oracle.jdbc.pool.OracleDataSource`.

9.6.3.3 Orion CMP Fails Due to JDBC Driver Clash

Oracle CMP only works correctly with the default JDBC driver that is supplied with this release. Problems will arise if another version of the Oracle JDBC driver is added to an OC4J instance, such as through the OC4J Shared Library feature, and configured for use by the application using Orion CMP.

When using Orion CMP, always use the Oracle JDBC driver that is shipped with OC4J.

9.6.3.4 Upgrading the Oracle THIN JDBC Driver

The JDBC THIN driver cannot be upgraded or changed at the Oracle Application Server-instance level due to component dependencies. JDBC THIN driver upgrades must be completed for each OC4J instance using the Shared Library feature.

Instructions for upgrading the JDBC THIN driver are located on the OTN How To site:

http://www.oracle.com/technology/tech/java/oc4j/1013/how_ to/index.html

9.6.4 OC4J Transaction Support

This section describes release notes for OC4J Transaction Support. It covers the following topic:

- Section 9.6.4.1, "The In-DB Coordinator Is Deprecated"
- Section 9.6.4.2, "Support for Recoverable Last Resource Commit"
- Section 9.6.4.3, "New Transaction Manager Extensions"

9.6.4.1 The In-DB Coordinator Is Deprecated

The use of the in-database transaction coordinator by OC4J is deprecated as of release 10.1.3. Oracle recommends that the middle-tier transaction coordinator be used going forward.

9.6.4.2 Support for Recoverable Last Resource Commit

The OC4J transaction manager contains a new feature called Recoverable Last Resource Commit (RLRC). The feature provides an enhanced recovery mechanism for Last Resource Commit (LRC) transactions and increases the overall performance of such transactions.

RLRC uses a database table to maintain a commit record of transaction IDs. This removes the need for a commit record in the OC4J transaction logs in the middle-tier. Writing commit records accounts for a large part of the performance cost of two-phase commit processing.

> **Note:** RLRC is currently only available when the non-XAResource participant is a database. In addition, because the commit record is maintained in this database, it is necessary that the database be accessible in the event that recovery of such RLRC transactions is necessary.

To set up RLRC:

1. Stop the server if it is currently started.

2. Install the `J2EE_HOME/database/j2ee/jta/oracle/last_resource_commit.sql` and `2pc_jdbcstore.sql` schemas on the database that will persist the commit record.

3. Open the `J2EE_HOME/config/data-sources.xml` file and edit or create a connection pool to access the commit record database and specify the `commit-record-table-name` attribute as part of the connection factory element. For example:

```
[…]
<connection-pool name="Example Connection Pool" num-cached-statements='10'>
   <connection-factory factory-class="oracle.jdbc.pool.OracleDataSource"
      user="scott"
      password="tiger"
      url="jdbc:oracle:thin:@myServer:5521:main"
      commit-record-table-name="scott.OC4J_TX_RLRC_LOG">
        <property name="connectionCachingEnabled"  value="false"/>
        <property name="implicitCachingEnabled"  value="true"/>
        <property name="maxStatements" value="50"/>
   </connection-factory>
  </connection-pool>
[…]
```

> **Note:** The name value for the `commit-record-table-name` attribute must be fully qualified and the password specified must have delete and select privileges on this table.

4. (Optional). Open the `J2EE_HOME/config/transaction-manager.xml` file and modify the runtime behavior of the RLRC feature. For example:

```
[...]
<commit-coordinator>
   <middle-tier>
      <recovery retry-interval = "300" rlrc-purge-interval="10"
               rlrc-purge-size="1000">
   </middle-tier>
</commit-coordinator>
[...]
]
```

   - `rlrc-purge-interval`: This attribute is the interval (in seconds) in which the batch purge of commit records in the database occurs

   - `rlrc-purge-size`: This attribute is the size of the batch that is deleted during the batch purge of commit records in the database.

5. Start the server.

9.6.4.3 New Transaction Manager Extensions

New feature extensions to the standard `TransactionManager` interface have been added to the `OC4JTransactionManager` interface. These features are also available when using the `OC4JJtaTransactionManager` integration within the Spring framework (http://www.springframework.org).

The `oracle.j2ee.transaction.TransactionUtility` singleton provides direct access to the `OC4JUserTransaction`, `OC4JTransactionManager`, and `OC4JTransaction` interfaces. The singleton accesses these interfaces without the need for JNDI lookups using it's `getOC4JUserTransaction()`, `getOC4JTransactionManager()`, and `getOC4JTransaction()` methods.

The `OC4JTransactionManager` interface now includes the following methods:

- ```
  void begin(String type) throws
      javax.transaction.NotSupportedException,
      javax.transaction.SystemException;
  ```

- `public void setType(String type);`

- `public String getType();`

- `void setTransactionIsolation(int transactionIsolation);`

- `int getTransactionIsolation();`

- `int getTransactionTimeout();`

The `OC4JTransaction` interface now includes the following methods:

- `public void setType(String type);`

- `public String getType();`

- `void setTransactionIsolation(int transactionIsolation);`

- `int getTransactionIsolation();`

- `int getTransactionTimeout();`

Transaction typing (or naming) allows for transactions to be categorized into logical groups for administration and reporting purposes.

Per- transaction isolation level designation provides the ability for all resources enlisted in a global transaction to share the same specified isolation-level. Currently, this feature is limited to JDBC connections.

9.6.5 RMI

This section describes release notes for OC4J Remote Method Invocation (RMI and IIOP). It covers the following topics:

- Section 9.6.5.1, "RMI Recommendations"

- Section 9.6.5.2, "Incorrect "Provider URL..." Error Message"

9.6.5.1 RMI Recommendations

In this release, note the following recommendations:

- The RMI port is sometimes not released immediately.

- Old tunneling is deprecated. Use the new URL format, as described in the "Configuring ORMI Tunneling through HTTP" section of the "RMI" chapter of the *Oracle Containers for J2EE Services Guide*.

9.6.5.2 Incorrect "Provider URL..." Error Message

In certain cases when there is something wrong with the provider URL format, the following incorrect error message is displayed:

```
" Provider URL must be of the form
[opmn:]corbaname::host:port#/appname"
```

The URL format in the error message is incorrect. The correct URL format is:

```
[opmn:]corbaname::host:port#[instancename#]appname
```

9.6.6 XQS

This section describes release notes for the OC4J XML Query Service (XQS). It covers the following topics:

- Section 9.6.6.1, "Updated XQS Client API"
- Section 9.6.6.2, "SQL Usage has Changed"
- Section 9.6.6.3, "Incorrect XQS Type-Checking Example"
- Section 9.6.6.4, "XQS Schema Import Support"

9.6.6.1 Updated XQS Client API

The XQS Client API now includes the `XQSFactory` class. The factory provided by this class is used to create instances of the new main XQS client interfaces:

- `oracle.xqs.client.QueryParameterI`
- `oracle.xqs.client.XQSFacadeI`

The previous classes have been deprecated:

- `oracle.xds.client.QueryParameter`
- `oracle.xds.client.XQSFacade`

9.6.6.2 SQL Usage has Changed

The `<xqsview-source>` element is now used to define SQL queries for database access. The `<wsdl-source>` element is no longer used. The `<xqsview-source>` element is defined as part of a SQL-based XQS view.

9.6.6.3 Incorrect XQS Type-Checking Example

The XQS chapter in the *OC4J Services Guide* contains an error. The example XQuery expression provided in the "Type-Checking for Input Parameters" section is incorrect. The following example is correct:

```
import schema namespace ns1="urn:namespace_1" at "http://mydomain/myschema.xsd";

declare namespace xqs = "http://xmlns.oracle.com/ias/xqs";
declare function xqs:takeNS1Input($param as element(ns1:InputElement)?) external;

let $in := <ns1:InputElement>...</ns1:InputElement>
let $y := xqs:takeNS1Input($in)
return <result>$y//ns1:Content</result>
```

9.6.6.4 XQS Schema Import Support

The XQS chapter in the *OC4J Services Guide* contains an error. The "XQuery Optional Features" section indicates that the XQuery schema import feature is not supported. XQS does support the schema import feature as defined by the W3C.

9.6.7 Application Client Container

This section describes release notes for OC4J Application Client Container. It covers the following topics:

- Section 9.6.7.1, "Custom Security Callback Handler Fails"

9.6.7.1 Custom Security Callback Handler Fails

In this release, when implementing a custom security callback handler for an application client, the handler must set all three callback objects (`NameCallback`, `PasswordCallback`, and `TextInputCallback`). If you do not set all three objects, a `java.lang.NullPointerException` is given when trying to instantiate the remote connection to the OC4J server and the JNDI context setup fails.

9.7 J2EE Connector Architecture (J2CA) Issues and Workarounds

This section describes release notes for J2EE Connector Architecture (J2CA). It covers the following topics:

- Section 9.7.1, "New Class Loader Architecture for Standalone Resource Adapters"
- Section 9.7.2, "Deployment Dependencies between Standalone Resource Adapters"
- Section 9.7.3, "Class Not Found Exceptions"
- Section 9.7.4, "Restart of Default Application Required After Redeploying or Undeploying Internal Resource Adapters"

9.7.1 New Class Loader Architecture for Standalone Resource Adapters

In this release, standalone resource adapters are no longer added to the default application's class loader (except for the internal JMS and data source resource adapters). Instead, standalone resource adapters are added as shared libraries that (by default) are available to all applications. The new architecture allows multiple versions of a standalone adapter to be deployed in OC4J. See the *Oracle Containers for J2EE Resource Adapter Administrator's Guide* for detailed information.

9.7.2 Deployment Dependencies between Standalone Resource Adapters

In this release, a standalone resource adapter can only import previously deployed standalone resource adapters. Therefore, a standalone resource adapter must be deployed prior to any dependent standalone resource adapter. This is different than the behavior in 10.1.3 where a standalone resource adapter can lookup and use a standalone resource adapter which was deployed after itself.

9.7.3 Class Not Found Exceptions

Starting in this release, resource adapters that rely on the default class loader to resolve non shared-library dependencies at runtime will fail. Dependencies on libraries and other standalone resource adapters are configured explicitly by importing shared libraries. A standalone resource adapter's proprietary deployment descriptor (`oc4j-ra.xml`) is used to import shared libraries. See the *Oracle Containers for J2EE Resource Adapter Administrator's Guide* for detailed information on importing shared libraries.

9.7.4 Restart of Default Application Required After Redeploying or Undeploying Internal Resource Adapters

For the Oracle Application Server 10.1.3.1.0 implementation, you no longer need to restart the default application after deploying, redeploying, undeploying standalone resource adapters in an OC4J instance. You should restart any dependent J2EE applications that take advantage of the standalone resource adapter.

However, there are cases where a restart of the default application is still required. Specifically, if you perform a deployment operation on the adapters for accessing Oracle Enterprise Messaging Service (OEMS) file and memory based provider (`OracleASjms.rar`) or the OEMS database persistence provider (`ojms.rar`), then you will be required to restart the default application.

These adapters are Oracle-internal resource adapters for JMS connectivity and have administrative tasks that may require additional deployment and redeployment operations.

9.8 OracleAS JAAS Provider and Security

Be aware of the following notes when using the OracleAS JAAS Provider in release 10.1.3.1 or 10.1.3.2:

- Section 9.8.1, "Correct JAZNMigrationTool Syntax"

- Section 9.8.2, "Use of JAAS Permissions and JAZNMigrationTool with External LDAP Provider"

- Section 9.8.3, "Proper Specification of osso.conf File Name for SSO Configuration"

- Section 9.8.4, "User and Role APIs Replace OracleAS JAAS Provider Realm API Functions"

- Section 9.8.5, "OutOfMemoryError on Multiple Restarts of Standalone OC4J through Application Server Control"

- Section 9.8.6, "Controlling Caching of JNDI Contexts for LDAP Connections"

- Section 9.8.7, "JAZN Tool No Longer Includes -clustersupport"

- Section 9.8.8, "AJP13 Protocol Vulnerable to Bypass User Authentication"

9.8.1 Correct JAZNMigrationTool Syntax

In the section "Migration Tool Command Syntax" in chapter 7, "File-Based Security Provider", of the 10.1.3.1 *Oracle Containers for J2EE Security Guide*, the syntax shown at the beginning of the section is incomplete. It should include the package of `JAZNMigrationTool`. Here is the correct syntax:

```
% java oracle.security.jazn.tools.JAZNMigrationTool
                [-st xml] [-dt ldap|xml]
                [-D binddn] [-w passwd] [-h ldaphost] [-p ldapport]
                [-sf sourcefilename] [-df destfilename]
                [-sr source_realm] [-dr dest_realm]
                [-m policy|realm|all]
                [-help]
```

(This *is* correctly shown in the example at the end of the section.)

9.8.2 Use of JAAS Permissions and JAZNMigrationTool with External LDAP Provider

For a situation where you are using JAAS authorization in conjunction with an external LDAP provider, this release note provides details to complete the very brief discussion in "Granting Additional Permissions to External LDAP Principals" in chapter 10, "External LDAP Security Providers", of the 10.1.3.1 *Oracle Containers for J2EE Security Guide*.

Note that `JAZNMigrationTool`, while more typically used to migrate from a file-based provider to an alternative file-based provider or to Oracle Internet

Directory, can also be used in conjunction with an external LDAP provider to migrate JAAS policy information to the `system-jazn-data.xml` file on a target server.

Complete the following steps to grant necessary permissions to LDAP principals for the external LDAP provider:

1. Migrate JAAS policy information from `system-jazn-data.xml` on the development server to `system-jazn-data.xml` on the target server, using the "`-m policy`" setting. This is to migrate policy information only (to the target `system-jazn-data.xml` file)—you cannot use `JAZNMigrationTool` to directly migrate user and role information into the external LDAP provider. (More precisely, `JAZNMigrationTool` cannot create an LDIF file appropriate for external LDAP providers. It is capable of creating LDIF files appropriate for Oracle Internet Directory only, with the directory information tree and schema expected by Oracle Internet Directory.)

2. Manually edit the migrated policy information to use `LDAPPrincipal`.

    After you migrate the policy information as discussed in step 1, the resulting entries in the target `system-jazn-data.xml` file will have grantees referencing the `XMLRealmRole` principal class. For use with an external LDAP provider, these entries must be updated to reference the `LDAPPrincipal` class instead. For example, assume `system-jazn-data.xml` includes the following principal configuration in a grantee element:

    ```
    <principal>
        <realm-name>jazn.com</realm-name>
        <type>role</type>
        <class>oracle.security.jazn.spi.xml.XMLRealmRole</class>
        <name>jdoe</name>
    </principal>
    ```

    This must be updated manually to remove the `<realm-name>` and `<type>` elements and to specify `LDAPPrincipal` instead of `XMLRealmRole`, as follows:

    ```
    <principal>
        <class>oracle.security.jazn.realm.LDAPPrincipal</class>
        <name>jdoe</name>
    </principal>
    ```

3. Manually create any necessary user and role accounts in the external LDAP provider. Ensure that the user and role names you create conform to the principals referenced in the policy configuration you migrated to the target server in step 1.

    > **Note:** Additional steps to update `orion-application.xml` to enable JAAS mode and to set up necessary role mapping are already discussed in the 10.1.3.1 *Oracle Containers for J2EE Security Guide*.

9.8.3 Proper Specification of osso.conf File Name for SSO Configuration

In chapter 8, "Oracle Identity Management", of the 10.1.3.1 *Oracle Containers for J2EE Security Guide*, in the section "Configure SSO (Optional)", under the first step, "Run the SSO Registration Tool", the following example is shown:

```
% $ORACLE_HOME/sso/bin/ssoreg.sh -oracle_home_path $ORACLE_HOME \
  -site_name myhost.mydomain.com -config_mod_osso TRUE \
  -mod_osso_url http://myhost.mydomain.com:7777 -remote_midtier \
  -config_file $ORACLE_HOME/Apache/Apache/conf/osso/osso.conf
```

Actually, if you run this exact command, using the configuration file name `osso.conf`, there will be an error indicating that `osso.conf` already exists. (You should *not* overwrite the existing `osso.conf` file.) Instead of `osso.conf`, use some other file name such as `midtier_osso.conf`, for example. A new file will be created with the name you specify, containing the SSO partner application configuration for the middle tier you are associating with SSO. Copy this file to the middle tier you are configuring.

> **Tip:** We recommend that the file name indicate the host and port of the middle tier. For example, `midtier1_7779_osso.conf`.

9.8.4 User and Role APIs Replace OracleAS JAAS Provider Realm API Functions

In the 10.1.3.1 *Oracle Containers for J2EE Security Guide*, the "What's New" section notes that the new user/role API framework includes replacement functionality for the deprecated `UserManager`, `User`, and `Group` classes in the `com.evermind.security` package.

It should also be noted that the user/role API framework has replacement functionality for realm APIs in or under the `oracle.security.jazn` package.

These packages are deprecated and will not be supported in the 11*g* release.

9.8.5 OutOfMemoryError on Multiple Restarts of Standalone OC4J through Application Server Control

Be aware of the following issue when you use the OracleAS JAAS Provider migration tool to migrate policies from the file-based provider to the Oracle Identity Management (essentially, Oracle Internet Directory) security provider, either in "policy" mode or "all" mode: The migration tool prepends the Oracle Internet Directory realm name to custom or nonrealm principal names in grantee entries in the policy configuration. (A custom principal may come into play when authenticating through a custom login module, for example.)

In the migrated configuration, a custom principal name in a grantee entry becomes, for example, "us/anyone" instead of just "anyone", assuming "us" is the realm name. This results in permission issues. For ADF applications, for example, this results in public pages not working after migration to Oracle Internet Directory as the security provider.

This problem will be fixed in the 10.1.3.3 release. For 10.1.3.2 and prior 10.1.3.x releases, you can use either of the following workarounds:

- Manually remove the "us/" prefix from the LDIF file that the migration tool creates, prior to importing it into Oracle Internet Directory.

- Manually remove the "us/" prefix from relevant grantee entries after the migration, using Oracle Internet Directory administration tools.

9.8.6 Controlling Caching of JNDI Contexts for LDAP Connections

By default in 10.1.3.x implementations, OC4J uses `java.lang.ref.WeakReference` objects to cache JNDI contexts when using connection pooling for connections to the LDAP-based provider, and uses JVM garbage collection to garbage-collect the JNDI contexts.

We recommend, however, that you *not* rely on this `WeakReference` and JVM garbage collection functionality. You can disable it with the following property setting:

```
<jazn ... >
   <property name="jndi.ctx_pool.weakref.enable" value="false" />
   ...
</jazn>
```

(The default setting is "true".) When this is disabled, OC4J uses the following properties, which you should set appropriately, to control caching in the connection pool:

- `jndi.ctx_pool.timeout`: Timeout value, in milliseconds, for the LDAP JNDI connection pool. The default is 0, for no timeout. The recommended setting is 3600000 milliseconds, which is one hour.

- `jndi.ctx_pool.threshold_size`: Threshold to limit the number of idle connections in the pool. The default, and recommended initial setting, is 100.

(Both properties are ignored if `jndi.ctx_pool.weakref.enable` is set to "true".)

For example:

```
<jazn ... >
   <property name="jndi.ctx_pool.weakref.enable" value="false" />
   <property name="jndi.ctx_pool.threshold_size" value="100" />
   <property name="jndi.ctx_pool.timeout" value="3600000" />
   ...
</jazn>
```

> **Notes:**
>
> - The `jndi.ctx_pool.weakref.enable` and `jndi.ctx_pool.threshold_size` properties are not documented in the 10.1.3.x *Oracle Containers for J2EE Security Guide*.
>
> - The `jndi.ctx_pool.timeout` property is documented in the 10.1.3.x *Oracle Containers for J2EE Security Guide*, but without mention of the fact that this parameter is ignored if `jndi.ctx_pool.weakref.enable` is set to "true" (the default).

9.8.7 JAZN Tool No Longer Includes -clustersupport

The DCM component is no longer supported in Oracle Application Server 10.1.3. Consequently, the `-clustersupport` option is no longer available in the `jazn.jar` administrative tool.

Problem

Using the `-clustersupport` option when invoking `jazn.jar` results in the following error:

```
An error has occured in propagating the changes to the cluster.
java.lang.ClassNotFoundException oracle.security.jazn.smi.DcmUtil
```

This problem occurs because Distributed Configuration Management (DCM), used in prior releases of Oracle Application Server to replicate common configuration information across a cluster, is no longer supported with release 10.1.3. Consequently, the `-clustersupport` option is not supported in the JAZN (jazn.jar) administrative tool.

Solution

Do not use the `-clustersupport` option when invoking `jazn.jar`.

9.8.8 AJP13 Protocol Vulnerable to Bypass User Authentication

When OC4J is running a site using the AJP13 protocol, a security vulnerability exists if a remote attacker can directly access the AJP port on the machine running OC4J. The AJP13 protocol defines an AJP parameter `remote_user`, which is used by OHS to implement `mod_osso`. An attacker can use this parameter to bypass authentication on OC4J. If a user constructs an AJP packet that inserts a valid `remote_user` value as an AJP parameter, the user will be able to access resources that the specified user (remote user) has permission to access.

You must ensure that the system running OC4J does not expose the AJP port to the outside world.

You can protect against the vulnerability in either of the following ways:

- Enable SSL between OC4J and Oracle HTTP Server (preferred). For 10.1.3.x releases, this is documented in the *Oracle Containers for J2EE Security Guide*. For release 10.1.2 or 9.0.4, this is documented in the *Oracle Containers for J2EE Servlet Developer's Guide*.

- Use the `<access-mask>` element (a subelement of `<orion-web-app>`) in `global-web-application.xml` or `orion-web.xml` to restrict access to appropriate host names, domains, or IP addresses. This element is documented in the *Oracle Containers for J2EE Servlet Developer's Guide*.

9.9 General OC4J Issues and Workarounds

This section discusses general OC4J issues:

-

9.9.1 OutOfMemoryError on Multiple Restarts of Standalone OC4J through Application Server Control

If you restart a standalone OC4J instance multiple times through Application Server Control, you may encounter the error `java.lang.OutOfMemoryError`, reported on the server console, and the OC4J instance will be unusable.

The workaround is to manually stop and restart the OC4J instance.

9.10 Documentation Errata

This section describes known errors in the OC4J documentation in Oracle Application Server 10g releases 10.1.3.1 and 10.1.3.2. It covers the following book(s):

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- Section 9.10.5, "OracleAS JAAS Provider and Security"

- Section 9.10.6, "Oracle Containers for J2EE Developer's Guide"

- Section 9.10.7, "Oracle Containers for J2EE Configuration and Administration Guide"

- Section 9.10.8, "Oracle Containers for J2EE Servlet Developers Guide"

- Section 9.10.9, "Oracle Containers for J2EE Enterprise JavaBeans Developer's Guide"

9.10.1 Web Services Guide

This section describes Web Services documentation errata. It covers the following topic(s):

- Section 9.10.1.1, "Incorrect Link Provided for wsclient_extended.zip File"

- Section 9.10.1.2, "Typos in XML Type Names in Advanced Web Services Developer's Guide"

- Section 9.10.1.3, "ServerConstants Properties Cannot be used to Access the HTTP Layer from the Client"

9.10.1.1 Incorrect Link Provided for wsclient_extended.zip File

The following incorrect link for the wsclient_extended.zip file and companion CD was used in Chapter 4 and Appendix A of the *Oracle Application Server Web Services Developer's Guide*:

http://download.oracle.com/otn/java/oc4j/10131/wsclient_extended.zip

The correct link should be:

http://www.oracle.com/technology/software/products/ias/htdocs/utilsoft.html

9.10.1.2 Typos in XML Type Names in Advanced Web Services Developer's Guide

Table H–4, "Mapping Java Collection Classes to XML Types", in the *Advanced Web Services Developer's Guide*, contains the following typographical errors in XML type names:

--java.util.HashMap maps to owi:hashmap. This is incorrect. The correct mapping is to owi:hashMap (the M should be upper case)

--java.util.TreeMap maps to owi:treemap. This is incorrect. The correct mapping is to owi:treeMap (the M should be upper case)

The correct link should be:

http://www.oracle.com/technology/software/products/ias/htdocs/utilsoft.html

9.10.1.3 ServerConstants Properties Cannot be used to Access the HTTP Layer from the Client

In the *Web Services Developer's Guide*, the section "How Stub Clients Can Get Headers with the ServiceLifecycle Interface" describes how the HTTP_SERVLET_REQUEST and HTTP_SERVLET_RESPONSE properties in the oracle.webservices.ServerConstants class can be used to access the HTTP message header.

This section claims that these properties can be used on the client as well as on the server to access the HTTP message header. This is incorrect. The client cannot access the HTTP layer at all by using these properties. Any attempt to call these properties on the client will return an exception similar to the following:

```
 javax.xml.rpc.JAXRPCException: Stub does not recognize
property:...
```

There is no work around.

9.10.2 Oracle Application Server Advanced Web Services Developer's Guide

This section describes errors in the *Oracle Application Server Advanced Web Services Developer's Guide*. It covers the following item(s):

- Section 9.10.2.1, "Incorrect XML in Examples in the "Using Web Service Providers" Chapter"

9.10.2.1 Incorrect XML in Examples in the "Using Web Service Providers" Chapter

The chapter titled "Using Web Service Providers" in the *Oracle Application Server Advanced Web Services Developer's Guide* contains examples with incorrect XML.

Example 10-5

"oracle-webservices.xml Fragment, with a <provider-description> Clause" is not well-formed xml.

- The spaces after slashes in closing tags must be removed:

  Cchange: `</ wsdl-service-name>` to: `</wsdl-service-name>`

  Change: `</ implementation-class>` to: `</implementation-class>`

- Closing tag is missing a slash:

  Change: `<auditing>...<auditing>` to: `<auditing>...</auditing>`

Example 10-6

"Provider Elements in the web.xml Deployment Descriptor" is well-formed but invalid XML.

The description and display-name elements are out-of-order and mis-positioned according to the JDeveloper 10.1.3.3.0.4157 schema validation:

Change:

```
<servlet-name>LoggerProviderPort</servlet-name>
<display-name>LoggerProviderPort</display-name>
<description>JAX-RPC endpoint  Provider Port</description>
```

to:

```
<description>JAX-RPC endpoint  Provider Port</description>
<display-name>LoggerProviderPort</display-name>
<servlet-name>LoggerProviderPort</servlet-name>
```

9.10.3 Oracle Containers for J2EE Deployment Guide

This section describes Web Services documentation errata. It covers the following topic(s):

- Section 9.10.3.1, "Incorrect Attribute Name in Example of Ant Task"

- Section 9.10.3.2, "File Name oracle-ant.jar Should Be ant-oracle.jar"

- Section 9.10.3.3, "The version Property of the removeSharedLibrary Ant Task Should Be libraryVersion"

- Section 9.10.3.4, "Checking for Updates by Comparing Directory and EAR or WAR Timestamps"

- Section 9.10.3.5, "Incorrect Subswitch Names for admin_client.jar Commands"

- Section 9.10.3.6, "Information Missing from Description of admin_client.jar -redeploy Command Subswitches"

- Section 9.10.3.7, "deploymentPlan Property Not Valid in Ant Task for WAR Deployment"

- Section 9.10.3.8, "Incremental Redeployment of EJB Modules Not Supported by Application Server Control"

9.10.3.1 Incorrect Attribute Name in Example of Ant Task

The "name" attribute should be "connectionPoolName" in the example of the testDataSourceConnectionPool Ant task under "Testing a Data Source Connection Pool" in Chapter 10, "Using OC4J Ant Tasks for Deployment." This example is in version 10.1.3.1 of the *Oracle Containers for J2EE Deployment Guide*.

The correct example follows:

```
<oracle:testDataSourceConnectionPool
deployerUri="deployer:oc4j:localhost"
userid="oc4jadmin"
password="welcome1"
applicationName="default"
connectionPoolName="ScottConnectionPool"
sqlStatement="select * from dual" />
```

9.10.3.2 File Name oracle-ant.jar Should Be ant-oracle.jar

In *Oracle Containers for J2EE Deployment Guide*, Chapter 10, "Using OC4J Ant Tasks for Deployment", under "Preparing to Use OC4J Ant Tasks" and "Incorporating the OC4J Ant Tasks into Your Environment," the file name oracle-ant.jar should be ant-oracle.jar in two places:

- The second paragraph

  Incorrect text: The oracle-ant.jar file is installed by default within the *ORACLE_HOME*/ant/lib directory.

  Correct text: The ant-oracle.jar file is installed by default within the *ORACLE_HOME*/ant/lib directory.

- The description of ant-oracle.xml

  Incorrect text: This is necessary only if oracle-ant.jar is not installed in the *ORACLE_HOME*/ant/lib directory.

  Correct text: This is necessary only if ant-oracle.jar is not installed in the *ORACLE_HOME*/ant/lib directory.

In both places, the directory path is accurate.

9.10.3.3 The version Property of the removeSharedLibrary Ant Task Should Be libraryVersion

In *Oracle Containers for J2EE Deployment Guide*, Chapter 10, "Using OC4J Ant Tasks for Deployment", the version property of the removeSharedLibrary Ant task should be libraryVersion in the "Removing a Shared Library" subsection of "Creating and Managing Shared Libraries."

A corrected example for the removeSharedLibrary Ant task follows:

```
<oracle:removeSharedLibrary
deployerUri="${deployer.uri}"
userid="${oc4j.admin.user}"
password="${oc4j.admin.password}"
logfile="${log.dir}/filename.log"
libraryName="name"
libraryVersion="version"/>
```

9.10.3.4 Checking for Updates by Comparing Directory and EAR or WAR Timestamps

In *Oracle Containers for J2EE Deployment Guide*, Chapter 14, "Using Automatic Deployment in OC4J", the note under "Using the Check-for-Updates Feature" reads as follows:

> **Note:** An EAR or WAR file copied to the *ORACLE_HOME*/j2ee/*instance*/applications directory will be deployed or redeployed by default upon OC4J startup, regardless of whether auto-deployment is enabled.

The EAR or WAR file is also deployed when its timestamp is newer than the timestamp of the directory that contains the file.

9.10.3.5 Incorrect Subswitch Names for admin_client.jar Commands

The names of some command subswitches are incorrect in Chapter 11, "Using the admin_client.jar Utility for Deployment." Table 9–2 shows the incorrect and correct names for these subswitches. Also, the table shows the correct name for the -addDataSourceConnectionPool command, which was misspelled in the book.

Table 9–2   Correct Names for Subswitches of admin_client.jar Commands

Command	Incorrect Subswitch Name	Correct Subswitch Name
-addDataSourceConnectionPool	-user	-dbUser
	-password	-dbPassword
-testDataSourceConnectionPool	-connectionPoolName	-name
	-user	-dbUser
	-password	-dbPassword
-addManagedDataSource	-dataSourceName	-name
	-user	-dbUser

Table 9–2   (Cont.) Correct Names for Subswitches of admin_client.jar Commands

Command	Incorrect Subswitch Name	Correct Subswitch Name
	-password	-dbPassword
-removeManagedDataSource	-dataSourceName	-name
-addNativeDataSource	-dataSourceName	-name
	-user	-dbUser
	-password	-dbPassword
-removeNativeDataSource	-dataSourceName	-name
-testDatabaseConnection	-user	-dbUser
	-password	-dbPassword
-testDataSource	-user	-dbUser
	-password	-dbPassword
-addJMSConnectionFactory	-location	-jndiLocation
-removeJMSConnectionFactory	-location	-jndiLocation

9.10.3.6 Information Missing from Description of admin_client.jar -redeploy Command Subswitches

Some information is missing from the description of the -redeploy command subswitches under "Redeploying an Archive" in Chapter 11, "Using the admin_client.jar Utility for Deployment":

- The -file subswitch can specify the name of an EAR, WAR, or RAR, not just an EAR.

- The -bindAllWebApps [*webSiteName*] subswitch is missing. This optional subswitch binds all Web modules to the specified Web site, or to the default Web site if none is specified.

  You can optionally supply a value for *webSiteName*, which is the *name* portion of the *name*_web-site.xml file that configures the Web site.

9.10.3.7 deploymentPlan Property Not Valid in Ant Task for WAR Deployment

The deploymentPlan property is incorrectly listed in Table 10-7, "deploy Properties for Standalone WAR Deployment" in Chapter 10, "Using OC4J Ant Tasks for Deployment." You cannot use a deployment plan to deploy a standalone Web module.

9.10.3.8 Incremental Redeployment of EJB Modules Not Supported by Application Server Control

Application Server Control Console is incorrectly listed as a tool under "Incremental Redeployment of EJB Modules" in Chapter 3, "Deploying EJB Modules." You cannot use Application Server Control for incremental redeployment of EJB Modules. Use one of the other tools listed instead:

- The -updateEBJModule command of the admin_client.jar command-line utility (or admin.jar for standalone OC4J)

- The updateEJBModule Ant task

- JDeveloper

For more information about EJB redeployment, see the chapter.

9.10.4 Oracle Containers for J2EE Services Guide

This section describes *OC4J Services Guide* documentation errata. It covers the following topic(s):

- Section 9.10.4.1, "Wrong Data Source Element Name"
- Section 9.10.4.2, "Wrong Defaults Listed for Connection Pool Attributes"
- Section 9.10.4.3, "Invalid Attribute"
- Section 9.10.4.4, "Revised Description for max-connections Attribute"

9.10.4.1 Wrong Data Source Element Name

The "Defining Data Source" chapter in the *OC4J Services Guide* contains an error. The Fifth bullet in the "Configuration Notes" section is incorrect. The bullet should read:

"Native data sources are defined using the `<native-data-source>` element. The `data-source-class` attribute can be set to any fully qualified class name of an object that implements the `javax.sql.DataSource` interface."

9.10.4.2 Wrong Defaults Listed for Connection Pool Attributes

The Data Source chapter in the *OC4J Services Guide* contains an error. The Connection Pool Attributes table incorrectly lists default values for the `time-to-live-timeout` attribute and the `abandoned-connection-timeout` attribute. The default value for these features is actually `0` and not `-1`. The default value (`0`) indicates that these features are disabled.

9.10.4.3 Invalid Attribute

Table 5-3, "Connection Pool Attributes," includes a description of the `disable-server-connection-pooling` attribute. This attribute is no longer supported and should not be added to the `J2EE_ HOME/config/data-sources.xml` configuration file.

9.10.4.4 Revised Description for max-connections Attribute

The Data Source chapter in the *OC4J Services Guide* contains an error. The Connection Pool Attributes table states that setting the `max-connections` attribute to `0` disables connection pooling. Setting this value to `0` does not disable connection pooling when using Oracle's Implicit Connection Cache (ICC). Instead, an SQL error is returned:

```
java.sql.SQLException: Unable to get a physical connection from the database...
there are no connections available.
```

To disable connection pooling when using the `oracle.jdbc.pool.OracleDataSource` connection factory class, set the `connectionCachingEnabled` property to `false`. For example:

```
<connection-pool name="myConnectionPool"
   <connection-factory
      factory-class="oracle.jdbc.pool.OracleDataSource"
      user="scott"
      password="tiger"
      url="jdbc:oracle:thin:@//localhost:1521/">
      <property name="connectionCachingEnabled"  value="false"/>
```

```
        </connection-factory>
    </connection-pool>
```

9.10.5 OracleAS JAAS Provider and Security

This section contains information about the following errata in the 10.1.3.1 *Oracle Containers for J2EE Security Guide*:

- Section 9.10.5.1, "Incorrect Notes on 'Mixed Usage' between Identity Store and Policy Store"

- Section 9.10.5.2, "Incorrect Note on Automatic Creation of Indirect User Accounts"

- Section 9.10.5.3, "Obsolete <data-source> Element Cited"

- Section 9.10.5.4, "Invalid Reference to x509cert.mapping.attribute Property"

- Section 9.10.5.5, "Form Authentication Method Supported with Custom Login Modules"

9.10.5.1 Incorrect Notes on 'Mixed Usage' between Identity Store and Policy Store

In the 10.1.3.1 *Oracle Containers for J2EE Security Guide*, there are two notes that include the following: "...the result would be a mixed usage where the provider configured in `orion-application.xml` would be the identity store used for authentication, while the provider specified in `jazn.xml` would be the policy store used for authorization. This is not recommended."

One appears under "Policy Repository Setting in jazn.xml" in the "Authorization in OC4J" chapter (chapter 5); the other under "Associate Oracle Internet Directory with OC4J" in the "Oracle Identity Management" chapter (chapter 8).

It is not appropriate to say this is not recommended. In fact, it is the only alternative when using external LDAP or a custom login module. While certain steps or precautions must be taken, these steps are already documented.

9.10.5.2 Incorrect Note on Automatic Creation of Indirect User Accounts

In the 10.1.3.1 *Oracle Containers for J2EE Security Guide*, the following note appears in the section "Using Password Indirection" (chapter 6): "If you choose to use indirect passwords in the current OC4J implementation, an indirect user is created in the `system-jazn-data.xml` file. Be aware that these indirect user accounts are not removed automatically when an application is undeployed; you must use Application Server Control Console to delete any stale indirect user accounts manually."

This note is misleading, as the indirect user account is created automatically only in the case of Web services, when Application Server Control Console is used to configure a keystore or keystore passwords (signature key and encryption key).

The point of the note should simply be that if an indirect user account is created, either automatically or manually, undeploying the application will not remove the account automatically; you must do so manually.

9.10.5.3 Obsolete <data-source> Element Cited

In the 10.1.3.1 and 10.1.3.0.0 *Oracle Containers for J2EE Security Guide*, in the section "Using Password Indirection" (chapter 6), a passage refers to the `password` attribute of the `<data-source>` element in file `data-sources.xml`. This actually should refer to the `password` attribute of the `<native-data-source>` element or

`<managed-data-source>` element, which combined to replace the
`<data-source>` element in the 10.1.3.0.0 release.

9.10.5.4 Invalid Reference to x509cert.mapping.attribute Property

The *Oracle Containers for J2EE Security Guide* incorrectly refers to the OracleAS JAAS
provider property `x509cert.mapping.attribute`. In particular, Chapter 13, Web
Application Security Configuration, in the section "Using Client-Cert Authentication"
contains the following incorrect example:

```
<orion-application ... >
...
   <jazn provider="XML" ... default-realm="myrealm" ... >
      <property name="x509cert.mapping.attribute" value="CN"/>
...
   </jazn>
...
</orion-application>
```

This example and other references to `x509cert.mapping.attribute` are incorrect
since the `x509LoginModule` utilizes the `mapping.attribute` property as do other
providers. For more information about this property and how to configure it, see the
release note at Section 9.1.18, "Specifying the Mapping Attribute"".

9.10.5.5 Form Authentication Method Supported with Custom Login Modules

The *Oracle Containers for J2EE Security Guide* incorrectly states in at least two locations
that the form authentication method is not supported with custom security providers
(custom login modules). This is incorrect—in 10.1.3.x implementations, the form
method *is* supported with custom security providers.

The error occurs in the following locations:

- 10.1.3.0.0:
  - Chapter 2, "Overview of OC4J Security", section "Authentication in the OC4J
    Environment";
  - Chapter 13, "Web Application Security Configuration", section "Specifying
    auth-method in web.xml".
- 10.1.3.1 and higher:
  - Chapter 2, "Java Platform Security", section "Web Application Standard
    Authentication Methods"
  - Chapter 17, "Web Application Security Configuration", section "Specifying
    auth-method in web.xml".

9.10.6 Oracle Containers for J2EE Developer's Guide

This section describes documentation errata for *Oracle Containers for J2EE Developer's
Guide*, including the following topic:

- Section 9.10.6.1, "Missing Character in Service URL Strings"
- Section 9.10.6.2, "Incorrect Setting for Client Module in orion-application.xml"
- Section 9.10.6.3, "Correction to Example: Replacing the Oracle XML Parser with
  the Xerces Parser"

9.10.6.1 Missing Character in Service URL Strings

In *Oracle Containers for J2EE Developer's Guide*, Chapter 5, "Creating MBeans to Manage Your Applications," under "Remote Management Using the JMX Remote API (JSR-160)," some of the service URL strings in the code segments are missing a required colon character (":"). The incorrect entries are like this one:

```
String url="service:jmx:rmi///opmn://opmnhost1.company.com:6003/home"
```

In this entry, ":" is missing between "`rmi`" and "`///`".

The correct service URL string follows:

```
String url="service:jmx:rmi:///opmn://opmnhost1.company.com:6003/home"
```

9.10.6.2 Incorrect Setting for Client Module in orion-application.xml

The description of the `<client-module>` element recommends the wrong value for the `user` attribute under "Elements in the orion-application.xml File" in Appendix A, "OC4J-Specific Deployment Descriptors." The descriptions of the `auto-start` and `user` attributes incorrectly recommend setting `user` to `true` when `auto-start='true'`.

These attribute settings, however, would prevent OC4J from calling the main method in an application client archive (CAR) at startup. When the `auto-start` attribute is set to `true`, you need to set `user` to `anonymous`. The descriptions of these `<client-module>` attributes should read as follows:

- `auto-start`: Whether to automatically start the application in-process at OC4J server startup. The default is `false`. If this attribute is set to `true`, the `user` attribute must be set to `anonymous`.

- `user`: Set to `anonymous` to run the client in-process. If the `auto-start` attribute is set to `true`, the `user` attribute must be set to `anonymous`.

9.10.6.3 Correction to Example: Replacing the Oracle XML Parser with the Xerces Parser

The sample, at the end of the subsection "Example: Replacing the Oracle XML Parser with the Xerces Parser," is missing a closing quotation mark in the `max-version` attribute:

```
<import-shared-library name="xerces.xml" max-version="2.5.0/>
```

The sample code line should read as follows:

```
<import-shared-library name="xerces.xml" max-version="2.5.0"/>
```

9.10.7 Oracle Containers for J2EE Configuration and Administration Guide

This section describes documentation errata for *Oracle Containers for J2EE Configuration and Administration Guide*, including the following topics:

- Section 9.10.7.1, "Incorrect Example for Disabling Text File Logging"

- Section 9.10.7.2, "Incorrect Subswitch Names for admin_client.jar Commands"

- Section 9.10.7.3, "Information Missing from Description of admin_client.jar -redeploy Command Subswitches"

- Section 9.10.7.4, "Format for Variables That Configure Text Logging for Web Sites"

- Section 9.10.7.5, "Incorrect Description of Queue Attribute for Thread Pools"

- Section 9.10.7.6, "Configuration of OPMN Gateway Element Shows Incorrect Order"
- Section 9.10.7.7, "Starting Order Incorrect for Static Peer-to-Peer Replication"

9.10.7.1 Incorrect Example for Disabling Text File Logging

In *Oracle Containers for J2EE Configuration and Administration Guide*, Chapter 11, "Logging in OC4J," under "Enabling or Disabling Text File Logging," the example for disabling text file logging comments out the entire `<log>` element, but the text before the example says to remove or comment out the `<file>` element. The incorrect example follows:

```
<!--
<log>
  <file path="application.log" />
</log>
-->
```

Here is a corrected example:

```
<log>
  <!-- <file path="application.log" /> -->
</log>
```

9.10.7.2 Incorrect Subswitch Names for admin_client.jar Commands

The names of some command subswitches are incorrect in Chapter 6, "Using the admin_client.jar Utility." Table 9–3 shows the incorrect and correct names for these subswitches. Also, the table shows the correct name for the `-addDataSourceConnectionPool` command, which was misspelled in the book.

Table 9–3   Correct Names for Subswitches of admin_client.jar Commands

Command	Incorrect Subswitch Name	Correct Subswitch Name
`-addDataSourceConnectionPool`	`-user`	`-dbUser`
	`-password`	`-dbPassword`
`-testDataSourceConnectionPool`	`-connectionPoolName`	`-name`
	`-user`	`-dbUser`
	`-password`	`-dbPassword`
`-addManagedDataSource`	`-dataSourceName`	`-name`
	`-user`	`-dbUser`
	`-password`	`-dbPassword`
`-removeManagedDataSource`	`-dataSourceName`	`-name`
`-addNativeDataSource`	`-dataSourceName`	`-name`
	`-user`	`-dbUser`
	`-password`	`-dbPassword`
`-removeNativeDataSource`	`-dataSourceName`	`-name`
`-testDatabaseConnection`	`-user`	`-dbUser`
	`-password`	`-dbPassword`

Table 9–3 (Cont.) Correct Names for Subswitches of admin_client.jar Commands

Command	Incorrect Subswitch Name	Correct Subswitch Name
-testDataSource	-user	-dbUser
	-password	-dbPassword
-addJMSConnectionFactory	-location	-jndiLocation
-removeJMSConnectionFactory	-location	-jndiLocation

9.10.7.3 Information Missing from Description of admin_client.jar -redeploy Command Subswitches

Some information is missing from the description of the -redeploy command subswitches under "Redeploying an Archive" in Chapter 6, "Using the admin_client.jar Utility":

- The -file subswitch can specify the name of an EAR, WAR, or RAR, not just an EAR.

- The -bindAllWebApps [*webSiteName*] subswitch is missing. This optional subswitch binds all Web modules to the specified Web site, or to the default Web site if none is specified.

  You can optionally supply a value for *webSiteName*, which is the *name* portion of the *name*_web-site.xml file that configures the Web site.

9.10.7.4 Format for Variables That Configure Text Logging for Web Sites

Information about the $cookie and $header variables is missing from the description of the format attribute of the <access-log> element under "Configuring Text-Based Access Logging" in Chapter 13, "Managing Web Sites in OC4J."

In the <access-log> subelement of the <web-site> element in a Web site's configuration file (*-web-site.xml), you can specify a number of variables in the format attribute that result in information being prepended to log entries. When you specify the $cookie or $header variable, the format needs to be as follows:

```
$cookie:[name]
$header:[name]
```

9.10.7.5 Incorrect Description of Queue Attribute for Thread Pools

The description of the queue attribute is incorrect in Table 10-2, "Attributes of <thread-pool> and <custom-thread-pool>," in Chapter 10, "Task Manager and Thread Pool Configuration." The incorrect description follows:

Attribute	Description
queue	The maximum number of requests that can be kept in the queue. The default value is 0.
	The queue value should be at least twice the size of the maximum number of threads. If the value is 0 OC4J uses Integer.MAX_VALUE as the maximum number.

Here is a corrected description of the queue attribute:

Attribute	Description
queue	The maximum number of requests that can be kept in the queue. The default value is 0.
	The queue value should be at least twice the size of the maximum number of threads.

9.10.7.6 Configuration of OPMN Gateway Element Shows Incorrect Order

The order of `<topology>` subelements is incorrect in the `opmn.xml` configuration example under "Configuring Cross-Topology Gateways" in Chapter 8, "Configuring and Managing Clusters and OC4J Groups," of *Oracle Containers for J2EE Configuration and Administration Guide*. The example shows a configuration for a gateway as follows:

```
<opmn>
 <notification-server>
  <port ... />
  <ssl ... />
  <topology>
   <gateway list="node1.com:6201&node2.com:6202&node3.com:6203/"/>
   <discover list="*224.0.0.37:8205"/>
  </topology>
 </notification-server>
 ...
</opmn>
```

Because the `<topology>` subelements are incorrectly ordered according to the `opmn.xsd` file, using this configuration results in an OPMN error.

The correct configuration follows:

```
<opmn>
 <notification-server>
  <port ... />
  <ssl ... />
  <topology>
   <discover list="*224.0.0.37:8205"/>
   <gateway list="node1.com:6201&node2.com:6202&node3.com:6203/"/>
  </topology>
 </notification-server>
 ...
</opmn>
```

9.10.7.7 Starting Order Incorrect for Static Peer-to-Peer Replication

The following paragraph shows an incorrect starting order for nodes under "Configuring Static Peer-to-Peer Replication" in Chapter 9, "Application Clustering in OC4J," of *Oracle Containers for J2EE Configuration and Administration Guide*.

In this configuration, each node specifies one other node as its peer. The result is that all of the nodes within the cluster are able to establish connections with one another. This scenario will work only if each node is started in succession; that is, `www1.company.com` must be started before `www2.company.com`. Otherwise, `www2.company.com` will not be able to "see" `www1.company.com`.

The following paragraph has the correct starting order.

In this configuration, each node specifies one other node as its peer. The result is that all of the nodes within the cluster are able to establish connections with one another. This scenario will work only if each node is started in succession; that is,

`www3.company.com` must be started before `www2.company.com`. Otherwise, `www2.company.com` will not be able to "see" `www3.company.com`.

9.10.8 Oracle Containers for J2EE Servlet Developers Guide

This section describes documentation errata for *Oracle Containers for J2EE Servlet Developer's Guide*, including the following topic:

- Section 9.10.8.1, "Do Not Specify a Host for the <host-access> domain Attribute"

9.10.8.1 Do Not Specify a Host for the <host-access> domain Attribute

The value specified for the `domain` attribute of a `<host-access>` element of an `orion-web.xml` file must be a domain, NOT a host.

In the *Oracle Containers for J2EE Servlet Developer's Guide*, 10g (10.1.3.1.0), Appendix B Web Module Configuration Files, Table B-9 "<host-access> Attributes" incorrectly states either a host or a domain can be specified for the `domain` attribute.

Only a domain can be specified for the `domain` attribute of a `<host-access>` element of an `orion-web.xml` file.

9.10.9 Oracle Containers for J2EE Enterprise JavaBeans Developer's Guide

This section describes documentation errata for the *Oracle Containers for J2EE Enterprise JavaBeans Developer's Guide*. It includes the following topic:

- Section 9.10.9.1, "Do Not Edit the boot.xml File As Documented"

9.10.9.1 Do Not Edit the boot.xml File As Documented

In the *Oracle Containers for J2EE Enterprise JavaBeans Developer's Guide*, Chapter 20 Configuring Data Sources, section "Associating TopLink With an Oracle JDBC Driver", under "EJB 2.1. CMP Applications", we explain how to define a new Oracle JDBC shared library in the `boot.xml` file. Oracle recommends users should not edit the `boot.xml` file as documented, as this is not supported by Oracle.

10

High Availability

This chapter describes issues related to highly available topologies. This chapter contains the following issues:

- Section 10.1, "Configuration Issues and Workarounds"
- Section 10.2, "Documentation Errata"

10.1 Configuration Issues and Workarounds

This section describes configuration issues and their workarounds. It includes the following topics:

- Section 10.1.1, "Compatible ASG Releases for OracleAS Instances from Different Oracle Application Server Releases"
- Section 10.1.2, "Compatible ASG Releases in an OracleAS Disaster Recovery Topology"
- Section 10.1.3, "Configuring Portlet Producers and WebCenter Applications in an OracleAS Cluster Topology"
- Section 10.1.4, "Supported Java Object Types for Session Attributes in Distributed Applications"
- Section 10.1.5, "ASG to Catch Array Overflow Exceptions in Queries to Primary"
- Section 10.1.6, "Startup of Database on the Standby2 Fails after a Switchover"
- Section 10.1.7, "The create standby Command Fails if the Redo Log Files Directories do not Exist at the Standby"
- Section 10.1.8, "Corrupt Index Blocks in Metadata Repository Databases"
- Section 10.1.9, "Database SIDs Must be the Same for Database Peers at Primary and Standby Sites"
- Section 10.1.10, "Use All Uppercase Characters for Database Initialization Parameters to Avoid Instantiate and Sync Problems"
- Section 10.1.11, "Workaround for ASG_DUF-3800 "Failed trying to connect to the OPMN Manager" Error"
- Section 10.1.12, "Use the Same Port for ASG on the Production and Standby Sites to Avoid clone instance Operation Problems"
- Section 10.1.13, "Use Fully Qualified Path Names with the add instance Command"

- Section 10.1.14, "ASG Cloning is Not Supported when the Number of Oracle Homes is Different at the Primary and Standby Hosts"

- Section 10.1.15, "Steps to Add a Database with OMF or ASM to ASG Topology"

10.1.1 Compatible ASG Releases for OracleAS Instances from Different Oracle Application Server Releases

By default, when you install an Oracle Application Server instance using a particular release of Oracle Application Server, a particular release of Application Server Guard (ASG) is installed into the Oracle home for the instance. You also install ASG on standalone hosts on which external resources (such as an Oracle database) are located that you want to include in your OracleAS Disaster Recovery topology.

Multiple releases of ASG are available. It is possible (recommended) in some cases to upgrade the ASG release that was installed in an Oracle Application Server instance home when you installed that instance. To upgrade the ASG release in an Oracle Application Server instance home, download the ASG standalone kit for the recommended ASG release from the Oracle Technology Network (OTN), and then use that ASG standalone kit to install the recommended ASG release into the home. You also use the ASG standalone kit to install ASG on standalone hosts that you want to include in your OracleAS Disaster Recovery topology.

Use Table 10–1 and Table 10–2 to determine whether a particular ASG release is compatible when installed into an Application Server instance home for a particular Oracle Application Server release. The left column of the table shows the different ASG releases for which an ASG standalone installation kit is available. The remaining columns show different Oracle Application Server releases for which an Oracle Application Server instance can be created.

This list describes the meaning of the entries in Table 10–1 and Table 10–2:

- **N**: This ASG release is not compatible with an instance from this Oracle Application Server release.

- **X**: This ASG release cannot be installed into the Oracle home for an instance from this Oracle Application Server release.

- **Y-NR**: This ASG release is compatible with an instance from this Oracle Application Server release, but Oracle recommends that you *do not* install this ASG release into the instance's Oracle home because another ASG release is recommended.

- **Y**: This ASG release is compatible with an instance from this Oracle Application Server release. Oracle recommends you install this ASG release into the instance's Oracle home.

Table 10–1 shows the compatible ASG releases for Oracle Application Server instances from Oracle Application Server 10.1.2.0.2 through 10.1.3.3.

Table 10–1   Compatible ASG Releases for OracleAS Instances from Releases 10.1.2.0.2 Through 10.1.3.3

ASG Release	10.1.2.0.2 OracleAS Instance	10.1.2.1 OracleAS Instance	10.1.2.2 OracleAS Instance	10.1.3.0 OracleAS Instance	10.1.3.1 OracleAS Instance	10.1.3.2 OracleAS Instance	10.1.3.3 OracleAS Instance
10.1.2.0.2	Y-NR	X	X	N	N	N	N
10.1.2.2	Y	Y	Y	N	N	N	N

Table 10–1 (Cont.) Compatible ASG Releases for OracleAS Instances from Releases 10.1.2.0.2 Through 10.1.3.3

ASG Release	10.1.2.0.2 OracleAS Instance	10.1.2.1 OracleAS Instance	10.1.2.2 OracleAS Instance	10.1.3.0 OracleAS Instance	10.1.3.1 OracleAS Instance	10.1.3.2 OracleAS Instance	10.1.3.3 OracleAS Instance
10.1.2.2.1 (ASG-only release)[1]	Y	Y	Y	N	N	N	N
10.1.3.0	N	N	N	Y-NR	X	N	X
10.1.3.1	N	N	N	Y-NR	Y-NR	Y-NR	X
10.1.3.3	N	N	N	Y	Y	Y	Y

[1] This is the ASG release that was provided (installed by default) with the OracleAS 10.1.4.2 release. It is compatible with the OracleAS 10.1.2.x releases. There is no OracleAS 10.1.2.2.1 release.

For example, if you have an Oracle Application Server 10.1.3.1 instance and you want to know which ASG release to install in the instance home, you can use Table 10–1 to determine the following:

- No ASG 10.1.2.x release is compatible with an Oracle Application Server 10.1.3.1 instance.

- The ASG 10.1.3.0 release cannot be installed into the Oracle home for an Oracle Application Server 10.1.3.1 instance.

- The ASG 10.1.3.1 release is compatible with an Oracle Application Server 10.1.3.1 instance, but Oracle recommends that you *do not* install the ASG 10.1.3.1 release into the Oracle home for an Oracle Application Server 10.1.3.1 instance.

- The ASG 10.1.3.3 release is compatible with an Oracle Application Server 10.1.3.1 instance and Oracle recommends that you install the ASG 10.1.3.3 release into the Oracle home for an Oracle Application Server 10.1.3.1 instance.

Table 10–2 shows the compatible ASG releases for Oracle Application Server instances from Oracle Application Server 10.1.4.0 through 10.1.4.2.

Table 10–2 Compatible ASG Releases for OracleAS Instances from Releases 10.1.4.0 Through 10.1.4.2

ASG Release	10.1.4.0 OracleAS Instance[1]	10.1.4.1 OracleAS Instance[2]	10.1.4.2 OracleAS Instance[3]
10.1.2.0.2	Y-NR	Y-NR	X
10.1.2.2	Y-NR	Y-NR	Y-NR
10.1.2.2.1 (ASG-only release)[4]	Y	Y	Y
10.1.3.0	N	N	N
10.1.3.1	N	N	N
10.1.3.3	N	N	N

[1] ASG 10.1.2.0.2 is installed by default.
[2] ASG 10.1.2.0.2 is installed by default.
[3] ASG 10.1.2.2.1 is installed by default.

[4] This is the ASG release that was provided (installed by default) with the OracleAS 10.1.4.2 release. It is compatible with the OracleAS 10.1.2.x releases. There is no OracleAS 10.1.2.2.1 release.

10.1.2 Compatible ASG Releases in an OracleAS Disaster Recovery Topology

This chart shows which ASG release combinations are compatible in in an OracleAS Disaster Recovery topology. A topology is a collection of Oracle Application Server instance homes and standalone host homes that combine to comprise the OracleAS Disaster Recovery production site and standby site. Each Oracle Application Server home has a specific ASG release installed, either by default or by an ASG standalone installation. Since OracleAS Disaster Recovery operations are distributed, there is a collection of recommended ASG releases that should be installed across the topology. Example for the EDG deployment, the collection of Oracle homes should be upgraded to ASG version 10.1.3.3 or 10.1.2.2.x.

Use Table 10–3 to determine whether two ASG releases are compatible in an OracleAS Disaster Recovery topology. Find the first ASG release in the left column of the table and then find the second ASG release in one of the other columns of the table.

This list describes the meaning of the entries in Table 10–3:

- **Y-NR**: The first ASG release is compatible with the second ASG release, but Oracle recommends that you *do not* use this ASG release combination in your topology.

- **Y**: The first ASG release is compatible with the second ASG release. Oracle recommends that you use this ASG release combination in your topology.

Table 10–3 shows which ASG releases are compatible with other ASG releases.

Table 10–3   Compatible ASG Releases in a Topology

ASG Release	10.1.2.0.2	10.1.2.2	10.1.2.2.1	10.1.3.0	10.1.3.1	10.1.3.3
10.1.2.0.2	Y-NR	Y-NR	Y-NR	Y-NR	Y-NR	Y-NR
10.1.2.2	Y-NR	Y	Y	Y-NR	Y-NR	Y
10.1.2.2.1	Y-NR	Y	Y	Y-NR	Y-NR	Y
10.1.3.0	Y-NR	Y-NR	Y-NR	Y-NR	Y-NR	Y-NR
10.1.3.1	Y-NR	Y-NR	Y-NR	Y-NR	Y-NR	Y-NR
10.1.3.3	Y-NR	Y	Y	Y-NR	Y-NR	Y

10.1.3 Configuring Portlet Producers and WebCenter Applications in an OracleAS Cluster Topology

To run portlet producers or WebCenter applications in an OracleAS Cluster (or active-active) topology, you need to configure Java Object Cache on all the nodes in the OracleAS Cluster with a list of all the cluster nodes' IP addresses and port numbers so that it can share objects and coordinate across the cluster. You specify this list in the `javacache.xml` files.

There are two `javacache.xml` files:

- Portlet producers use their own Java Object Cache, which can be configured in `ORACLE_HOME/portal/conf/javacache.xml`.

- WebCenter applications, unless otherwise specified, use the global Java Object Cache, which can be configured in `ORACLE_HOME/javacache/admin/javacache.xml`.

To configure portlet producers and WebCenter applications in an OracleAS Cluster topology:

1. Edit both `javacache.xml` files on each node in the OracleAS Cluster:

   - ORACLE_HOME/portal/conf/javacache.xml

   - ORACLE_HOME/javacache/admin/javacache.xml

   Make these edits to the files:

   - Set the `isDistributed` element to `true`. You may need to create this element, if it does not already exist in the file.

   - In the `discoverer` element, specify the IP addresses of all the nodes in the OracleAS Cluster, and specify also the discovery port. You may need to create this element, if it does not already exist in the file.

   Example:

   ```
   <communication>
      <isDistributed>true</isDistributed>
      <discoverer ip="apphost1_ip_address">
                  discovery-port="apphost1_discovery_port"/>
      <discoverer ip="apphost2_ip_address"
                  discovery-port="apphost2_discovery_port"/>
   </communication>
   ```

   > **Note:** All caches cooperating in the same cache system must specify exactly the same set of IP addresses and port numbers in the same order.

2. Access the Application Server Control Console at http://*hostname*:*port*/em/ and log in as the `oc4jadmin` user. The Cluster Topology page appears.

3. Restart the `home` and `OC4J_WebCenter` instances and any other instances that are running WebCenter applications.

For information on Java Object Cache, see the "Java Object Cache" chapter in the *Oracle Containers for J2EE Services Guide*.

10.1.4 Supported Java Object Types for Session Attributes in Distributed Applications

For applications that you want to deploy and run in a clustered environment (that is, you explicitly added the `<distributable/>` tag to the application's `web.xml` file and you have configured the application for session replication), be aware that you can bind only the following Java types as attributes in a session:

- Java primitives

- Java objects of type `java.io.Serializable`, `javax.ejb.EJBObject`, and `javax.ejb.EJBHome`

The types listed above reflect the Java objects that can be serialized and deserialized using the Java object serialization mechanism.

If you use other types, you will get an error that looks something like this:

```
<MSG_TEXT>ServletException cause</MSG_TEXT>
<SUPPL_DETAIL><![CDATA[java.lang.IllegalArgumentException: Only
java.io.Serializable, javax.ejb.EJBObject and javax.ejb.EJBHome instances can
be bound to a session in a distributable web-application, not:
oracle.adfdemo.view.faces.portal.SkinsDemo@2acfa2 (class
oracle.adfdemo.view.faces.portal.SkinsDemo)
  at com.evermind.server.http.EvermindHttpSession.setAttribute
                                    (EvermindHttpSession.java:143)
  at com.sun.faces.context.SessionMap.put(ExternalContextImpl.java:580)
  at com.sun.faces.application.ApplicationAssociate.
                    createAndMaybeStoreManagedBeans(ApplicationAssociate.java:299)
  at com.sun.faces.el.VariableResolverImpl.resolveVariable
                                    (VariableResolverImpl.java:97)
  at oracle.adfinternal.view.faces.el.AdfFacesVariableResolver.resolveVariable
                                    (AdfFacesVariableResolver.java:40)
  at oracle.adfinternal.view.faces.model.VariableResolverUtils$JspResolver.
                                    resolveVariable(VariableResolverUtils.java:79)
  at com.sun.faces.el.impl.NamedValue.evaluate(NamedValue.java:145)
  at com.sun.faces.el.impl.ComplexValue.evaluate(ComplexValue.java:166)
  at com.sun.faces.el.impl.ExpressionEvaluatorImpl.evaluate
                                    (ExpressionEvaluatorImpl.java:263)
  at com.sun.faces.el.ValueBindingImpl.getValue(ValueBindingImpl.java:160)
```

10.1.5 ASG to Catch Array Overflow Exceptions in Queries to Primary

The asgctl `create standby database` command may fail with an ASG_DUF-4950 error and an error message stack on the console similar to the following:

```
ASG_DUF-4950: An error occurred on host "myhost" with IP "1.1.1.1" and port "7890"
ASG_SYSTEM-100: 10
ASG_DUF-4900: An exception occurred on the server.
ASG_DGA-13009: Error during Create Physical Standby
```

In the duf_client.log file on the primary site DB node, the following messages would be found:

```
java.lang.ArrayIndexOutOfBoundsException: 10
at oracle.duf.DufJdbc.queryRedoLogInfo(DufJdbc.java:535)
at oracle.duf.DufDb$jdbc.queryRedoLogInfo(DufDb.java:4966)
at oracle.duf.DufDb$jdbc.access$2000(DufDb.java:4884)
at oracle.duf.DufDb.queryRedoLogInfo(DufDb.java:3439)
```

This problem occurs because ASG does not properly handle a database configured with 10 or more redo log files.

To avoid this problem, reduce the number of database redo log files to fewer than 10.

This problem is fixed in release 10.1.3.3.

10.1.6 Startup of Database on the Standby2 Fails after a Switchover

Sometimes after an ASG switchover operation has been performed, a database has the following problem:

```
SQL> startup;
ORA-09925: Unable to create audit trail file
Linux Error: 2: No such file or directory
Additional information: 9925
```

When the asgctl `create standby database` command is executed on Linux, ASG creates the initfile with `audit_file_dest` set to $ohome/admin/<SID>/admin instead of $ohome/admin/<SID>/adump on the standby site. For RAC consisting of multiple nodes, one of the nodes has the admin directory created, while the other one does not.

To avoid this problem, issue the following command on the standby RAC node #2 before attempting any manual startups:

```
mkdir $ohome/admin/<SID>/admin
```

This problem is fixed in release 10.1.3.3.

10.1.7 The create standby Command Fails if the Redo Log Files Directories do not Exist at the Standby

The asgctl `create standby database` command fails if the redo log files directories on the production site do not exist at the standby.

ASG expects the target redo log directory structure to be symmetrical with the redo log directory structure on the production site. If they do not exist in the same directories, a failure will result with the following output:

```
ASG_ORACLE-300: ORA-00301: error in adding log file '/PATH/redo010.log' - file
cannot be created
ASG_ORACLE-300: ORA-27040: file create error, unable to create file
ASG_DUF-3700: Failed in SQL*Plus executing SQL statement:  ALTER DATABASE ADD
STANDBY LOGFILE GROUP 10
'/PATH/redo010.log' SIZE 52428800 /* ASG_DGA */;.
ASG_DUF-3535: Failed to create standby redo log.
ASG_DUF-3535: Failed to create standby redo log.
ASG_DGA-13011: Error during Create Physical Standby: Finish-configure standby.
ASG_DUF-3027: Error while executing Creating physical standby database - finish
phase at step - finish step.
```

To avoid this problem, create the target redo log file directories on the standby site in the same directories as the production site.

10.1.8 Corrupt Index Blocks in Metadata Repository Databases

After an ASG switchover or failover operation, metadata index block corruption may occur in a Disaster Recovery metadata repository database.

For a full description of the problem and an explanation of how to deal with it, refer to Oracle*MetaLink* note 386830.1 at:

http://metalink.oracle.com/metalink/plsql/ml2_
documents.showDocument?p_database_id=NOT&p_id=386830.1

10.1.9 Database SIDs Must be the Same for Database Peers at Primary and Standby Sites

The SIDs must be the same for database peers at a primary site and standby site(s) in a Disaster Recovery topology.

10.1.10 Use All Uppercase Characters for Database Initialization Parameters to Avoid Instantiate and Sync Problems

Use all uppercase characters for database initialization parameters.

In the following example, the database initialization parameter, service, that is used in the archive log destination parameter is in all uppercase characters (SERVICE):

```
log_archive_dest_2="SERVICE=SIDM valid_for=(online_logfiles,primary_role)
db_unique_name=SIDM"
```

But in the following example, the database initialization parameter, service, that is used in the archive log destination parameter is in lowercase characters (service):

```
log_archive_dest_2="service=SIDM valid_for=(online_logfiles,primary_role)
db_unique_name="SIDM"
```

When the database initialization parameter is not in all uppercase characters, error messages similar to the following can occur during an `instantiate topology` or `sync topology` operation:

```
stajo05: -->ASG_DUF-4950: An error occurred on host "stajo05" with IP
"140.87.25.33" and port "7890"
stajo05: -->ASG_SYSTEM-100: String index out of range: -9
stajo05: -->ASG_DUF-3760: Failed to query archive log destination
information.
stajo05: -->ASG_IAS-15753: Error preparing to instantiate the topology on
host "stajo05"
stajo05: -->ASG_DUF-3027: Error while executing Instantiating each instance
in the topology to standby topology at step - prepare step.
```

10.1.11 Workaround for ASG_DUF-3800 "Failed trying to connect to the OPMN Manager" Error

When using the 10.1.2.2 ASG standalone kit to update a 10.1.4.x Oracle home, ASG installed a copy of optic.jar in its component path that is not compatible with the optic.jar of the Oracle home. Although this will not affect the operation of the runtime system, it could potentially cause problems with some future ASG operations in certain configurations.

To prevent these potential problems:

1. Rename optic.jar in the $ORACLE_HOME/dsa/jlib directory to optic.jar.orig on all nodes of the topology.

2. Restart the ASG component, if started.

If the above workaround is not performed, you may receive the ASG_DUF-3800 error "Failed trying to connect to the OPMN Manager" error message during a `switchover topology` operation if your Disaster Recovery configuration includes Oracle Application Server release 10.1.4.0.1 Identity Management and the standalone ASG kit for release 10.1.2.2.

The error messages received may be similar to:

```
"4-May 12:51:20  stamx12 152.68.64.214:7890(home/opt/maa/oracle/product/10.1.4/im)
4-May 12:51:20     Running opmnctl reload command:
"/opt/maa/oracle/product/10.1.4/im/opmn/bin/opmnctl reload".
4-May 12:51:25  stamx11: -->ASG_DUF-4950: An error occurred on host "stamx11"
with IP "140.87.21.201" and port "7890"
stamx11: -->ASG_DUF-4950: An error occurred on host "stamx11" with IP
```

```
"152.68.64.213" and port "7890"
stamx11: -->ASG_DUF-3800: Failed trying to connect to the OPMN Manager.
stamx11: -->ASG_DUF-3027: Error while executing Starting each instance in the
topology at step - starting instance step.
stamx11: -->ASG_DUF-3027: Error while executing Switchover each instance in
the topology to standby topology at step - starting and resyncing instance
step."
```

10.1.12 Use the Same Port for ASG on the Production and Standby Sites to Avoid clone instance Operation Problems

Use the same port for ASG on the primary site and standby site(s) to avoid error messages such as the following during a `clone instance` operation:

```
3-May 15:45:43  >>clone instance prodsso1 to stbyinfra1
3-May 15:45:43  stamx11: -->ASG_DUF-4950: An error occurred on host
"stamx11" with IP "140.87.21.201" and port "7890"
stamx11: -->ASG_DUF-3601: Error connecting to server host 152.68.64.213
on port 7890
stamx11: -->ASG_DUF-3512: Error creating remote worker on node 152.68.64.213:7890.
```

The dsa.conf file contains ASG configuration information, and it is configured into the Application Server instance's backup/restore IP configuration. The dsa.conf file configuration is handled symmetrically between Application Server instances. Due to this, the dsa.conf file from a production site's instance will be synchronized to the corresponding standby site's instance.

The port numbers between the production and standby instance pairings should match for ASG.

10.1.13 Use Fully Qualified Path Names with the add instance Command

As a best practice, use fully qualified path names with the `add instance` command.

10.1.14 ASG Cloning is Not Supported when the Number of Oracle Homes is Different at the Primary and Standby Hosts

The ASG `clone topology` and `clone instance` commands are not supported by DR configurations if there are a different number of Oracle Homes at the primary and standby hosts.

As part of the cloning operation, the Oracle Inventory for each host is cloned. Therefore, the assumption is that the Oracle Home configuration is symmetrical for any host that is being cloned.

For a full description of supported Disaster Recovery asymmetric topologies, refer to Section 5.1.3.2 of the *Application Server High Availability Guide* for release 10.1.3.2.0.

10.1.15 Steps to Add a Database with OMF or ASM to ASG Topology

The asgctl `create standby database` command is designed to automate the creation of simple standby databases. It does not support some database options, such as the OMF (Oracle Managed Files) or ASM (Automatic Storage Management) storage options. If you plan to use the `create standby database` command to create a database at the standby site, create a new database instance on the primary site using DBCA (Database Configuration Assistant) without specifying the OMF or ASM storage options.

To create a new database instance with the OMF or ASM storage options, follow the instructions in the "Creating a Standby Database the Uses OMF or ASM" section of the *Oracle Data Guard Concepts and Administration* manual at:

http://www.oracle.com/technology/documentation/index.html

Then, after creating the database with the OMF or ASM storage options, use the asgctl `add instance` command to add the instance to the Disaster Recovery topology, so that it can be included in Disaster Recovery operations, such as failover and instantiate topology operations. See Section A.1.23 "OracleAS Guard Add Instance Command Fails When Attempting to Add an Oracle RAC Database to the Topology" of the *Oracle Application Server High Availability Guide* for release 10.1.3.2 for more information about using the asgctl `add instance` command.

10.2 Documentation Errata

The section describes documentation errata. It includes the following topics:

- Section 10.2.1, "Additional Step in Switchover Procedure"
- Section 10.2.2, "Additional Site Switchover Information for RAC Deployments"
- Section 10.2.3, "Correction to Configuration Instructions for a Primary Site with RAC Database and Standby Site with Non-RAC Database"

10.2.1 Additional Step in Switchover Procedure

In section 5.1.4.1.3 of the *Oracle Application Server High Availability Guide*, there should be a step 4.f after step 4.e for Unix platforms. Step 4.f is as follows:

Create an admin directory under the default ADMIN directory of the database (ADMINDIR/<dbname>/admin) on standbynode2. For example:

```
mkdir ORACLE_HOME/admin/<dbname>/admin
```

If this directory already exists, skip this step.

10.2.2 Additional Site Switchover Information for RAC Deployments

The *Oracle Application Server High Availability Guide* for 10.1.3.2 includes the "Site Switchover Operations" subsection in Section 5.12.1.1 "Scheduled Outages."

In step 5 in the numbered list in the "Site Switchover Operations" subsection, the following two list elements regarding RAC deployments should be added as list elements c and d:

1. For Oracle RAC Disaster Recovery deployments, shut down all the RAC instances and start up a single RAC node prior to the switchover.

2. After setting up the ORACLE_HOME, ORACLE_SID, and PATH variables on the database node, start up the database node:

```
DBHOME/bin/sqlplus /as sysdba
SQL> startup
```

10.2.3 Correction to Configuration Instructions for a Primary Site with RAC Database and Standby Site with Non-RAC Database

Section 5.14.2.2 "Configuration Procedure" of the *Oracle Application Server High Availability Guide* for release 10.1.3.2.0 includes incorrect information in Step 1.

The introductory paragraph before Step 1 says that the standby site uses a non-Real Application Clusters database.

However, Step 1 says to "Stop the Real Application Clusters database on the standby site."

The database on the standby site is a non-Real Applications Cluster database. Step 1 should read "Stop the non-Real Application Cluster database on the standby site."

11

Oracle Business Rules

This chapter describes issues associated with Oracle Business Rules. It includes the following topics:

- Section 11.1, "Standalone OC4J Rule Author Installation"
- Section 11.2, "RL serviceDateValidation Error: Fact Class Should Be Declared Earlier"

11.1 Standalone OC4J Rule Author Installation

To install Rule Author in a Standalone OC4J, do the following:

1. Deploy Rule Author EAR, found in `/Disk2/rules/webapps/ruleauthor_s.ear`.

2. Create a security group "rule-administrators".

3. Create a Rule Author user, for example, `ruleadmin`, and add this user to the "rule-administrators" group.

4. Copy the "rules" directory from an installation of Oracle Application Server into the ORACLE_HOME of the Standalone OC4J install.

5. Stop and restart OC4J.

11.2 RL serviceDateValidation Error: Fact Class Should Be Declared Earlier

In certain cases, you can receive the following RL generation error:

"Fact class should be declared earlier ...".

For example, with the following generated RL for a data model:

```
ruleset DM {
 function CreateDataAndTestRules()
 {
 servOrders.ServiceOrderTypeImpl sot = new
servOrders.ServiceOrderTypeImpl();
.
.
.
```

This causes the implemented `Impl` class to be autofactclassed before the Type is factclassed. When the Type is then referred to in the rules, the following error is thrown:

ClassName: A syntax error is found. Error:fact class should be declared earlier at line 5 column 3 in `serviceDateValidation`

To fix this problem:

Classes with complex type hierarchies, for example they both extends a class and implements an interface must have classes referenced in a particular order. If the classes are not referenced in the correct order, then the rules engine cannot correctly determine the class hierarchy.

There are two ways to fix this problem:

- Check "supports XPath" for the `ServiceOrderType` class; this introduces a slight performance cost.

- Change the code in the `CreateDataAndTestRules` function. For example, change the instance creation to:

  ```
  servOrders.ServiceOrderType sot = new servOrders.ServiceOrderTypeImpl();
  ```

  This parses in the right order such that the superclass is created before the implementing class.

12

Oracle Secure Enterprise Search

This chapter describes Oracle Secure Enterprise Search (SES) in the WebCenter release. It includes the following topic:

- Section 12.1, "Oracle Secure Enterprise Search"

12.1 Oracle Secure Enterprise Search

The section includes the following topics:

- Section 12.1.1, "Overview of Oracle Secure Enterprise Search"
- Section 12.1.2, "Oracle SES in WebCenter"

12.1.1 Overview of Oracle Secure Enterprise Search

Oracle SES enables a secure, high quality, easy-to-use search across all enterprise information assets. Key features include:

- The ability to search and locate public, private, and shared content across intranet Web servers, databases, files on local disk or on file-servers, IMAP e-mail, document management systems, applications, and portals
- Highly secure crawling, indexing, and searching
- A simple, intuitive search interface leading to an excellent user-experience
- Excellent search quality, with the most relevant items for a query shown first, even when the query spans diverse public or private data sources
- Analytics on search results and understanding of usage patterns
- Sub-second query performance
- Ease of administration and maintenance leveraging your existing IT expertise

12.1.2 Oracle SES in WebCenter

Oracle SES is provided in WebCenter on a companion DVD. It must be installed separately from that DVD. All documentation for Oracle SES is included in the Oracle SES installation.

> **See Also:**
> http://www.oracle.com/technology/products/oses/index.html for the latest Oracle SES Release Notes.

13

Oracle Communication and Mobility Server

This chapter describes issues with Oracle Communication and Mobility Server. It includes the following topics:

- Section 13.1, "Installation, Configuration, and Upgrade Issues"
- Section 13.2, "Other Known Issues"

13.1 Installation, Configuration, and Upgrade Issues

Review the following sections for information about issues that affect installation, configuration, and upgrade:

- Section 13.1.1, "Use Only Lowercase Usernames"
- Section 13.1.2, "OutOfMemoryException"
- Section 13.1.3, "Installation Accessibility Issue"
- Section 13.1.4, "Oracle Communicator Accessibility Issue"

13.1.1 Use Only Lowercase Usernames

This release of OCMS supports lowercase usernames. Only use lowercase usernames.

13.1.2 OutOfMemoryException

OutOfMemoryException may be thrown because of a bug in JDK 5, Update 6 which is bundled with Oracle Application Server 10.1.3.2.0. If you experience this error, you should update your JDK to JDK, Update 10. If you do not get the error, updating the JDK is not necessary.

13.1.3 Installation Accessibility Issue

An accessibility issue has been reported when installing Oracle Communication and Mobility Server on Sparc. When installing the product using the Installation Wizard, some of the screen elements do not meet accessibility requirements. To work around this issue, run the Installer in silent mode:

```
setupSolaris.bin -silent -options <HOMEDIR>/ocms-<mode>-typical.txt
```

By default silent installer is set for StandAlone mode. To run the installer for Integrated Application Server mode, set the following:

```
-V OCMS_MODE_SA="false"
-V OCMS_MODE_INTEGJBOSS="false"
-V OCMS_MODE_INTEGOAS="true"
```

```
-V OCMS_OAS_ADMINUSER="oc4jadmin"
-V OCMS_OAS_ADMINPASSWD="xxxxxx"
```

To run SILENT Installer in Debug Mode:

```
$JAVA_HOME\bin\java -cp setup.jar run -silent -options
<HOMEDIR>\silentinstall.txt
```

13.1.4 Oracle Communicator Accessibility Issue

Some of the Preferences settings are not completely accessible. As a workaround to this bug, configuration of the preferences can be accomplished by modifying an xml file. The default xml file (on a Microsoft Windows installation) is:

```
c:\Documents and Settings\<windows account>\Application Data\Oracle
Communicator\Accounts\<CommunicatorAccountName>.xml
```

where <windows account> and <CommunicatorAccountName> are your account names.

For example, if you created an account with the name "John Smith" and you log into windows with the username "jsmith" your account information will be stored in the file.

```
c:\Documents and Settings\jsmith\Application Data\Oracle
Communicator\Accounts\John Smith.xml
```

There is a companion <communicator account>.dat file which contains information on your contacts, stored in VCard format.

The following sections will provide documentation on which parts of the XML file can be modified by a user using the Communicator user interface. The notation provides the XML element names in a hierarchy. These elements all appear under the root "Account" element.

Note that the elements are not necessarily presented in the order in which they appear in the account xml file.

Changes to these files should only be made when Communicator is closed. If Communicator is open, any changes to these files may be removed.

13.1.4.1 Account Settings

The Account tab gives you access to the Account settings.

13.1.4.1.1 Account Name (string) A textual description for this account.

Unlike the other properties in the preferences dialog, the "Run this program when system starts" and "Automatically sign in with this account" modify the Accounts.xml file in the Application Data\Oracle Communicator directory (which holds a list of all of the accounts created on this instance of Oracle Communicator). Whichever account you wish to be the default should be enclosed in a DefaultAccount element. If you wish to automatically sign in with an account, the AutoLogin attribute should be set to "1". For example:

```
<Accounts>
 <DefaultAccount AutoLogin="1">John Smith</DefaultAccount>
 <Account>Jane Smith</Account>
<Accounts>
```

13.1.4.2 Presence Settings

The Presence tab give you access to the Presence settings.

13.1.4.2.1 DeviceCaption (string) The textual description of the device sent to other users; by default this is "PC".

13.1.4.2.2 UserIdleTimeOut (int) 0 if disabled, 1 if enabled. Indicates whether or not the user should be shown as idle if the user waits the period of time specified by UserIdleTimeOutValue.

13.1.4.2.3 UserIdleTimeOutValue (int) The length of the period of user inactivity before the user is shown as idle (if UserIdleTimeOut is enabled).

The Presence Policy and Persistent Note in the Presence tab are stored on the XCAP server, not in the account XML file.

13.1.4.3 Appearance Settings

The Appearance tab give you access to the Appearance settings.

13.1.4.3.1 Theme (string) The visual theme to use. Options included in 10.1.3.2 are Classic, Communicator, Jazz and SteelCan.

13.1.4.3.2 Sounds (complex) The Sounds element represents the different sounds that are played on different events. Each Sound element represents one of the sounds.

- Sound/Event: can be IncomingMessage, UserOnline, UserOffline or VoiceMessageAvailable
- Sound/File: the .wav file to be played when the event occurs
- Sound/Mute: 1 if the sound should not be played, 0 if the sound should be played

13.1.4.3.3 Ui/MainDlgTopMost (int) 0 if false, 1 if true. Shows the main window on top of other windows if true.

13.1.4.3.4 Ui/MainDlgCloseToTaskBar (int) 0 if false, 1 if true. When the user clicks the "X" in the upper right corner of the window, Communicator will be minimized to the system tray instead of closed if this is true.

13.1.4.3.5 Ui/SendMessageWithEnter (int) 0 if false, 1 if true. When the user presses Enter, the message will be sent if this is true. If this is false, then pressing Enter will move to a new line.

13.1.4.3.6 ShowSmilies (int) 0 if false, 1 if true. Smilies (emoticons) will show as images if this is true.

13.1.4.3.7 RingSignals (complex) Indicates which sound should be used as the ring sound. The default sound will be used if this is empty. A single RingSignals/DefaultSignal element may be defined, with the value of that element either being the full path to a .wav sound file or one of the built in filesis present, it can either point to a .wav file or one of these: Dallas, Houston, Office, News Desk, Reception, Beep Beep, Tune 1, Tune 2, Metallic, Mobile 1, Mobile 2.

13.1.4.4 Security

The Security tab give you access to the Security settings.

13.1.4.4.1 Credentials/Credential (complex) There may be 0 or more Credentials/Credential elements. The contents of the Credential element will be filled automatically if the user chooses to save the username/password when logging in. The user should not edit this field directly, but the user may remove a Credentials/Credential element to remove a username/password from storage.

13.1.4.5 Network

The Network tab give you access to the Network settings. The proxy, XDMS, LDAP and STUN settings are all configured by an administrator, and should not be changed by the end user. These are fully documented in the administrator's guide regarding customization.

13.1.4.5.1 ConnectionType (int) Describes the speed of the network, which affects the voice and video quality. Acceptable values are 64, 128, 256, 512, 1024 and 2048.

- 64: modem

- 128: ISDN

- 256: DSL/Cable modem

- 512: DSL/Cable modem

- 1024: LAN connection

- 2048: LAN connection

13.1.4.6 Audio

The Audio tab give you access to the Audio settings. Many of the audio and video settings are stored in the system registry.

13.1.4.6.1 SilenceSuppression (int) 0 if disabled, 1 if enabled. Uses silence supression in the audio if enabled.

13.1.4.6.2 AcousticEchoCancellation (int) 0 if disabled, 1 if enabled. Uses echo cancellation if enabled. This is typically useful if you are using a microphone and speakers. When using a headset, you may want to disable this.

13.1.4.6.3 PCSpeakerEnabled (int) 0 if disabled, 1 if enabled. Causes the PC Speaker to beep when there is an incoming call if enabled. This is useful if you are using headphones and do not wear them all the time.

13.1.4.6.4 AllowVolumeCheck (int) 0 if disabled, 1 if enabled. Allows Communicator to change the volume levels before making a call.

13.1.4.7 Video

The Video tab give you access to the Video settings.

13.1.4.7.1 PreferredCaptureDevice (string) This element is a computer representation of the video device to use for capture. The only recommended way of modifying this in the xml is to clear the text from this element, which will result in the default system video device being used.

13.1.4.7.2 ImageResolution (string) Indicates the size of the video image of the incoming video. Valid values are QCIF, CIF and 4CIF (small, medium and large).

The Camera Settings button provide webcam specific properties that are not modifiable in the account XML.

13.1.4.8 Other

The Other tab give you access to the Other settings. Contacts and Groups (internal note: according to Adam JAWS users are able to add contacts and IM, but they cannot delete contacts, which is why I am providing this information here).

In order to delete a contact, you must edit the .dat file in the same location as the account .xml file. Each contact is represented in VCard format, such as:

```
BEGIN:VCARD
VERSION:3.0
UID:badf5dee-3848-4443-acc5-8ab0bf19069e
ADR;WORK:;;;;;;US
EMAIL;PREF;INTERNET:john.smith@example.com
FN:
N:SMITH,JOHN
TEL;WORK;VOICE:@w650 555 1212
URL;WORK:
X-ORACLE-SIPURI:sip:john.smith@example.com
X-ORACLE-GROUPS:20000
REV:20070205T130513Z
END:VCARD
```

In order to delete a contact, find the contact VCARD entry and delete everything from and including BEGIN:VCARD to END:VCARD.

13.2 Other Known Issues

The following issues have been reported:

- Section 13.2.1, "OCMS Server Does Not Start After IP Address Change"
- Section 13.2.2, "XSLT Stylesheet Error"

13.2.1 OCMS Server Does Not Start After IP Address Change

If an OCMS server is deployed on a DHCP based machine (such as a laptop), and the IP address is changed after the initial installation, OCMS can no longer start itself because of SIP binding errors. There are two possible workarounds for this:

- Edit occurrences of the IP address in the SipContainer.xml file in the sdp/conf directory.
- Reinstall OCMS.

13.2.2 XSLT Stylesheet Error

Upon first start up, you may receive an error message regarding XSLT Stylsheets. There is no performance impact connected to this error, and you may safely ignore it.