

Oracle® Retail Service Layer

Installation Guide

Release 13.1.7

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Oracle Retail Service Layer, Installation Guide, Release 13.1.7

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Your feedback is important, and helps us to best meet your needs as a user of our products. For example:

- Are the implementation steps correct and complete?
- Did you understand the context of the procedures?
- Did you find any errors in the information?
- Does the structure of the information help you with your tasks?
- Do you need different information or graphics? If so, where, and in what format?
- Are the examples correct? Do you need more examples?

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Preface

The Oracle Retail Service Layer development team delivers RSL applications only for non-Java/Java EE service providers such as RMS (Oracle Forms based). Other implementations of RSL exist but are bundled within other Oracle Retail Java EE applications and are installed as part of those applications. Currently RSL provides an implementation for integrating applications with RMS. RPM is the only Oracle Retail Java EE application that includes an integrated implementation of RSL.

An application-specific version of RSL in a Java EE environment is referred to as RSLfor<App> (for this release only RSLforRMS). This application is packaged as an EAR file that must be deployed in an application server. Currently, RSL applications have been certified to install and execute in Oracle Application Server 10g.

Audience

This manual is designed for System Administrators, Developers, and Applications Support personnel installing the RSL for <app> implementation provided by the RSL team.

Related Documents

For more information, see the following documents in the Oracle Retail Service Layer Release 13.1.7 documentation set:

- *Oracle Retail Service Layer Release Notes*

Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL:
<https://support.oracle.com>

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take

Review Patch Documentation

When you install the application for the first time, you install either a base release (for example, 13.1) or a later patch release (for example, 13.1.7). If you are installing the base release and additional patch and bundled hot fix releases, read the documentation for all releases that have occurred since the base release before you begin installation. Documentation for patch and bundled hot fix releases can contain critical information related to the base release, as well as information about code changes since the base release.

Oracle Retail Documentation on the Oracle Technology Network

Documentation is packaged with each Oracle Retail product release. Oracle Retail product documentation is also available on the following Web site:

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

(Data Model documents are not available through Oracle Technology Network. These documents are packaged with released code, or you can obtain them through My Oracle Support.)

Documentation should be available on this Web site within a month after a product release.

Conventions

Navigate: This is a navigate statement. It tells you how to get to the start of the procedure and ends with a screen shot of the starting point and the statement “the Window Name window opens.”

This is a code sample

It is used to display examples of code

Preinstallation Tasks

Check for the Current Version of the Installation Guide

Corrected versions of Oracle Retail installation guides may be published whenever critical corrections are required. For critical corrections, the rerelease of an installation guide may not be attached to a release; the document will simply be replaced on the Oracle Technology Network Web site.

Before you begin installation, check to be sure that you have the most recent version of this installation guide. Oracle Retail installation guides are available on the Oracle Technology Network at the following URL:

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

An updated version of an installation guide is indicated by part number, as well as print date (month and year). An updated version uses the same part number, with a higher-numbered suffix. For example, part number E123456-02 is an updated version of an installation guide with part number E123456-01.

If a more recent version of this installation guide is available, that version supersedes all previous versions. Only use the newest version for your installation.

Check Application Server Requirements

Supported on:	Versions Supported:
Application Server OS	<p>OS certified with Oracle Application Server 10g 10.1.3.5.</p> <p>Options are:</p> <ul style="list-style-type: none"> Oracle Linux 5 for x86-64 (Actual hardware or Oracle virtual machine). AIX 6.1, minimum TL1 (Actual hardware or LPARs). Solaris 10 Sparc (Actual hardware or Oracle VM Server for SPARC). HP-UX 11.31 Integrity (Actual hardware or HPVM).
Application Server	<p>Oracle Application Server 10g 10.1.3.5 running with java 5.x or 6.0_37 or higher, with the following patch:</p> <ul style="list-style-type: none"> 12965674: Null pointer exception when deploying apps at OC4J.

Note: This release of RSLfor<App> is only supported in a managed OC4J instance as part of Oracle AS 10g. It is not supported on OC4J standalone.

Check Oracle Retail Software Dependencies

Service Providing Application (e.g. RMS) must have all of the RSL components installed (such as Stored Procedures, Tables, and Oracle Objects). Refer to that application's installation guide for specifics.

Supported Oracle Retail Products

Integrates with:	Version
Oracle Retail Allocation (Client)	13.1.7
Oracle Retail Store Inventory Management (SIM)	13.1.7
Oracle Retail Merchandising System (RMS) (Server)	13.1.7
Oracle Retail Price Management (RPM) (Server)	13.1.7

Application Installation

Before proceeding you must install Oracle Application Server 10g 10.1.3.5 as well as the patches listed in Chapter 1 of this document. The RSLfor<App> application will be deployed to an OC4J instance within the OracleAS10g installation.

Create a New OC4J Instance and Group for RSLfor<App>

Skip to the next section if you are redeploying to an existing OC4J group in Oracle Application Server 10.1.3.5.

The RSLfor<App> application must be deployed to its own dedicated OC4J group. For instructions on how to create a new OC4J group and instance(s), see *Adding and Deleting OC4J Instances* in the *Reconfiguring Application Server Instances* chapter of the *Oracle Application Server Administrator's Guide*.

1. Log into the server which is running your OracleAS10g installation. Set your ORACLE_HOME environment variable to point to this installation.
2. Choose a name for the new OC4J instance and group.

Example:

```
rsl-oc4j
rsl_group
```

Create this OC4J instance and group as documented in the *Oracle Application Server Administrator's Guide*.

Example:

```
$ORACLE_HOME/bin/createinstance
-instanceName rsl-oc4j -groupName rsl_group
```

When prompted for the oc4jadmin password, provide the same administrative password you gave for the Oracle AS installation. All OC4J instances running Oracle Retail applications must have the same oc4jadmin password.

3. Start the OC4J instance. You can do this through the Enterprise Manager Web interface, or on the command line using the `opmnctl` utility:

Example:

```
$ORACLE_HOME/opmn/bin/opmnctl @cluster
startproc ias-component=rsl_group
```

4. Verify that the OC4J group was fully started. If you are using the Enterprise Manager Web interface, the instance(s) should have a green arrow indicating that they are running. On the command line, verify that each instance has a status of "Alive."

Example:

```
$ORACLE_HOME/opmn/bin/opmnctl status
```

If you are unable to start an OC4J instance after several attempts, try increasing the startup timeouts in `ORACLE_HOME/opmn/conf/opmn.xml`. If that does not help, consult the Oracle Application Server documentation for further assistance.

Expand the RSLfor<App> Distribution

1. Log in to the UNIX server where Oracle AS is installed and determine where the RSL 13.1.7 application server file (RslServerPak13.1.7for<app><app_version>_eng_ga.tar) will be installed. There should be a minimum of 25 MB disk space available for the application installation files.
2. Copy RslServerPak13.1.7for<app><app_version>_eng_ga.tar (located at CD/appserverunix) to a newly created staging directory on the UNIX server.
3. Change directory to the location of RslServerPak13.1.7for<app><app_version>_eng_ga.tar and extract this file. This will create directory: /RSL1317for<App>.

RSL_INSTALL_HOME refers to the directory structure including the newly created /RSL1317for<App>.

Example: /u00/product/10.1.3/OracleAS_2/RSL1317forRMS

Run the RSLfor<App> Installer

Configuration scripts are provided to deploy and configure the RSLfor<App> application in Oracle AS, including its JDBC DataSource and shared library using the OC4J command-line utility.

1. Change directory to RSL_INSTALL_HOME.
2. Set the ORACLE_HOME and JAVA_HOME environment variables. ORACLE_HOME should point to your Oracle AS installation. JAVA_HOME should point to the Java JDK located at \$ORACLE_HOME/jdk.
3. If you are using an X server, such as Exceed, set the DISPLAY environment variable so that you can run the installer in GUI mode (recommended). If you are not using an X server, or the GUI is too slow over your network, unset DISPLAY for text mode.
4. Run the rsl-installer.sh script. This launches the installer. After installation is complete, a detailed installation log file is created: rsl13install.<timestamp>.log in the RSL_INSTALL_HOME/.retail-installer directory.
5. After the script has successfully run, verify that the application is running and the Oracle DataSource was configured properly by logging into the Oracle Enterprise Manager 10g Application Server Control.

Resolving Errors Encountered During Application Installation

If the application installer encounters any errors, it halts execution immediately.

See Appendix C of this document for some common installation errors.

Since the application installation is a full re-install every time, any previous partial installs will be overwritten by the successful installation.

Backups Created by Installer

The RSLfor<App> application installer backs up previous installations by renaming them with <timestamp> suffixes. This is done to prevent the removal of any custom changes you might have. These backup directories can be safely removed without affecting the current installation.

Example: rsl-rms.200605011726

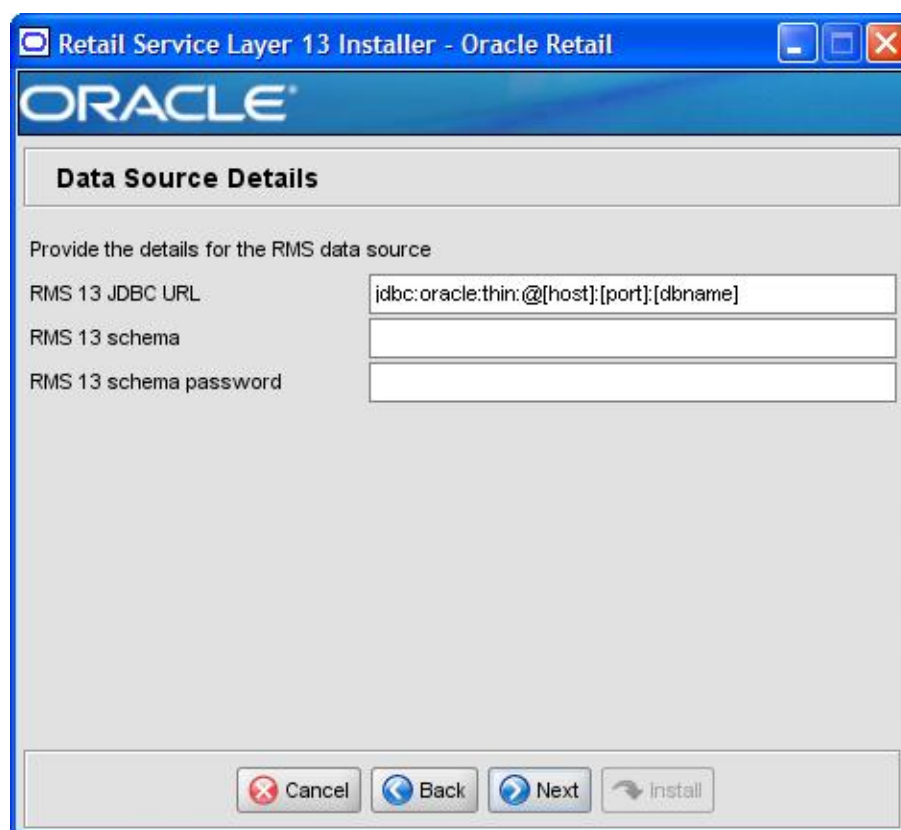
Appendix: RSLfor<App> Installer Screens

Retail Service Layer 13 Installer Screens and Details

You need the following details about your environment for the installer to successfully deploy the RSLfor<App> application. Depending on the options you select, you may not see some screens or fields.

The following screens are for the RSLforRMS installer.

Screen: Data Source Details

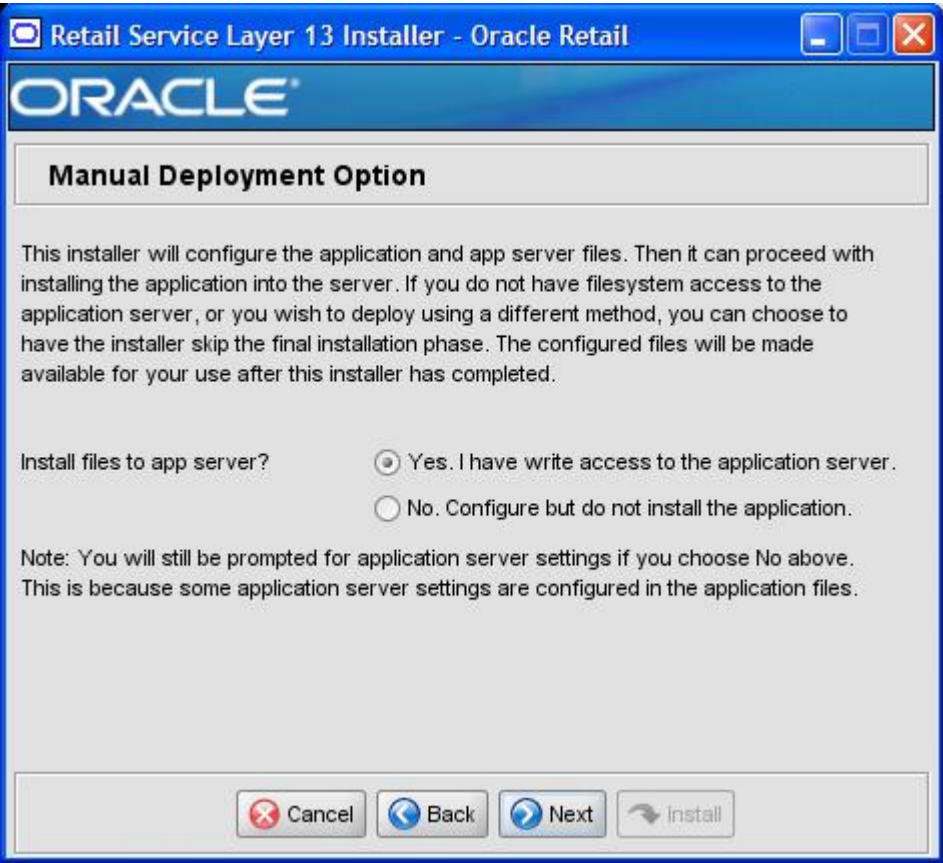


Fields on this Screen

Field Title	RMS 13 JDBC URL
Field Description	URL used by RSLfor<App> to access the RMS database schema. See Appendix D: URL Reference for expected syntax.
Destination	data-sources.xml
Example	jdbc:oracle:thin:@myhost:1525:mydatabase

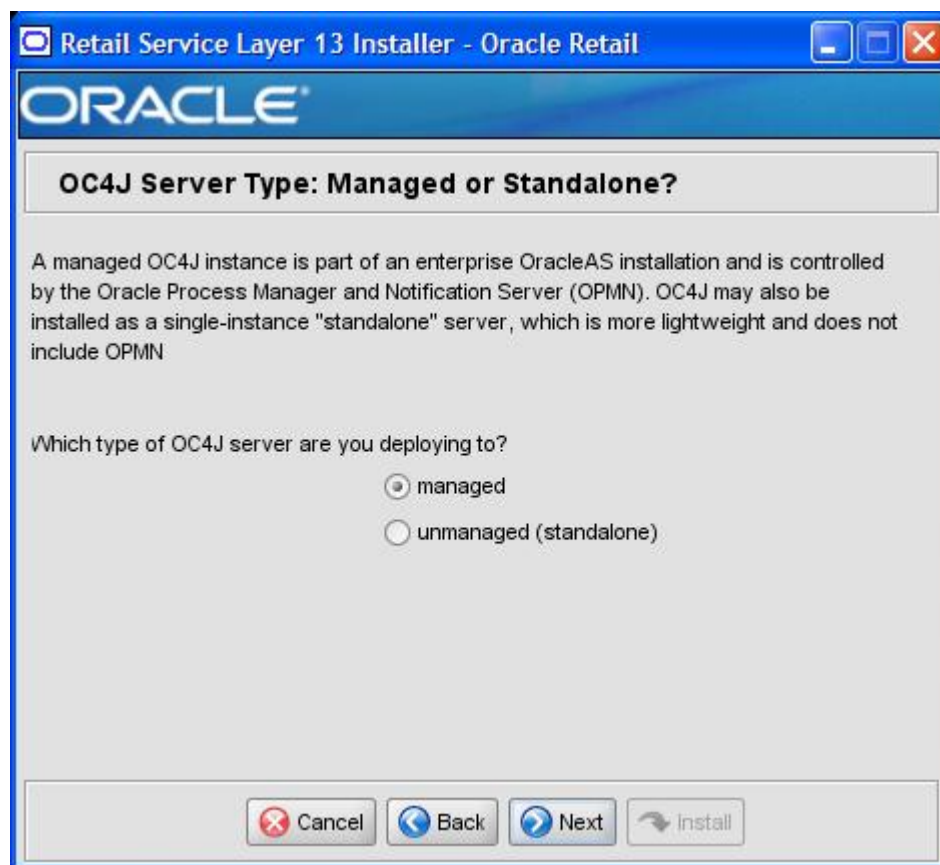
Field Title	RMS 13 schema
Field Description	Database user where the RMS database schema was installed.
Destination	data-sources.xml
Example	RMS13
<hr/>	
Field Title	RMS 13 schema password
Field Description	Password for the RMS schema user.
Destination	data-sources.xml

Screen: Manual Deployment Option



Fields on this screen:

Field Title	Install files to app server?
Field Description	If you do not have write access under ORACLE_HOME, you can still use the installer to gather your settings and configure the RSLfor<App> files locally in the staging area. Then, at a later time, an administrator can manually copy over the RSLfor<App> files and deploy the ear file. If you select this option, instructions are printed to the console and the installer log file for the steps needed to complete the installation.
Example	Yes

Screen: OC4J Server Type: Managed or Standalone**Fields on this screen:**

Field Title	Which type of OC4J server are you deploying to?
Field Description	<p>A managed OC4J server is part of a larger Oracle App Server enterprise environment and is managed by OPMN.</p> <p>A standalone OC4J server is a single instance installed by itself and is not controlled by OPMN.</p> <p>This Oracle Retail application release is only supported on managed OC4J.</p>
Example	managed

Screen: Application Server Details – OracleAS Enterprise

Retail Service Layer 13 Installer - Oracle Retail

ORACLE

Application Server Details - OracleAS Enterprise

Hostname

The OPMN request port is found in ORACLE_HOME/opmn/conf/opmn.xml

OPMN request port

Fields on this screen:

Field Title	Hostname
Field Description	Hostname of the application server
Example	myhost

Field Title	OPMN request port
Field Description	<p>The port on which OPMN listens for requests to forward on to OC4J instances. This port can be found in the ORACLE_HOME/opmn/conf/opmn.xml file:</p> <pre><port local="6100" remote="6200" request="6004"/></pre> <p>The installer will attempt to gather this port value from the environment and use it as the default value.</p>
Example	6004

Screen: Application Deployment Details

Retail Service Layer 13 Installer - Oracle Retail

ORACLE

Application Deployment Details

Provide the following details for the RSLforRMS application being installed. The default values shown below are examples.

RSLforRMS OC4J instance

The OC4J instance(s) for RSLforRMS must belong to an OC4J group created specifically for this RSLforRMS deployment. This installer will deploy the RSLforRMS application into all instances in the group. If you are not clustering the application across multiple OC4J instances then you should have an RSLforRMS group with just one member OC4J instance. Do NOT use default_group in this field.

RSLforRMS OC4J group

RSLforRMS app deployment name

Fields on this screen:

Field Title	RSLforRMS OC4J instance
Field Description	Name of the OC4J instance that was created for this RSLfor<App> application.
Example	rsl_oc4j
Field Title	RSLforRMS OC4J group
Field Description	<p>Name of the OC4J group that was created for this RSLfor<App>application. The OC4J instance given for the RSLfor<App> OC4J Instance field should be a member of this group.</p> <p>The installer will deploy the RSLfor<App> application to all OC4J instances which are members of this group. For this reason, you should not use default_group. A new group dedicated to RSLfor<App> should be created instead.</p>
Example	rsl_group

Field Title	RSLforRMS app deployment name
Field Description	Name by which this RSLfor<App> application will be identified in the application server.
Example	rsl-rms

Screen: OC4J Administrative User

The screenshot shows a window titled "Retail Service Layer 13 Installer - Oracle Retail". The window has a blue header bar with the "ORACLE" logo. Below the header, the title "OC4J Administrative User" is displayed. The main area contains the instruction: "Enter the administrative user and password for the OC4J instance to which the RSL for RMS application will be deployed." There are two input fields: "OC4J admin user" with the value "oc4jadmin" and "OC4J admin password" which is empty. At the bottom, there are four buttons: "Cancel", "Back", "Next", and "Install".

Fields on this screen:

Field Title	OC4J admin user
Field Description	Username of the admin user for OC4J instance to which the RSLfor<App> application is being deployed.
Example	oc4jadmin

Field Title	OC4J admin password
Field Description	Password for the OC4J admin user. You chose this password when you created the OC4J instance (managed OC4J) or when you started the instance for the first time (standalone OC4J).

Appendix: Installer Silent Mode

Repeating the Installation Process

In addition to the GUI and text interfaces of the RSLfor<App> installer, there is a silent mode that can be run. This mode is useful if you wish to run a repeat installation attempt without going through the installer screens again.

The installer runs in two distinct phases. The first phase involves gathering settings from the user. At the end of the first phase, a properties file named `ant.install.properties` is created with the settings that were provided. Then the second phase begins, where this properties file is used to provide your settings for the installation.

To skip the first phase and re-use the `ant.install.properties` file from a previous run, perform the following procedure:

1. Edit the `RSL_INSTALL_HOME/.retail-installer/ant.install.properties` file and correct any invalid settings that may have caused the installer to fail in its previous run.
2. Run the installer again with the `silent` argument.

Example:

```
rsl-installer.sh silent
```

Appendix: Common Installation Errors

This section provides some common errors encountered during installation of RSLfor<App>.

Unreadable Buttons in the Installer

If you are unable to read the text within the installer buttons, it could mean that your JAVA_HOME is pointed to an older version of the JDK than is supported by the installer. Set JAVA_HOME to \$ORACLE_HOME/jdk from the Oracle Application Server 10.1.3 installation and run the installer again.

“Unable to get a deployment manager” Message

Symptom:

The application installer quits and displays the following error message:

```
[oracle:deploy] Unable to get a deployment manager.
[oracle:deploy]
[oracle:deploy] This is typically the result of an invalid deployer URI format
being supplied, the target server not being in a started state or incorrect
authentication details being supplied.
[oracle:deploy]
[oracle:deploy] More information is available by enabling logging -- please see
the Oracle Containers for J2EE Configuration and Administration Guide for details.
```

Solution:

This error can be caused by any of the following conditions:

- OC4J instance provided is not running.
- Incorrect OC4J instance name provided
- Incorrect OC4J administrative username and/or password
- Incorrect OPMN request port provided.

Make sure that the OC4J instance is running, and then check the RSL_INSTALL_HOME/.retail-installer/**ant.install.properties** file for entry mistakes. Pay close attention to the input.deployer.uri (see Appendix D: URL Reference), input.oc4j.instance, input.admin.user, and input.admin.password properties. If you need to make a correction, you can run the installer again with this file as input by running silent mode (see Appendix B of this document).

“Could not create system preferences directory” Warning

Symptom:

The following text appears in the installer **Errors** tab:

```
May 22, 2006 11:16:39 AM java.util.prefs.FileSystemPreferences$3 run
WARNING: Could not create system preferences directory. System preferences are
unusable.
May 22, 2006 11:17:09 AM java.util.prefs.FileSystemPreferences
checkLockFile0ErrorCode
WARNING: Could not lock System prefs. Unix error code -264946424.
```

Solution:

This is related to Java bug 4838770. The `/etc/.java/.systemPrefs` directory may not have been created on your system. See <http://bugs.sun.com> for details.

This is an issue with your installation of Java and does not affect the Oracle Retail product installation.

ConcurrentModificationException in Installer GUI

Symptom:

In GUI mode, the errors tab shows the following error:

```
java.util.ConcurrentModificationException
    at
java.util.AbstractList$Itr.checkForComodification(AbstractList.java:448)
    at java.util.AbstractList$Itr.next(AbstractList.java:419)
... etc
```

Solution:

You can ignore this error. It is related to third-party Java Swing code for rendering of the installer GUI and does not affect the retail product installation.

“Couldn't find X Input Context” Warnings

Symptom:

The following text appears in the console window during execution of the installer in GUI mode:

```
Couldn't find X Input Context
```

Solution:

This message is harmless and can be ignored.

Error While Unpacking the rsl-rms.ear File

Symptom:

The following text appears in the console window during execution of the installer:

```
07/12/19 10:53:17 Notification ==>Error while unpacking rsl-rms.ear  
java.util.zip.ZipException: error in opening zip file
```

Solution:

This is a known bug (BugID 6330834) related to Solaris and NFS in Oracle Application Server 10.1.3.3.

Follow the workaround below documented for this bug.

In the opmn.xml file in \$ORACLE_HOME/opmn/conf, add the following parameter to the java-options for the instance you are installing:

```
-Doc4j.autoUnpackLockCount=-1
```

After making this change you should reload OPMN, restart the affected OC4J instance(s), and retry the retail application installation.

Appendix: URL Reference

The application installers for the RSLfor<App> product will ask for several different URLs. These include the following.

JDBC URL for a Database

Used by the Java application and by the installer to connect to the database.

Syntax

```
jdbc:oracle:thin:@<host>:<port>:<sid>
```

where:

- <host> is the hostname of the database server.
- <port> is the database listener port.
- <sid> is the system identifier for the database.

Example:

```
jdbc:oracle:thin:@myhost:1521:mysid
```

JNDI Provider URL for an Application

Used by the application client to access the application running in the server. Also used by other applications for server-to-server calls.

Syntax

```
opmn:ormi://<host>:<port>:<instance>/<app>
```

where:

- <host> is the hostname of the OracleAS environment.
- <port> is the OPMN request port of the OracleAS environment. This can be found in the <ORACLE_HOME>/opmn/conf/opmn.xml file.
- <instance> is the name of the OC4J instance running the application.
- <app> is the deployment name for the application.

Example:

```
opmn:ormi://myhost:6003:rsl-oc4j/rsl-rms
```

Note: The JNDI provider URL can have a different format depending on your cluster topology. Consult the Oracle Application Server documentation for further details.

Deployer URI

Used by the Oracle ANT tasks to deploy an application to an OC4J group. The application installer does not ask the user for this value; it is constructed based on other inputs and written to the `ant.install.properties` file for input to the installation script. For repeat installations using silent mode, you may need to correct mistakes in the deployer URI in `ant.install.properties`.

Note: There are several different formats for the deployer URI depending on your cluster topology. Consult the *Deploying with the OC4J Ant Tasks* chapter of the *OC4J Deployment Guide* for further details.

Syntax (managed OC4J)

`deployer:cluster:opmn://<host>:<port>/<group>`

where:

- `<host>`: hostname of the OracleAS environment.
- `<port>`: OPMN request port of the OracleAS environment. This can be found in the `<ORACLE_HOME>/opmn/conf/opmn.xml` file.
- `<group>`: Name of the OC4J instance where the application will be deployed.

Example: `deployer:cluster:opmn://myhost:6003/rsl_group`

Syntax (standalone OC4J)

`deployer:oc4j:<host>:<port>`

where:

- `<host>` is the hostname of the OracleAS environment.
- `<port>` is the RMI port of the OC4J server. This can be found in the `ORACLE_HOME/j2ee/home/config/rmi.xml` file.

Example:

`deployer:oc4j:myhost:23791`

Appendix: Installation Order

This section provides a guideline as to the order in which the Oracle Retail applications should be installed. If a retailer has chosen to use some, but not all, of the applications the order is still valid less the applications not being installed.

Note: The installation order is not meant to imply integration between products.

Enterprise Installation Order

1. Oracle Retail Merchandising System (RMS), Oracle Retail Trade Management (RTM), Oracle Retail Sales Audit (ReSA)
2. Oracle Retail Service Layer (RSL)
3. Oracle Retail Extract, Transform, Load (RETL)
4. Oracle Retail Active Retail Intelligence (ARI)
5. Oracle Retail Warehouse Management System (RWMS)
6. Oracle Retail Allocation
7. Oracle Retail Invoice Matching (ReIM)
8. Oracle Retail Price Management (RPM)

Note: During installation of RPM, you are asked for the RIBforRPM provider URL. Since RIB is installed after RPM, make a note of the URL you enter. If you need to change the RIBforRPM provider URL after you install RIB, you can do so by editing the `jndi_provider.xml` file.

9. Oracle Retail Central Office (ORCO)
10. Oracle Retail Returns Management (ORRM)
11. Oracle Retail Back Office (ORBO) or Back Office with Labels and Tags (ORLAT)
12. Oracle Retail Store Inventory Management (SIM)

Note: During installation of SIM, you are asked for the RIB provider URL. Since RIB is installed after SIM, make a note of the URL you enter. If you need to change the RIB provider URL after you install RIB, you can do so by editing the `jndi_providers_ribclient.xml` file.

13. Oracle Retail Predictive Application Server (RPAS)
14. Oracle Retail Demand Forecasting (RDF)
15. Oracle Retail Category Management (CM)
16. Oracle Retail Replenishment Optimization (RO)
17. Oracle Retail Analytic Parameter Calculator Replenishment Optimization (APC RO)
18. Oracle Retail Regular Price Optimization (RPO)
19. Oracle Retail Merchandise Financial Planning (MFP)
20. Oracle Retail Size Profile Optimization (SPO)

- 21.** Oracle Retail Assortment Planning (AP)
- 22.** Oracle Retail Item Planning (IP)
- 23.** Oracle Retail Item Planning configured for COE (IPCOE)
- 24.** Oracle Retail Advanced Inventory Planning (AIP)
- 25.** Oracle Retail Integration Bus (RIB)
- 26.** Oracle Retail Point-of-Service (ORPOS)
- 27.** Oracle Retail Analytics Applications
- 28.** Oracle Retail Data Warehouse (RDW)
- 29.** Oracle Retail Workspace (ORW)