

Oracle® Retail Predictive Application Server
Installation Guide
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Oracle Retail Predictive Application Server, Installation Guide, Release 13.2.3

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- Did you understand the context of the procedures?
- Did you find any errors in the information?
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If you require training or instruction in using Oracle software, then please contact your Oracle local office and inquire about our Oracle University offerings. A list of Oracle offices is available on our Web site at www.oracle.com.

Preface

Oracle Retail Installation Guides contain the requirements and procedures that are necessary for the retailer to install Oracle Retail products.

Audience

This document is intended for the users and administrators of Oracle Retail Predictive Application Server. This may include merchandisers, buyers, and business analysts.

This Installation Guide is written for the following audiences:

- Database administrators (DBA)
- System analysts and designers
- Integrators and implementation staff

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Related Documents

For more information, see the following documents in the Oracle Retail Predictive Application Server Release 13.2.3 documentation set:

- *Oracle Retail Predictive Application Server Release Notes*
- *Oracle Retail Predictive Application Server User Guide for the Fusion Client*
- *Oracle Retail Predictive Application Server User Guide for the Classic Client*
- *Oracle Retail Predictive Application Server Configuration Tools User Guide*
- *Oracle Retail Predictive Application Server Administration Guide for the Classic Client*
- *Oracle Retail Predictive Application Server Administration Guide for the Fusion Client*

Supplemental Documentation on My Oracle Support

The following supplemental documentation is also available in the My Oracle Support Knowledge Base.

My Oracle Support Note ID 1132783.1 – Oracle Retail Fashion Planning Bundle Reports Documentation

The Oracle Retail Fashion Planning Bundle Reports package includes role-based Oracle Business Intelligence (BI) Enterprise Edition (EE) reports and dashboards that provide an illustrative overview highlighting the Fashion Planning Bundle solutions. These dashboards can be leveraged out-of-the-box or can be used along with other dashboards and reports that may have already been created to support a specific solution or organizational needs. This package includes dashboards for the Assortment Planning, Item Planning, Item Planning Configured for COE, Merchandise Financial Planning Retail Accounting, and Merchandise Financial Planning Cost Accounting applications.

The Oracle Retail Fashion Planning Bundle Reports documentation set includes the following documents that describe how you can install and use the reports and dashboards:

- *Oracle Retail Fashion Planning Bundle Reports Installation Guide* – This guide describes how you can download and install the Fashion Planning Bundle reports. This guide is intended for system administrators and assumes that you are familiar with the Oracle Retail Predictive Application Server (RPAS) and Oracle BI EE.
- *Oracle Retail Fashion Planning Bundle Reports User Guide* – This guide describes the reports and dashboards included for the Oracle Retail Fashion Planning Bundle solutions.

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, 13.2) or a later patch release (for example, 13.2.3). 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

Introduction

Welcome to the *Oracle Retail Predictive Application Server Installation Guide*. This chapter outlines the contents of this guide, discusses the updated components with respect to the previous version, lists hardware and software requirements, and defines commonly used notations and terms.

About This Document

This document contains two parts:

- [Part I: Full Installation](#). Refer to this section if you are performing a full installation of RPAS 13.2.
- [Part II: Patch Installation](#). Refer to this section if you are performing a patch installation of RPAS 13.2.3.

Note: Only RPAS base releases have installers. Patch releases and hot fixes do not have installers. If you are installing a base release, refer to [Part I: Full Installation](#) for installer instructions. If you are installing a patch, refer to [Part II: Patch Installation](#) for patch instructions.

Please read this entire document before beginning the installation process to ensure you understand the installation process and have all the necessary documentation, hardware, and software available.

Hardware and Software Requirements

The following tables describe the hardware and software requirements for the RPAS Server, RPAS Classic Client, RPAS Fusion Client, RPAS Configuration Tools, and ODBC and JDBC servers and clients.

RPAS Server and Components

For information on installing the RPAS Server, see the [Installing on UNIX and Linux Environments](#) chapter or the [Installing on a Windows Environment](#) chapter.

Component	Details
Supported Operating Systems for the RPAS Server, Compilers, ODBC Server, and ODBC Client	<ul style="list-style-type: none"> ▪ AIX 5.3 (POWER) – TL12 SP1: GCC 4.1.1 (64 bit) ▪ AIX 6.1 (POWER) –TL6: GCC 4.3.3 (64 bit) ▪ Oracle Linux 5, Update 5 (5.5), Update 8 (5.8), Update 11 (5.11): GCC 4.1.2 (64 bit) ▪ Red Hat Enterprise Linux 5.5, 5.8, 5.11: GCC 4.1.2 (64 bit) ▪ Oracle Solaris 10 (SPARC) Update 5, with time zone patch 122032-01 and libc patch 119689-07: Solaris Studio 12.2 ▪ HP-UX Itanium 11.31, Sept. 2010 Quality Pack: ACC 6.20 (64 bit) <p>Note: The RPAS ODBC Client is supported on the operating systems listed above as well as 32-bit Windows.</p>
Supported Operating Systems for RPAS Configuration Tools	<ul style="list-style-type: none"> ▪ Microsoft Windows 7 ▪ Microsoft Windows XP ▪ Microsoft Vista <p>Note: The server aspect of the RPAS Configuration Tools (rpasInstall, which is used to install and patch domains) is supported on the same operating systems as the RPAS Server listed above.</p> <p>Note: After the 13.2.3 release, Microsoft Vista will no longer be supported.</p>
Required 3rd Party Software	<p>For RPAS Configuration Tools, server machines, and JDBC Client:</p> <ul style="list-style-type: none"> ▪ Oracle Java Development Kit (JDK) 1.6 <p>Note: When installing Java, avoid enabling AutoUpdate because it may update the Java version without prompting.</p>

RPAS Classic Client

For information on installing the RPAS Classic Client, see the [Installing and Configuring the RPAS Classic Client](#) chapter. For information about Single Sign-On, see the [Appendix: Workspace and Oracle Single Sign-On](#) appendix.

Component	Details
Supported Operating Systems	<ul style="list-style-type: none"> ▪ Microsoft Windows XP Professional SP3 with Microsoft Office 2003 ▪ Microsoft Windows 7 Professional (Service Pack 1) with Microsoft Office 2007 ▪ Microsoft Vista <p>Note: After the 13.2.3 release, Microsoft Vista will no longer be supported.</p>
Client System Requirements	<p>All components required:</p> <ul style="list-style-type: none"> ▪ 800x600 or higher display resolution ▪ 1GHz or higher processor ▪ 512 MB or higher memory ▪ Intranet network connectivity with at least 10Mbps data rate
<p>RPAS Classic Client Web Deployment and Single Sign-On Requirements</p> <p>Note: Classic Client Web Deployment, along with Single Sign-On, is optional.</p>	<p>Server options: only one of the three options is required:</p> <ul style="list-style-type: none"> ▪ Oracle Application Server (OAS) 10.1.3.3, which includes JDK 1.5. If Oracle Single-Sign-On (SSO) is used, the OAS server must be registered with an OID provider. ▪ Oracle WebLogic Server 11gR1 (Release 10.3.2) with Oracle Application Development Framework (11g (11.1.1.2) and JDK 1.6. If Oracle Single Sign-On (SSO) is used, the Web Tier Utilities 11.1.1.2 must be installed. ▪ Apache Tomcat 6.0 with JDK 1.6 <p>Web browser requirements:</p> <ul style="list-style-type: none"> ▪ Microsoft Internet Explorer 6.0 or 7.0 ▪ Oracle JVM plug-in of Java version 1.6 <p>For Single Sign-On (SSO):</p> <ul style="list-style-type: none"> ▪ If using OAS, the following component is required: <ul style="list-style-type: none"> – Oracle Identity Management 10g Release 3 (10.1.4) ▪ If using WebLogic, both of the following components are required: <ul style="list-style-type: none"> – Oracle Web Tier Utilities (11.1.1.2) – Oracle Identity Management 10g Release 3 (10.1.4)

RPAS Fusion Client

For information on installing the RPAS Fusion Client, see the [Installing the RPAS Fusion Client](#) chapter.

Component	Details
Supported Operating Systems for the Fusion Client	<ul style="list-style-type: none"> ▪ Microsoft Windows XP Professional SP3 with Microsoft Office 2003 ▪ Microsoft Windows 7 Professional (Service Pack 1) with Microsoft Office 2007
Supported Web Browsers Note: All browsers must have Adobe Flash Player 9.0 or higher.	<ul style="list-style-type: none"> ▪ Google Chrome 7.0 (and later minor versions) ▪ Microsoft Internet Explorer 7.0 ▪ Microsoft Internet Explorer 8.0 ▪ Mozilla Firefox 3.6 (and later minor versions)
Supported Operating Systems for the Application Server	<ul style="list-style-type: none"> ▪ AIX 6.1 (POWER) – TL6 (64 bit) ▪ Oracle Linux 5, Update 5 (5.5), Update 8 (5.8), Update 11 (5.11) (64 bit) ▪ Red Hat Enterprise Linux 5.5, 5.8, 5.11 (64 bit) ▪ Oracle Solaris 10 (SPARC) Update 5, with time zone patch 122032-01 and libc patch 119689-07 ▪ HP-UX Itanium 11.31, Sept. 2010 Quality Pack (64 bit) <p>Note: The operating systems you choose for the RPAS server and the application server for the RPAS Fusion Client do not need to be the same.</p>
Application Server Requirements	<p>All components required:</p> <ul style="list-style-type: none"> ▪ Oracle WebLogic Server 11g Release 1 (Release 10.3.4) ▪ Oracle Application Development Runtime (11.1.1.4.0)
Required 3rd Party Software	<p>JDK 1.6 is required to support the Fusion Client on an application server. There are specific JDK versions supported for each of the following operating systems:</p> <ul style="list-style-type: none"> ▪ IBM AIX 6.1 TL6: IBM JDK 1.6 SR8 (64-bit) ▪ Oracle Solaris 10 Update 5: Oracle JDK 1.6 Update 21 (64-bit) ▪ Oracle Enterprise Linux 5 Update 5, Update 8, Update 11: Oracle JDK 1.6 Update 21 (64-bit) ▪ Red Hat Enterprise Linux 5.5, 5.8, 5.11: Oracle JDK 1.6 Update 21 (64-bit) ▪ HP-UX 11.31 Itanium: HP JDK 1.6_08 (64-bit)
Supported Oracle Software for Single Sign-On (SSO) Note: Single Sign-On is optional.	<p>If using Oracle Application Server, the following component is required:</p> <ul style="list-style-type: none"> ▪ Oracle Identity Management 10g Release 3 (10.1.4) <p>If using WebLogic, both of the following components are required:</p> <ul style="list-style-type: none"> ▪ Oracle Web Tier Utilities (11.1.1.2) ▪ Oracle Identity Management 10g Release 3 (10.1.4) <p>Note: After the 13.2.3 release, the Oracle Single Sign-On Server 10g will no longer be supported for the RPAS Fusion Client. Oracle Single Sign-On 11g using Access Manager is in development as a replacement.</p>

Hardware and Software Requirement Notes

- Once the RPAS server and client are installed, you must build and set up an RPAS domain or install an RPAS solution. For more information on setting up an RPAS domain, refer to the *Oracle Retail Predictive Application Server Administration Guide for the Classic Client* or the *Oracle Retail Predictive Application Server Administration Guide for the Fusion Client*. For more information on installing an RPAS solution, refer to the relevant installation guide included with the RPAS solution package.
- If you are installing only the Oracle RPAS Fusion Client without any additional applications supported by the Oracle Application Development Runtime, you do not need to install the Oracle Database and MetaData Services (MDS) repository schema specified by the Oracle Application Development Runtime installation instructions.
- If you are installing the RPAS Server on Windows, you must install Cygwin to emulate UNIX commands (required for starting the RPAS Server on Windows). You can find more information about downloading this product at <http://www.cygwin.com>. If running the RPAS Server on Windows, use Windows XP or Windows 7. Perl is an interpreted language that is included on all supported UNIX platforms (included with Cygwin for Windows). Perl is used by the patch sets, which are used to install an RPAS patch.
- An application for unzipping (.zip) components on UNIX must be installed and used for extracting the RPAS Configuration Tools. Unzip is an open source software package that can be used for this process.

The following table indicates which software components are needed for each task. The reference to Windows refers Windows XP or Vista.

Task	Typical User	Platforms	RPAS Server	RPAS Clients	Configuration Tools	Java
Log in to an existing (built) RPAS domain for the primary purpose of building workbooks.	End User	Windows	No	Yes	No	No
Use the Configuration Tools to create or modify solutions.	Solution/Product Administrator	Windows	Yes	No	Yes	Yes
Use the Configuration Tools to build configured solutions.	Solution/Product Administrator	Windows UNIX Linux	Yes	No	Yes	Yes

Java can be acquired from www.java.com for Oracle Solaris and Microsoft Windows or from the respective vendor's Web site for IBM and HP.

Environment variables are automatically set when using the Oracle Retail Installer to install the RPAS components on a UNIX environment.

Supported Oracle Retail Products

For information on the version of the RPAS platform that an RPAS application uses, see that application's documentation.

Terms

The following terms are used in this guide:

- **RPAS** – The Oracle Retail Predictive Application Server provides the foundation for Oracle Retail solutions such as Oracle Retail Demand Forecasting (RDF), Merchandise Financial Planning (MFP), and Advanced Inventory Planning (AIP). RPAS does not include any business logic, but it enables the solutions to store, manipulate and retrieve data. It provides the solutions with a standard interface based on wizards, templates, workbooks, and batch processes.
- **RPAS solution** – The software that uses RPAS. RPAS solutions are added on to RPAS domains as separate modules. All the business logic is encapsulated in the solution. An RPAS domain can support solutions.
- **RPAS domain** – The collection of server-side directories and files containing data and procedures that comprise the RPAS solution. Refer to the *RPAS Configuration Tools User Guide* and the *RPAS Administration Guide for the Fusion Client* or the *RPAS Administration Guide for the Classic Client* for additional information.
- **RPAS Classic Client** – The Windows-based client interface for end users and system administrators of an RPAS domain. An administrator may perform maintenance work in a domain using the RPAS Classic Client, server-side RPAS utilities.
- **RPAS Fusion Client** – The RPAS Fusion Client is the Web-based Rich Client for the Retail Predictive Application Server (RPAS) platform developed using the Oracle Application Development Framework (ADF).
- **RPAS Configuration Tools** – The tools used to configure an RPAS solution. See the *RPAS Configuration Tools User Guide* for more information.

PART I

FULL INSTALLATION

Part I of this guide details the steps needed to perform a full installation of RPAS.

Part I contains the following chapters:

- [Chapter 1: Getting Started](#)
- [Chapter 2: Installing on UNIX and Linux Environments](#)
- [Chapter 3: Installing on a Windows Environment](#)
- [Chapter 4: Installing the RPAS Fusion Client](#)
- [Chapter 5: Installing and Configuring the RPAS Classic Client](#)
- [Chapter 6: RPAS Classic Client Web Deployment](#)

For information about a patch installation, see [Part II: Patch Installation](#).

Getting Started

This chapter provides:

- An overview of the RPAS platform
- Typical installation scenarios
- An overview of the installation contents

RPAS Platform Overview

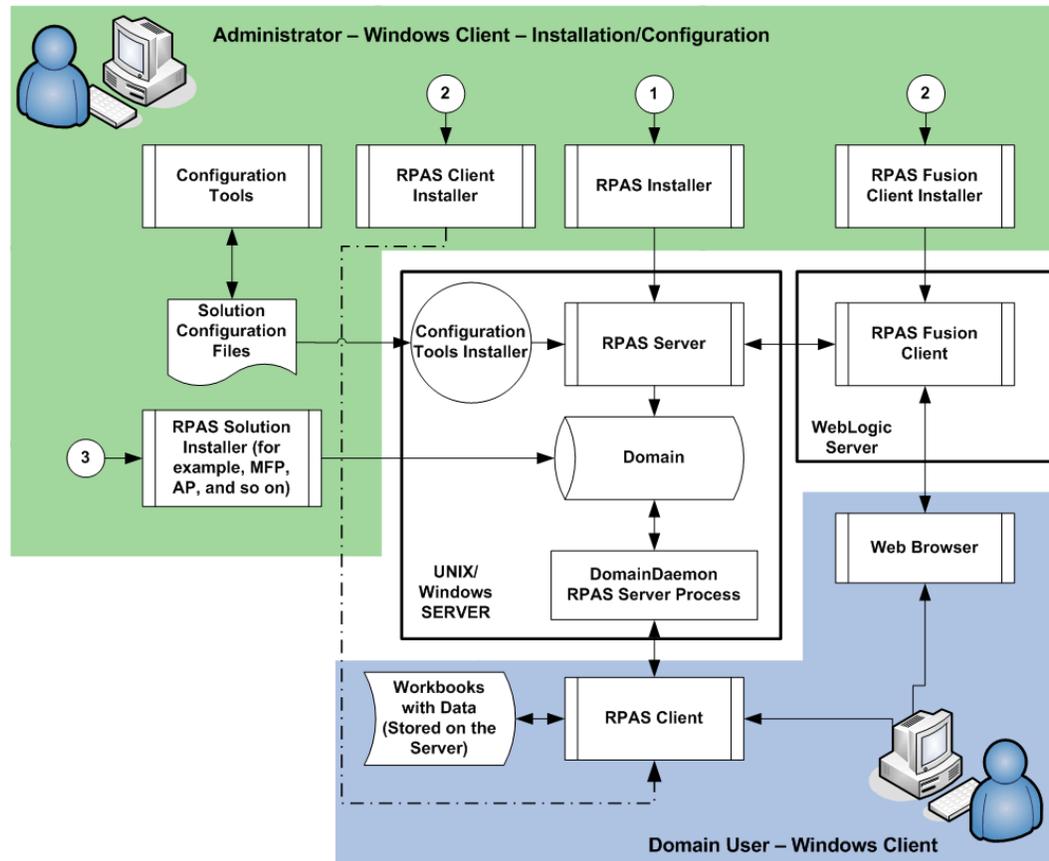
RPAS 13.2 is comprised of many components. In addition, there are solutions that have been developed using the RPAS 13.2 foundation. These solutions must be installed separately. Examples of these solutions include Oracle Retail Merchandise Financial Planning (MFP) and Oracle Retail Advanced Inventory Planning (AIP).

The components of the RPAS software include the following:

- RPAS Server and related utilities
- RPAS Classic Client
- RPAS Fusion Client
- RPAS Configuration Tools
- Sample configurations (Curve and Grade)
- Documentation
- Supported Translations

Installation Process Flow

A typical RPAS Server-based installation is illustrated below. For instructions on installing on a Windows machine, refer to [Installing on a Windows Environment](#).



RPAS Environment

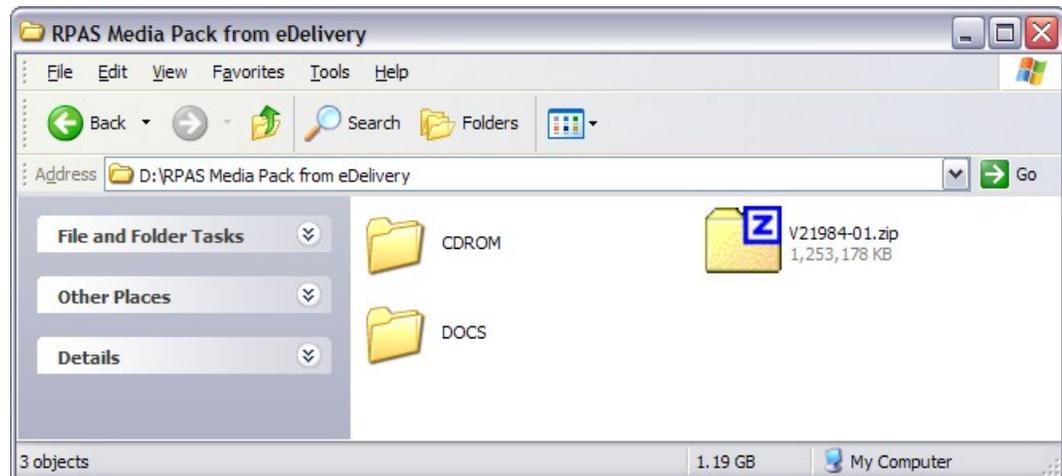
The illustration above displays a typical RPAS Server-based installation and provides the following information:

- RPAS and the Configuration Tools may also be installed on a single Windows stand-alone machine.
- Numbers represent the order in which you must install the RPAS components.
- The RPAS Classic Client Installer and RPAS Fusion Client Installer processes have the same number. This indicates that you can choose to install the RPAS Classic Client on the domain user systems or the RPAS Fusion Client on an Oracle WebLogic Server instance.
- Before you install an RPAS solution, you must have the RPAS Server and RPAS Clients installed. The RPAS solution installers include the taskflow configuration and online help files that require the RPAS Fusion Client to be already installed.
- A domain user can choose to log on to an RPAS domain/solution using the RPAS Classic Client or by logging on to the RPAS Fusion Client through a Web browser.

Downloading and Extracting the RPAS Media Pack

The following procedure provides information about extracting the RPAS Media Pack and its contents.

1. Create a directory to store the RPAS Media Pack and download the media pack to this location.
2. Extract the media pack to this location. Once extracted, two folders appear, CDROM and DOCS.



Example of CDROM and DOCS Folder Created by Extracting Media Pack ZIP File

The CDROM folder contains three ZIP files: FusionClient.zip, RPAS-13.2-unix.zip and RPAS-13.2-windows.zip.

- The FusionClient.zip file contains the RPAS Fusion Client installer.
- The RPAS-13.2-unix.zip file contains all the RPAS components to be installed on your UNIX server.
- The RPAS-13.2-windows.zip contains the RPAS components that can be installed on a Windows environment. Refer to [Installing on UNIX Environments](#) and [Installing on a Windows Environment](#) for information on performing installations.

The DOCS folder has folders within it that contain the RPAS documentation in PDF format.

Notes:

The scripts for Oracle Retail Demand Forecasting (RDF) are packaged within the RPAS/RDF server installation. See the RDF documentation for more information.

The Curve and Grade documentation sets which were previously included in the DOCS folder are now combined with the Oracle Retail Demand Forecasting (RDF) documentation. This documentation is available within the RDF package and on the following Web site:

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

Installing on UNIX and Linux Environments

The installation of the server-side RPAS components on UNIX or Linux operating systems is accomplished by using a Java-based installation program that is included with the installation package.

This program automates the following:

- Installation of the RPAS Server
- Installation of Configuration Tools on the server
- Creation of sample domains
- Definition of DomainDaemon port

Preparation

The RPAS components included in this installation process are available inside the media pack of the solution downloaded from Oracle's E-Delivery Web site, <http://edelivery.oracle.com/>.

There are two RPAS archives inside the media pack: one RPAS archive for UNIX and Linux and one for Windows.

Java Environment

Ensure that Java Development Kit (JDK) has been installed on the machine where RPAS will run and that the JAVA_HOME environment variable is properly set.

Note: Avoid enabling AutoUpdate when installing Java because it may update the Java version without prompting.

The following commands are examples based on common Java installation structures. These commands are automatically setup by the retaillogin.ksh script. After this script has run, compare your environment variables to the appropriate example below to ensure that it is correct. To ensure the path is correct, use the UNIX find command to locate libjvm.so (find \$JAVA_HOME -name libjvm.so) and adjust the below paths as appropriate.

Linux

```
export LD_LIBRARY_PATH="$JAVA_HOME/bin:$JAVA_HOME/lib/amd64/server:$LD_LIBRARY_PATH"
export PATH="$JAVA_HOME/bin:$JAVA_HOME/lib/amd64/server:$PATH"
```

AIX

```
export LIBPATH="$JAVA_HOME/bin:$JAVA_HOME/bin/classic:$LIBPATH"
export PATH="$JAVA_HOME/bin:$JAVA_HOME/bin/classic:$PATH"
```

Note: Linux and AIX are compatible with only a 64-bit version of Java.

HP-UX Itanium

```
export SHLIB_PATH="$JAVA_HOME/bin:$JAVA_HOME/lib/IA64W/server:$SHLIB_PATH"
export PATH="$JAVA_HOME/bin:$JAVA_HOME/lib/IA64W/server:$PATH"
export RIDE_OPTIONS=-d64
```

Solaris

```
export LD_LIBRARY_PATH="$JAVA_HOME/bin:$JAVA_HOME/lib/sparc/client:
$LD_LIBRARY_PATH"
export PATH="$JAVA_HOME/bin:$JAVA_HOME/lib/sparc/client:$PATH"
export RIDE_OPTIONS=-d64
```

Note: Solaris and HP Itanium do not release separate 32-bit and 64-bit versions of Java. Therefore, you must set the 64-bit Configuration Tools environment variable for Java as shown below:

```
export RIDE_OPTIONS=-d64
```

Ride Options

The RIDE_OPTIONS environmental variable has been defined to allow users to pass information into the rpassInstall process. Unlike the regular arguments passed on the command line to rpassInstall (such as -fullinstall and -updatestyles), arguments defined in RIDE_OPTIONS are passed to every rpassInstall instance that runs in the environment.

Described below are the three supported properties for use with RIDE_OPTIONS.

- **Xmx** – used for Java
- **HP 64-bit mode Java (-d64)** – used for HP Itanium
- **Drpas.maxProcesses** – used for RPAS

For Java

Xmx - By default, the Java Virtual Machine requests on the order of 268 MB of RAM from the OS to allocate for its heap. Large domains that are built from complex configurations can potentially exhaust this limited amount of memory. This is even more of an issue in patch installations than in builds since a patch installation requires two different versions of a configuration to be held in memory simultaneously.

By using the -Xmx option, you can instruct the Java Virtual Machine to request more memory from the OS to prevent situations when all allocated memory is exhausted. The syntax of the property is:

-Xmx###m, where ### is the amount, in megabytes, of memory the JVM is to request.

Common values for this argument are -Xmx512m or -Xmx1024m.

For HP Itanium

HP 64-bit mode Java (-d64) - The HP distribution of Java does not consist of separate executables for 32-bit and 64-bit operating systems. Instead, there is a single distribution of Java that can run in either 32-bit or 64-bit mode. By default, the HP Java runs in 32-bit mode. Because RPAS is built as a 64-bit executable on the Itanium OS, the RPAS libraries are unable to link with Java if it is running in 32-bit mode.

By adding the -d64 property to RIDE_OPTIONS, the HP Java distribution is 64-bit mode enabled and the RPAS libraries link successfully.

It is often the case that users may want to use other properties in conjunction with RIDE_OPTIONS. When this is the case, all desired properties should be included within the environmental variable definition separated by white space with the entire definition enclosed in double quotes. An example of this is shown below:

```
export RIDE_OPTIONS="-d64 -Xmx1024m -Drpas.maxProcesses=8"
```

For RPAS

Drpas.maxProcesses - Several RPAS server utilities are designed to take advantage of multi-processor hardware to improve their performance. These utilities attempt to perform operations in parallel, each process running on a distinct processor. The `-Drpas.maxProcesses` argument is used to instruct RPAS how many processors it should attempt to run in parallel when executing one of the server utilities that has multi-processor support when that utility is executed as a part of the `rpasInstall` process.

Note that the `-Drpas.maxProcesses` argument only affects those calls to server utilities made from within the `rpasInstall` process and does not affect calls to server utilities made from the command line or as part of a batch job. The syntax of the property is:

`-Drpas.maxProcesses=###`, where `###` is the number of sub-processes the RPAS server utility should attempt to run in parallel. The number of processes to use should be determined by the administrator of the hardware system based on the physical number of processors available and the amount of load that is acceptable for the `rpasInstall` process to place on the system.

Before You Begin

Before starting the RPAS Installer, the following software must be installed on your system:

- Java 1.6
- Unzip utility

Running the RPAS Installer

1. Locate and extract `RPAS-13.2-unix.zip` into the current directory, which is referred to in this document as `[RPAS_Installer]`.
2. Begin the Installer by changing to the `[RPAS_Installer]` directory and running the following command:

```
./install.sh
```

Note: The command must be executed with the preceding period and forward slash.

If this process is being run on an X-Windows emulator (such as Exceed), a graphical user interface to the Installer appears. If you are running in console mode through a terminal emulator, a text interface to the Installer appears.

In both cases, the requested information is identical, but displayed differently. In the GUI, a checkbox may appear to indicate whether you want a component installed. In text mode, you are prompted for a response of **yes** or **no**.

Note: In text mode, the default value appears in square brackets. To use the default value and continue, press **Enter**. If you want to use a different value, enter the new value. When prompted to create a directory, respond with **yes** and press **Enter**.

3. The RPAS Installer screen appears and displays the components that can be installed to your system. Click **Next** when ready.



RPAS Installer Screen

4. The Oracle Customer Information screen appears.

If you want to receive emails from My Oracle Support about security updates, enter your email address and My Oracle Support password and ensure that the check box is selected. Click **Next** to continue.

Oracle Customer Information Screen

The security updates are provided through Oracle Configuration Manager (OCM). The Oracle Retail OCM collector is included in the installer and is shown in the figure above. The collector only needs to be installed once per ORACLE_HOME, WAS_HOME, or installation root directory. After the initial installation, the OCM collector automatically performs self-updates.

For more information about Oracle Retail OCM, see the following guide:

Oracle Configuration Manager Installer Guide (Note ID: 1071030.1)

This guide describes the procedures and interface of the Oracle Retail OCM collector that is a part of Oracle Retail full releases.

This document is available through My Oracle Support. Access My Oracle Support at the following URL:

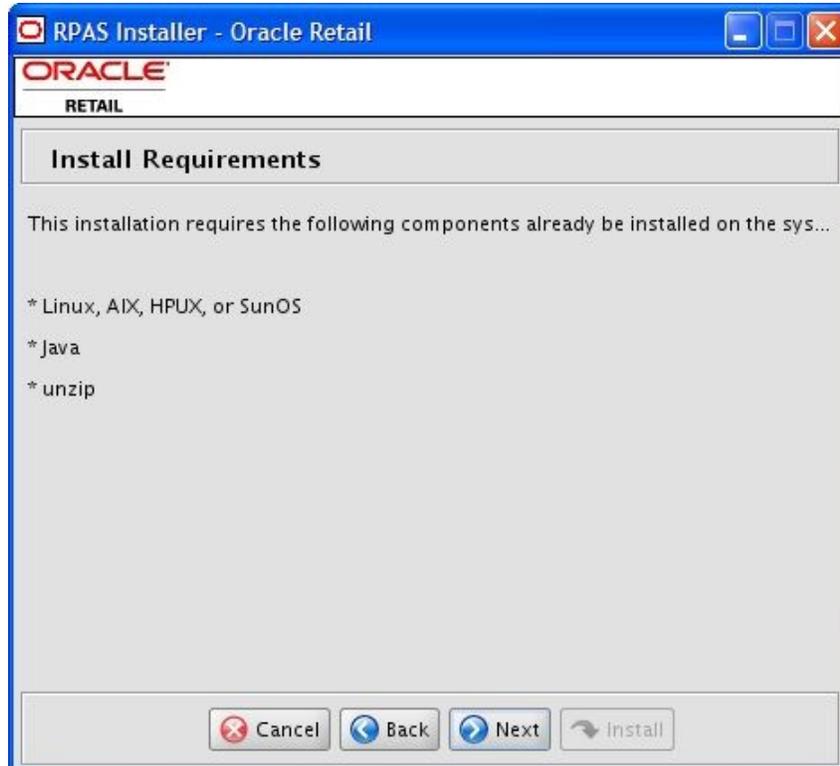
<https://support.oracle.com>

The OCM documentation is located at the following URL:

<http://www.oracle.com/technology/documentation/ocm.html>

Note: If you select to receive security updates but do not provide email and password information or lack an internet connection, additional screens appear. For more information about these screens, see the *Oracle Configuration Manager Installer Guide* described above.

5. The Install Requirements screen appears.
This screen displays the software required to complete this installation. You should already have installed this software on your system. If you have not installed these items, please perform the necessary installations before continuing.
Click **Next** to continue.



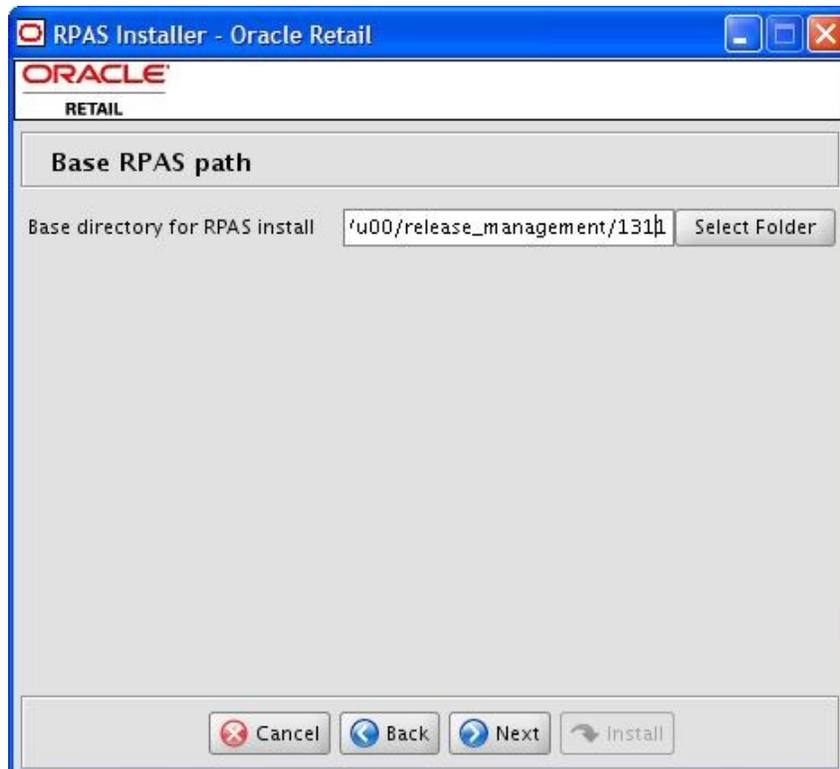
Install Requirements Screen

- The RPAS Base Path screen appears.
Enter the path where the RPAS Server and components will be installed, and click **Next**. This path is used when creating your domains, should you choose to create them.

Notes:

Ensure that the installation path is located outside of the installer directory [RPAS_Installer].

If this directory does not exist, the Installer will prompt you to create it.



Base RPAS Path Screen

7. The RPAS Installations Paths screen appears.

Enter the following path information and click **Next**:

- RPAS Server path – Enter the target directory for your RPAS Server.
- RPAS Tools path – Enter the target directory for your RPAS Configuration Tools.
- Grade Config path – Enter the target directory for your Grade configuration.
- Curve Config path – Enter the target directory for your Curve configuration.
- Directory for Retail login script – Enter the target path where the retaillogin.ksh file will be created on your system.



RPAS Installation Paths Screen

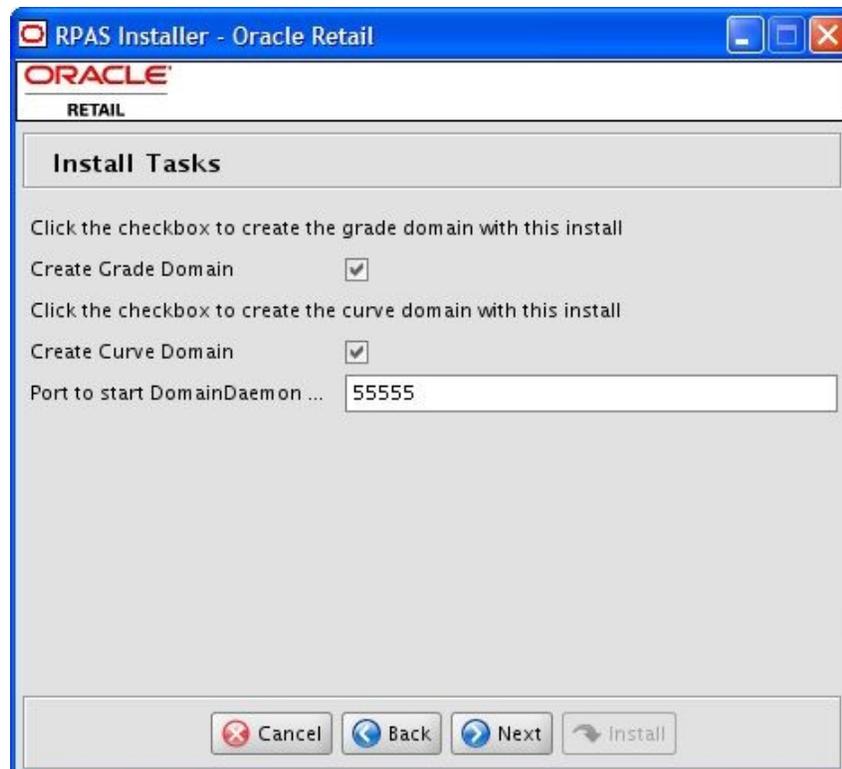
8. The Install Tasks screen appears.

Select the options to be performed by the RPAS Installer, enter the DomainDaemon port number, and click **Next**.

- To create the domains for Grade and Curve, select the appropriate options on the Install tasks screen. These options are selected by default, meaning that they will be created.
- Enter the port where the RPAS DomainDaemon will run. This port needs to be configured for use with the RPAS Clients.
 - For the RPAS Classic Client, this is done with the EConfigure utility as documented in the [RPAS Classic Client Installation and Configuration](#) chapter.
 - For the RPAS Fusion Client, this is done during the RPAS Fusion Client installation as documented in the [Installing the RPAS Fusion Client](#) chapter.

The Installer will validate that this port is not in use. The DomainDaemon will not be running at the end of this installation process, but can be started by using the `startrpas` alias created in the environment setup script.

Note: If you choose to create domains, they are created in a directory called domains under the **Base directory path** you defined on the Base RPAS path screen.



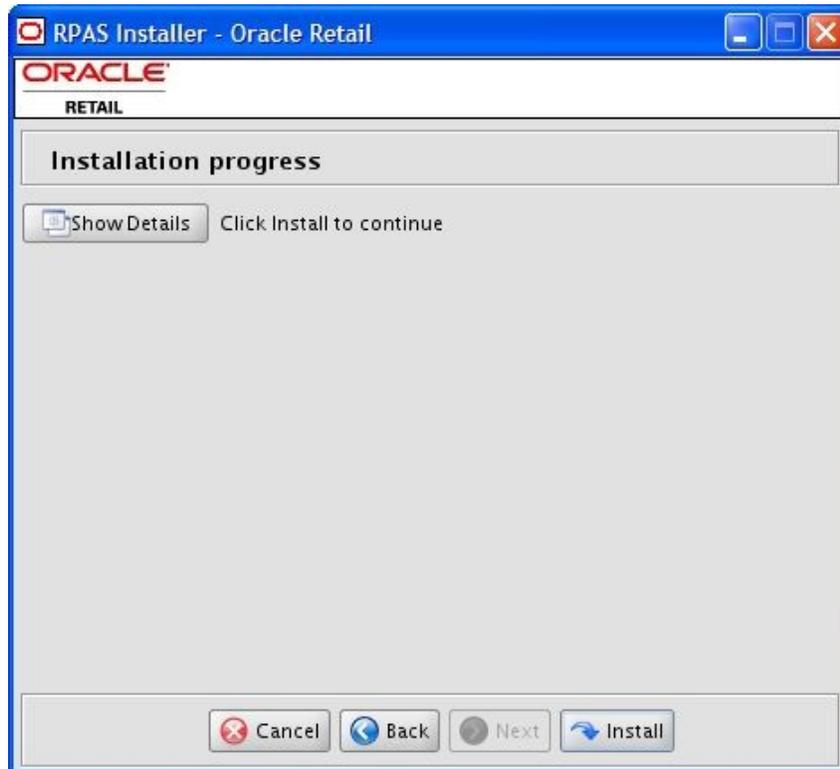
Install Tasks Screen

9. The Installation Progress screen appears.

To display the progress of the components and tasks being performed by the Installer, select **Show Details**. Click **Install** to start the installation process.

You can view the detailed mode at any time during or after the installation.

Note: The installation process can vary depending on your environment. If you chose to create the domains, installation time might take 10 to 30+ minutes depending on server.



Installation Progress Screen

10. When the installation process is complete, the Complete screen appears with Message dialog box.
Click **OK** to close the dialog box.



Complete Screen

11. To view the installation details, select the **Show Details** button. The screen displays two tabs: the Output tab and the Error tab. It is recommended that you review these tabs for any issues that may have occurred during the installation process.
If you want to view the log again at a later date, a text copy was saved in the directory [RPAS_Installer]. The log file will be named based on the product, platform, and a timestamp, followed by the .log extension.
12. Click **Exit** to close the Installer.

Environment Variable Setup Script

To begin using RPAS, run the `retaillogin.ksh` script. The script is located in the root of the base directory where RPAS was installed unless the default was overwritten when specifying directory paths.

Source the script from inside the directory where the script is located:

```
. ./retaillogin.ksh
```

Or, include the full path after the period `“.”`:

```
. /<base_directory>/retaillogin.ksh
```

Notes:

The preceding period and space (`“.”`) must be included at the beginning of the command when executing the script.

Include this path and script in the `.profile` in your home directory (`~/ .profile`) if you want to have this environment setup script run during login.

This script will set up environment variables, such as `RPAS_HOME` and `RIDE_HOME`, which are required for RPAS to run properly.

Installing ODBC Server and Client Components

After the RPAS Server has been installed and the `RPAS_HOME` environment variable has been set, the RPAS ODBC Server can be installed. The ODBC Server is required only if you have ODBC or JDBC applications that use the RPAS domain as data source, or if you want an SQL interface to the RPAS domain.

To install the ODBC Server, change directory to `RPAS_HOME/odbc` and run the shell script `customInstall.sh`. Although the installation script `customInstall.sh` works for non-root users, it is strongly suggested that the script be run by a root user so that the RPAS ODBC Agent can utilize the OS logon authentication method.

Refer to the *RPAS Administration Guide for the Classic Client* or the *RPAS Administration Guide for the Fusion Client* for information about the ODBC server configuration.

Both 32-bit and 64-bit ODBC Clients are available. They are delivered in zip files named `odbcclient32.tar.zip` and `odbcclient64.tar.zip` respectively. To install, copy the appropriate zip file to your preferred location. Unzip and untar the file, and then refer to the *RPAS Administration Guide for the Classic Client* or the *RPAS Administration Guide for the Fusion Client* for more information about the ODBC Client configuration.

Installing JDBC Client

Perform the procedure below to install the JDBC client driver.

Unzip and untar the `jdbcclient.tar.zip` from the `RPAS_HOME` directory.

Refer to the *RPAS Administration Guide for the Classic Client* or the *RPAS Administration Guide for the Fusion Client* for addition information on the JDBC Server.

Determine the Path for the Domains

1. Determine the locations of the domains to be installed.

Note: Domain paths cannot contain spaces. In addition, symbolic links cannot be used for domain paths.

2. Create a directory at the root of the domain to be installed.

DomainDaemon

The RPAS DomainDaemon is the process that must be running on the server for a user to log into an RPAS domain. Before beginning the installation process, a port was specified where the DomainDaemon will run.

Use the aliases `startrpas` and `stoprpas` to start and stop the DomainDaemon on the port specified before installation. This alias is an automated mechanism of starting the DomainDaemon. Alternatively, you can start the DomainDaemon manually. Instructions for the DomainDaemon are included in the *RPAS Administration Guide for the Classic Client* and the *RPAS Administration Guide for the Fusion Client*.

Installing on a Windows Environment

RPAS Server and Tools Installation on Windows

Note: You must install the RPAS Server on Windows to use the RPAS Configuration Tools on Windows. The RPAS Configuration Tools application is supported on Windows XP and Windows 7.

For the purposes of this section, / is used to delineate directories and files in paths. Users in a Windows Command Prompt environment will need to either use \ as the delineation character or use double quotes around paths.

Note: Paths on Windows are not case-sensitive.

Extracting the RPAS Package

Unzip the RPAS-13.2-windows.zip to a newly created directory on the Windows machine. The RPAS-13.2-windows.zip contains all the RPAS components.

Once extracted, the following directories appear:

- ClassicClient – This directory contains the setup.exe used to install the RPAS Classic Client.
- Curve – This directory contains the Curve base configuration file provided with RPAS.
- FusionClient – This directory contains the installer used to install the RPAS Fusion Client.
- Grade – This directory contains the Grade base configuration file provided with RPAS.
- OCM – This directory contains the stand-alone OCM installer.
- ODBC – This directory contains the JDBC and ODBC client drivers.
- RPAS – This directory will be referred to later in this document as **RPAS_HOME**.
- Tools – This directory will be referred to later in this document as **RIDE_HOME**.
- Translations – This folder contains the files for the various languages supported by RPAS.
- Web – This directory contains the files required for an RPAS Web deployment.

Java Environment

During the Java installation, a directory is created to store the Java software. This directory is referred to later in this document as **JAVA_HOME**.

Install ODBC Server Components (Optional)

Perform the procedure below to install the ODBC server:

1. Run setup.exe from Rpas/ODBCServerInstall/iwinnt folder where you extracted the RPAS-13.2-windows.zip file.
2. Follow the installation wizard to proceed to the Server Setup window. In this window, enter the destination folder path.
3. The Server Configuration window appears. If the default values need to be modified, enter the agent service name, agent service port, and the Windows username used to administer this installation of the server.
4. Proceed to the next window, Service Configuration. In this window, enter the service name and service port if the default values need to be modified.
5. Follow the rest of the installation wizard to finish the installation process.

Note: If the installation fails on Windows 7, try installing again in compatibility mode. To do this, perform the following steps:

Right-click the setup.exe file and select the **Troubleshoot compatibility** option. Then, select the **Try recommended settings** option and click **Start the program**. Follow the installation wizard to complete the installation process.

Refer to the *RPAS Administration Guide for the Fusion Client* or the *RPAS Administration Guide for the Classic Client* for addition information on the ODBC Server.

Install ODBC or JDBC Client Components (Optional)

Perform the procedure below to install the ODBC client driver.

1. To install the ODBC client software, run setup.exe from the ODBC\ODBCClient directory where you extracted the RPAS-13.2-windows.zip file.
2. Follow the installation wizard to proceed to the Oracle RPAS ODBC Driver Setup window. Enter the destination folder if the default values need to be modified.
3. Click **Next**. The Data Source Configuration window appears. If the default values need to be modified, enter the data source name, description, service host name, service port, and service data source name.
4. Follow the rest of the installation wizard to finish the installation process.

Perform the procedure below to install the JDBC client driver.

1. Unzip and untar the jdbcclient.tar.zip from the ODBC/JDBC Client directory where you extracted the RPAS-13.2-windows.zip file to a target destination directory.

Refer to one of the *RPAS Administration Guide for the Fusion Client* or the *RPAS Administration Guide for the Classic Client* for addition information on the ODBC Server.

Install Cygwin

Cygwin is required if the RPAS Server is to be installed on Windows operating systems. You can find more information about downloading this product at <http://www.cygwin.com>.

For installation guidance, see the following note on My Oracle Support (<https://support.oracle.com>):

Cygwin Setup Guide for RPAS (Note 1333398.1)

This document details necessary options you should select when installing Cygwin to make it function properly with RPAS.

Determine the Path for the Domains

1. Determine the locations of the domains to be installed.

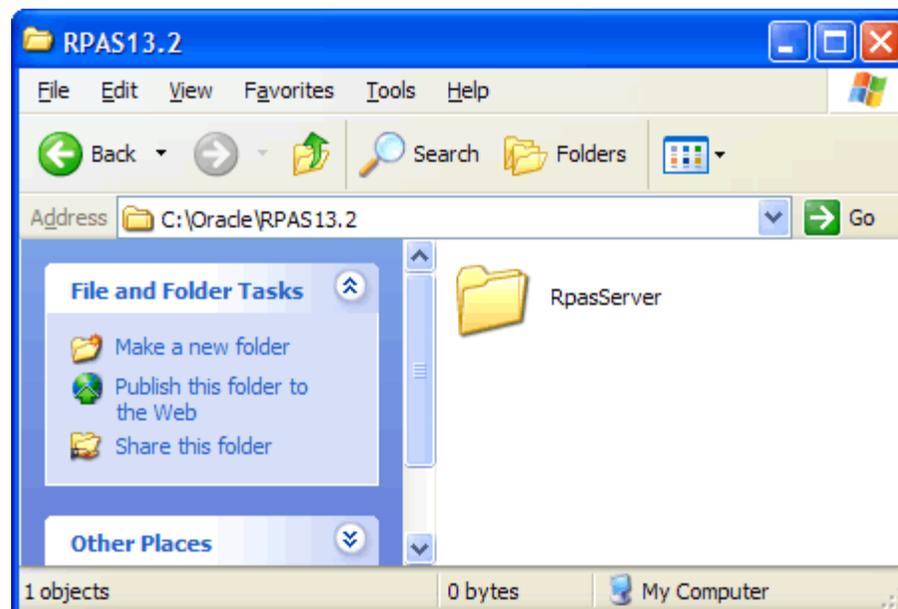
Note: Domain paths cannot contain spaces. In addition, symbolic links cannot be used for domain paths.

2. Create a directory at the root of the domain to be installed.

Installing the RPAS Server

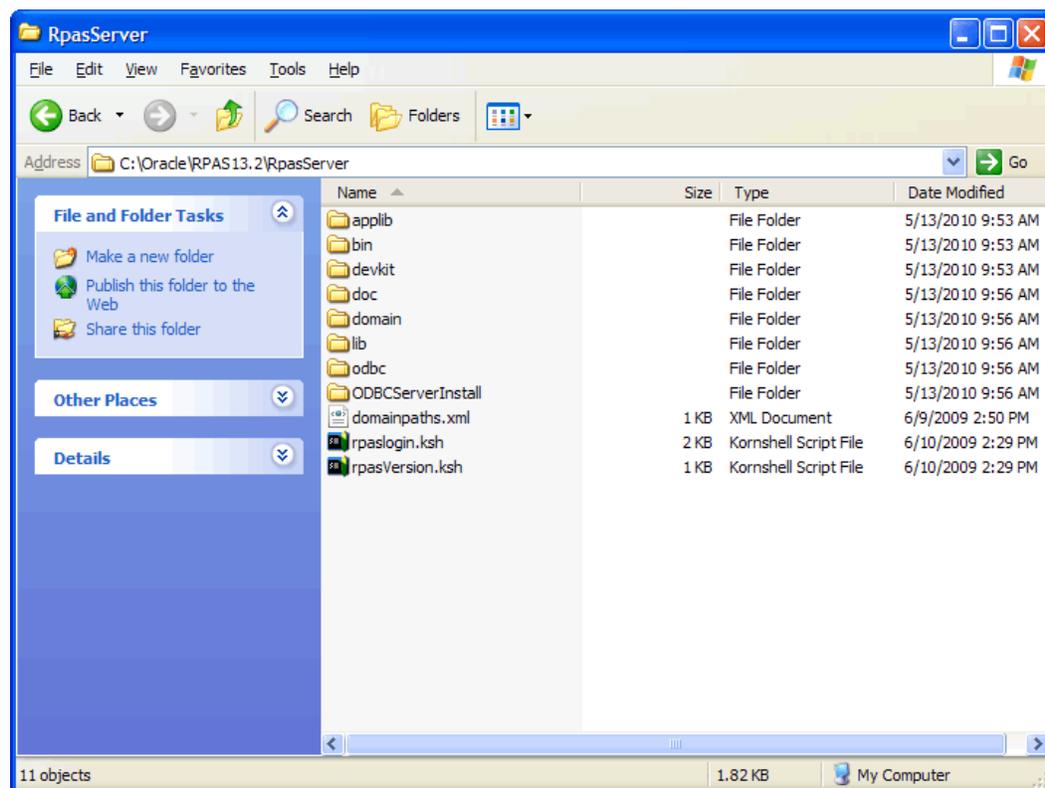
The procedures below provide information about creating the necessary folders on your Windows PC and copying the RPAS Server components to them.

1. On your C drive, create a folder named **Oracle**.
2. Open the Oracle folder and create a folder named **RPAS13.2**.
3. Open the RPAS13.2 folder and create a folder named **RpasServer**.



Example of RpasServer Folder Path

- Copy all files and folders from the Rpas folder where you extracted the Media Pack to the C:\Oracle\RPAS13.2\RpasServer folder.



RpasServer Folder with All RPAS Server Components

This location is referred to as `RPAS_HOME`. An environment variable is defined on your Windows PC to point to this location so that RPAS will function correctly. Refer to [Creating the Required Environment Variables](#) for information on creating the necessary RPAS variables.

Note: When installing on Windows 7, update the permissions for `$RPAS_HOME/bin` directory to include execute permissions.

In a Cygwin session, enter the following commands:

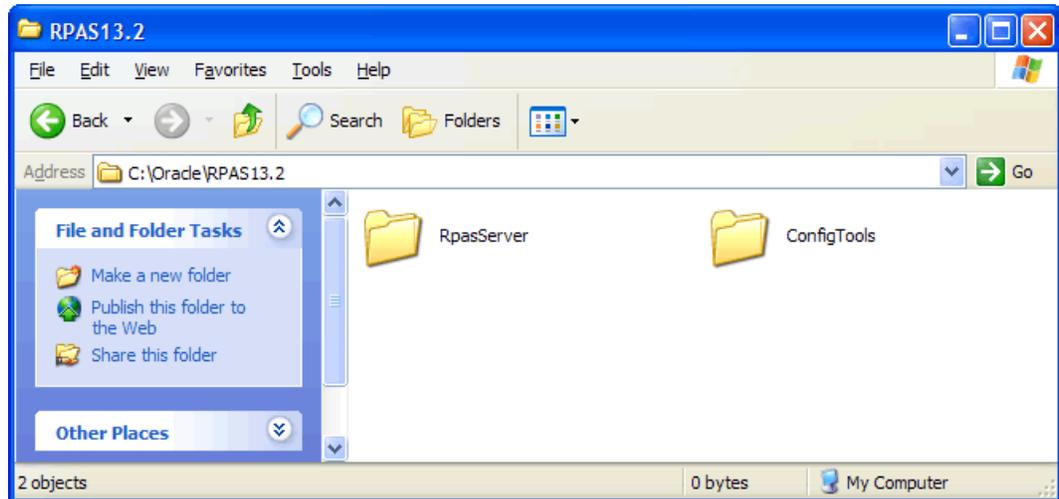
```
cd $RPAS_HOME
chmod +x -R bin
```

where `RPAS_HOME` is set to the correct directory and is in the proper Cygwin format.

Installing Configuration Tools

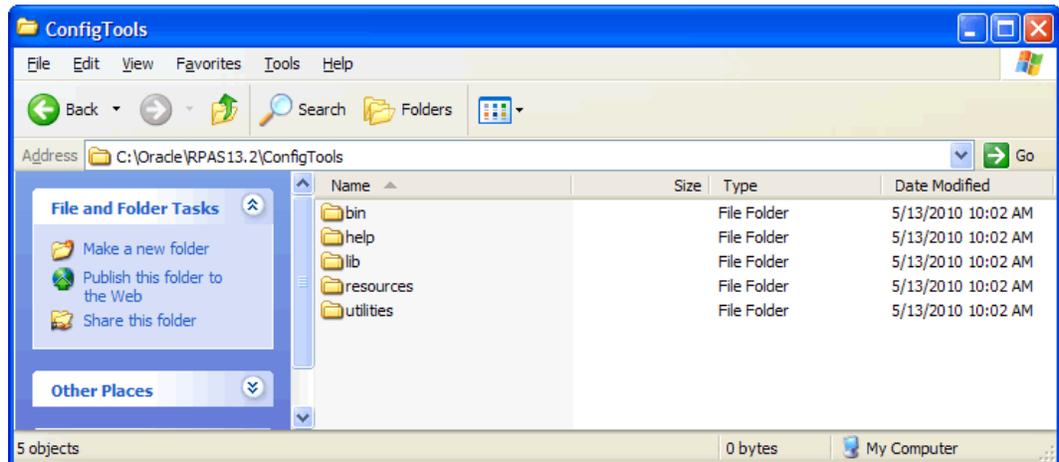
The procedures below provide information about creating the necessary folders on your Windows PC and copying the Configuration Tools components to them.

1. Using Windows Explorer, navigate to your C drive, create a folder named **Oracle\RPAS13.2** folder, which you created in the [Installing the RPAS Server](#) section.
2. Create a folder named **ConfigTools**.



Example of ConfigTools Folder Path

3. Copy all files and folders from the CDROM\Tools folder where you extracted the Media Pack to the C:\Oracle\RPAS13.2\ConfigTools folder.



ConfigTools Folder with All Configuration Tools Components

This location is referred to as RIDE_HOME. An environment variable will be defined on your Windows PC to point to this location so that RPAS will function correctly. Refer to [Creating the Required Environment Variables](#) section for information on creating the necessary RPAS variables.

Oracle Configuration Manager (OCM)

The Oracle Retail OCM installer is packaged in the CDROM\OCM directory. The collector only needs to be installed once per ORACLE_HOME, WAS_HOME, or installation root directory. After the initial installation, the OCM collector automatically performs self-updates.

For more information about Oracle Retail OCM, see the following guide:

Oracle Configuration Manager Installer Guide (Note ID: 1071030.1)

This guide describes the procedures and interface of the Oracle Retail OCM collector that is a part of Oracle Retail full releases.

This document is available through My Oracle Support. Access My Oracle Support at the following URL:

<https://support.oracle.com>

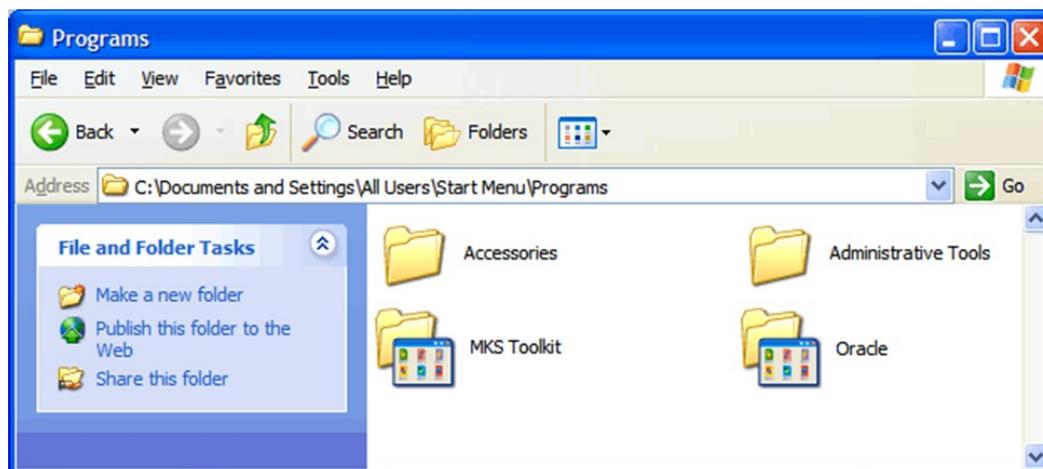
OCM Documentation Link:

<http://www.oracle.com/technology/documentation/ocm.html>

Creating Start Menu Shortcuts to RPAS Applications and Utilities

The procedures below provide information on creating shortcuts to the following applications:

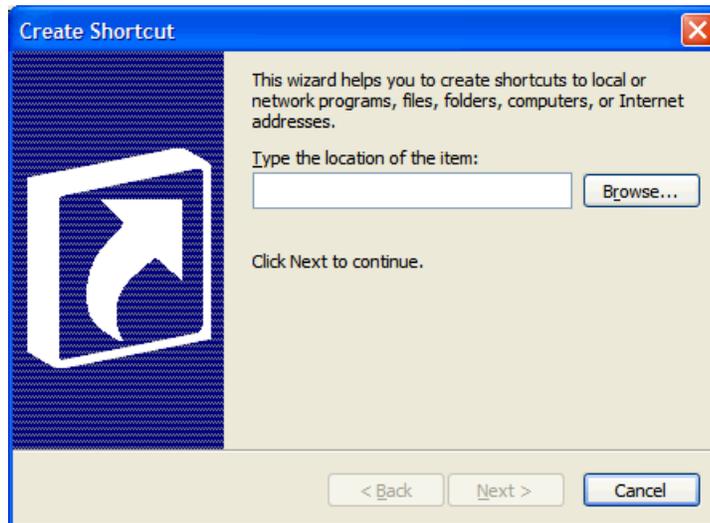
- Configuration Tools
 - Configuration Converter
 - Layered Configuration Manager
1. Open Windows Explorer and navigate to C:\Documents and Settings\All Users\Start Menu\Programs. The Programs window displays all applications and shortcuts available to all users accessing the PC.
 2. Right-click the window and select **New – Folder**. Name this folder **Oracle**.



Programs Windows with Oracle Folder

3. Double-click the Oracle folder. The folder opens in Windows Explorer.
4. Right-click the Oracle window and select **New – Folder**. Name the folder **RPAS 13.2**.

5. Create a shortcut to Configuration Tools:
 - a. Double-click the RPAS 13.2 folder, right-click in the folder window, and select **Shortcut**. The Create Shortcut wizard dialog box appears.



Create Shortcut Wizard Dialog Box

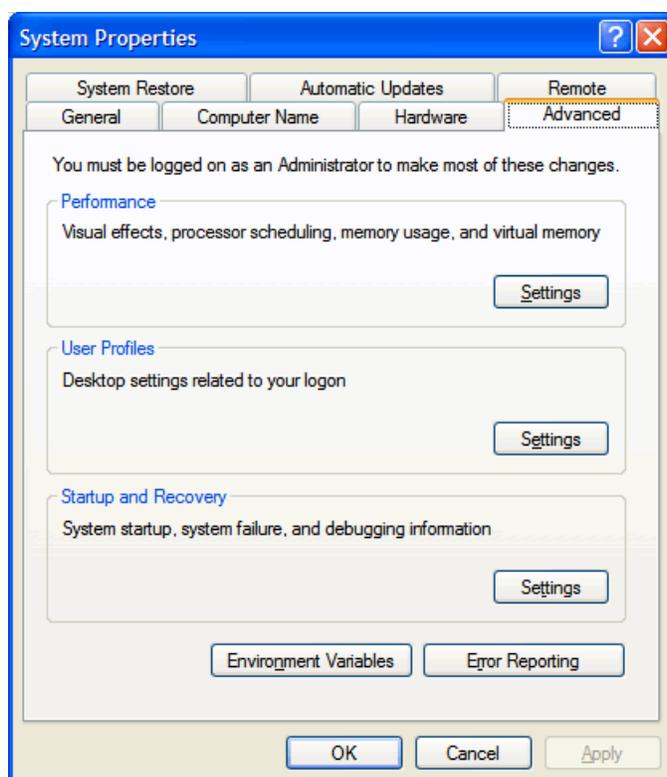
- b. Click **Browse** and navigate to the Oracle\RPAS13.2\ConfigTools\bin folder on your C drive.
 - c. Select **ConfigTools.exe** and click **OK**. The selected path appears in the Create Shortcut wizard.
 - d. Click **Next**. The Select a Title for the Program wizard screen appears. By default, this screen displays the file name and extension selected.
 - e. In the text field, enter **Configuration Tools** as the shortcut name and click **Finish**. The shortcut wizard closes and the Oracle window displays the shortcut to the Configuration Tools.
6. Create a Utilities folder in the Oracle window. Right-click the window and select **New – Folder**. Name this folder **Utilities**.
7. Double-click the **Utilities** folder. The folder opens in Windows Explorer.
8. Create a shortcut for the Configuration Converter:
 - a. Right-click the Utilities folder window and select **Shortcut**. The Create Shortcut wizard dialog box appears.
 - b. Click **Browse** and navigate to the Oracle\RPAS13.2\ConfigTools\utilities folder on your C drive.
 - c. Select **RpasConverter.exe** and click **OK**. The selected path appears in the Create Shortcut wizard.
 - d. Click **Next**. The Select a Title for the Program wizard screen appears.
 - e. In the text field, enter **Configuration Converter – g** as the shortcut name and click **Finish**. The **-g** after the name is required to display the Windows interface for the converter. The shortcut wizard closes and the Oracle window displays the shortcut to the Installer.
9. Verify your shortcuts appear in the Start menu. From the Start menu, select **All Programs – Oracle – RPAS 13.2**. The Configuration Tools and Installer shortcuts should appear. Select the **Utilities** folder and verify the Configuration Converter shortcut appears.

Now that the necessary files and shortcuts are defined, you need to create the necessary environment variables in order to open the applications.

Creating the Required Environment Variables

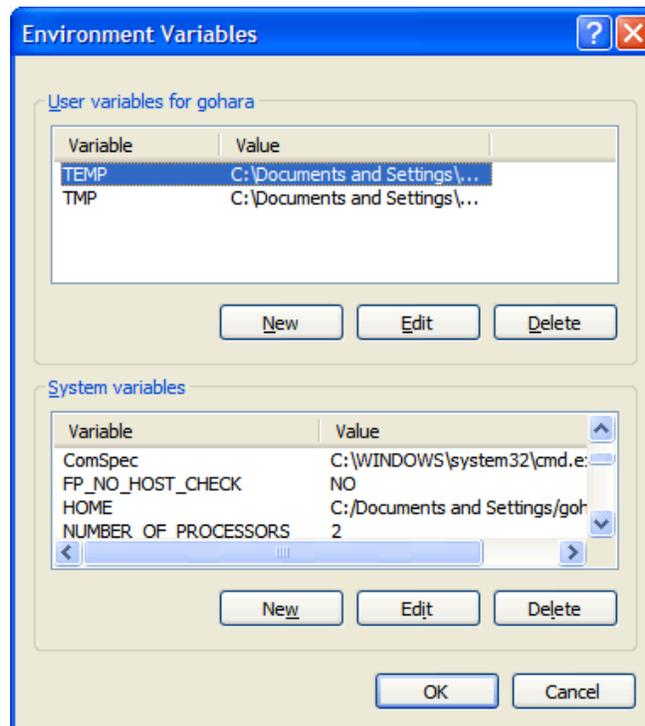
The following steps outline the process to follow and environment variables required to support the RPAS installation and domain install.

1. From the Control Panel, open the System window.
 - a. If your system is using Category view, from the Windows XP Start menu, go to **Control Panel – Performance and Maintenance – System**. If your system is using the Classic view, from the Windows XP Start menu, select **Control Panel** and double-click the **System** icon.
The System Properties window appears.
 - b. Select the **Advanced** tab.
 - c. At the bottom of the window, click **Environment Variables**.



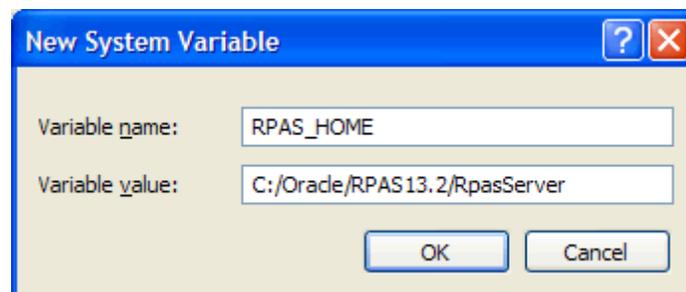
System Properties – Advanced Tab

- d. The Environment Variables window appears.



Environment Variables Window

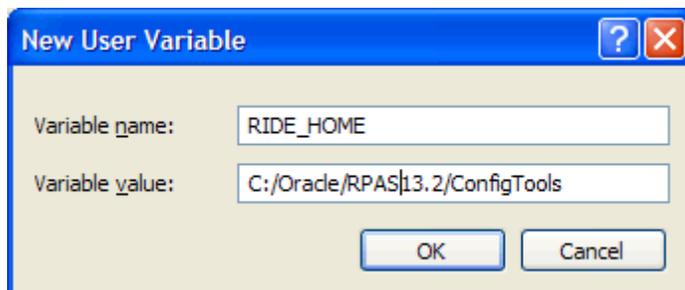
2. Create the RPAS_HOME environment variable.
 - a. Under the System variables box, click **New**. The New System variable dialog box appears.
 - b. Enter **RPAS_HOME** in the **Variable** name field.
 - c. Enter the path the RPAS Server folder in the **Variable value** field.



Example of RPAS_HOME Variable

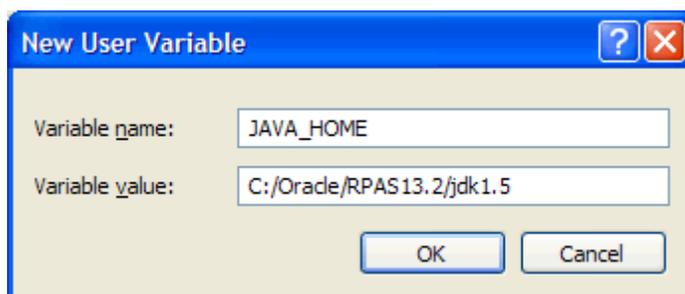
- d. Click **OK**. **RPAS_HOME** now appears in the System variables box.

3. Create the RIDE_HOME environment variable.
 - a. Under the System variables box, click **New**. The New System variable dialog box appears.
 - b. Enter **RIDE_HOME** in the **Variable name** field.
 - c. Enter the path the ConfigTools folder in the **Variable value** field.



Example of RIDE_HOME Variable

- d. Click **OK**. **RIDE_HOME** now appears in the System variables box.
4. Create the JAVA_HOME environment variable.
 - a. Under the System variables box, click **New**. The New System variable dialog box appears.
 - b. Enter **JAVA_HOME** in the **Variable name** field.
 - c. Enter the path the Java folder under Program Files in the **Variable value** field.



Example of JAVA_HOME Variable

- d. Click **OK**. **JAVA_HOME** now appears in the System variables box.
5. Update the Path variable.
 - a. Under the System variables section, select the **Path** environment variable and click **Edit**.
 - b. Insert the complete paths for **RPAS_HOME**, **RIDE_HOME**, and **JAVA_HOME** as shown below:


```
%RPAS_HOME%/bin;%RPAS_HOME%/applib;%RPAS_HOME%/lib;
                    %RIDE_HOME%/bin;%RIDE_HOME%/lib;%JAVA_HOME%/bin;
                    %JAVA_HOME%/bin/client;%JAVA_HOME%/lib;
                    %JAVA_HOME%/jre/bin/client
```

Note: Remember to separate all path statements with semicolons (;).

- c. Select **OK** to save your changes.
6. Close all open windows.

Create a Global Domain Configuration Directory (Optional)

If installing a Global Domain environment, an xml file may be created to determine how the domains will be partitioned and the label of each domain. The following is an example of the structure of the globaldomainconfig.xml file. The items in the example below are as follows:

Path: The location of the root of the domain.

Partitiondim: The partition dimension. Using the below example, pgrp (Group) is the dimension in which the local domains are partitioned. There can only be one partition dimension.

Subpath: The path and name of the local (sub-domain) that contains a specific partition position. ldom+# is the default name given by RPAS to local domains.

Subposition: The position from the partition dimension that is located in the local domain. For example, ldom0 includes all product positions at or below pgrp 1100.

Example file structure:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
<rpas>
  <globaldomain>
    <path>/Domains/RDF132/D01</path>
    <partitiondim>pgrp</partitiondim>
    <subdomain>
      <subpath>/Domains/RDF132/ldom0</subpath>
      <subpositions>1100</subpositions>
    </subdomain>
    <subdomain>
      <subpath>/Domains/RDF132/ldom1</subpath>
      <subpositions>1300</subpositions>
    </subdomain>
    <subdomain>
      <subpath>/Domains/RDF132/ldom2</subpath>
      <subpositions>2500</subpositions>
    </subdomain>
  </globaldomain>
</rpas>
```

Configure the RPAS Clients to Use the Domain

The RPAS Clients must be configured to point to the newly created domains.

Refer to the *RPAS Administration Guide for the Fusion Client* or the *RPAS Administration Guide for the Classic Client* for instructions on how to configure the RPAS Clients.

Using Multiple Versions of RPAS on the Same Windows Machine

If you have multiple versions of RPAS installed on your PC, it is important to note that the environment variables will reference RPAS 13.2 after the installation process is complete.

Note: Previously set environment variables for other versions or installations of RPAS will still exist in the Path System variable, but Windows uses the first set of variables defined in the path, which is where the installation process places them.

To switch to a different version of RPAS that is installed on your machine, you will need to manually update the environment variables each time you want to switch. You can either insert the path to the version you want to use and leave the path to 13.2, or delete the path and either reinstall the 13.2 components or manually reinsert the paths when you want to revert to 13.2.

Base Configuration Installation

Overview and Setup

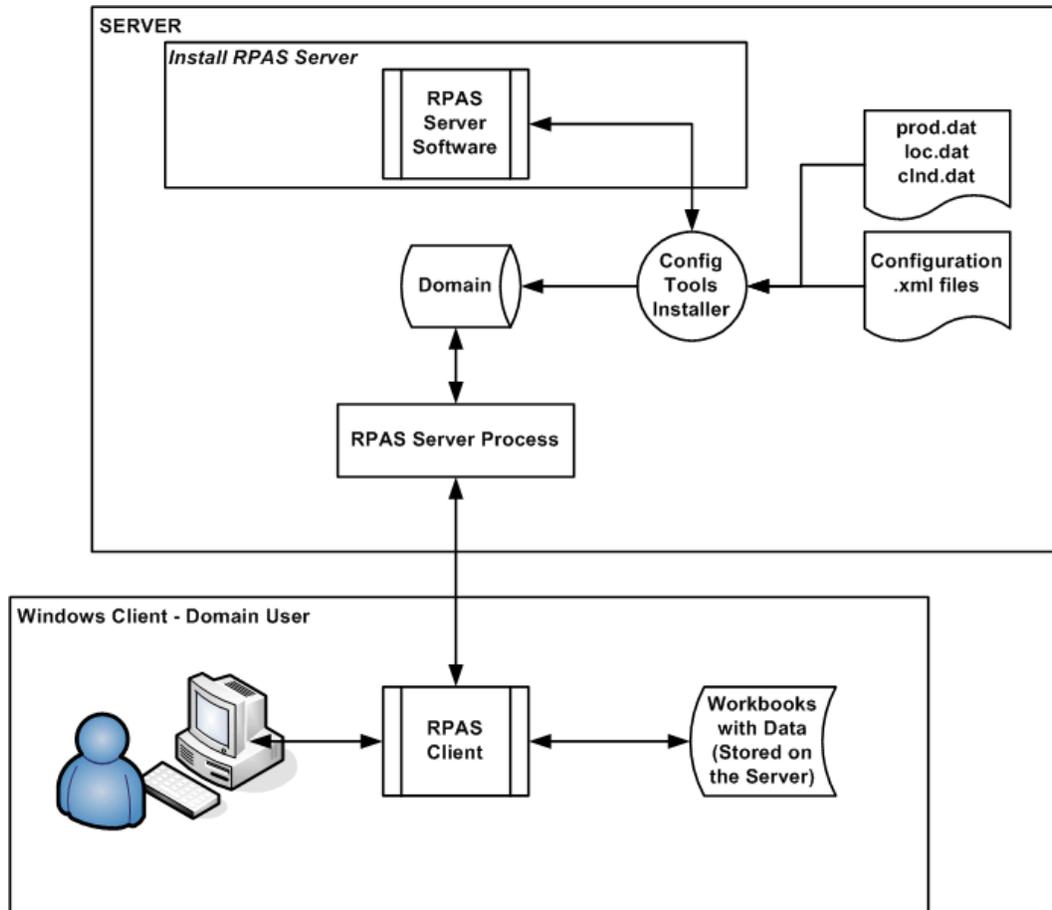
There are three base configurations available with the RPAS archive that can be used to build a domain. These configurations are initially stored in the following folders that were created in the CDROM folder when you extracted the RPAS-13.2-windows.zip file in the location where you downloaded the RPAS Media Pack.

- **Grade** – Grade is a clustering tool that provides insight into how various parts of a retailer’s operations can be grouped together.
- **Curve** – Curve is a profile generation tool used to produce ratios (profiles) from historical data at user-specified intersections.

The following section describes how to use these configurations to build a domain.

Process Overview

The diagram below shows an overview of the steps involved in using a configuration to build and an RPAS domain. This section describes each of the steps in this diagram.



Process Overview Diagram

Verify the Environment Variable Settings

Prior to beginning the domain build process you should have installed RPAS and the Configuration Tools on your server. During that process, you should have set up the necessary environment variables for RPAS and the Configuration Tools.

Perform the following steps to verify that environment variables have been successfully configured.

Open a Cygwin zsh window. Use the commands below to verify your environment settings:

```
echo $RPAS_HOME
echo $RIDE_HOME
echo $JAVA_HOME
echo $PATH
```

Note: The path for the RPAS_HOME variable may change from release to release.

If you make any changes to the environment variable settings, remember to exit and restart your UNIX session in order to execute your .profile and make the changes effective. This step is very important before you continue to the remaining steps.

Note: The paths for your RIDE_HOME and RPAS_HOME variables cannot have spaces in them, unless short file naming conventions are utilized. Given this restriction, do not place your Tools build, Tool Configurations or RPAS installation under Program Files or My Documents. If you do, define all RPAS related environment variables using short (8dot3) file names.

Setting Up Base Configuration Files

Locate and copy/move the desired configuration zip file to a location on your machine. For the purposes of these instructions assume that location is called C:/root/testenv/<Configuration>.

The following subfolders will be created in C:/root/testenv/<Configuration>:

- data/ – hierarchy and sample data files (this path is used in conjunction with the -in [input] option of the `rpasInstall` command)
- configuration/<Configuration_Name> – Configuration files for use in building the domains where <Configuration_Name> will be Sample_Configuration, Grade, or Curve.

Do not change the directory name for the configuration or alter the contents in any way.

- scripts – Scripts used to complete the domain build process.
- resources – Contains the plug-ins for the Configuration Tools. When this resource directory is supplied, it must be copied in its entirety to the RIDE_HOME location. This must be done in order for the Configuration Tools to build domains.

Building the Domain on your Windows PC

This section provides instructions for how to create a domain from the base configurations.

Because building an RPAS domain on Windows is currently a manual process, the person building the domain should be skilled in administering UNIX or Windows servers and should have scripting skills.

Note: The Configuration Tools are supported on all platforms (HP-UX, AIX, and Windows); however, they require Java 1.6. Make sure that the server you will be using has this version of Java.

1. Create a **testenv** (test environment) folder on your C drive.
2. Copy the Curve and Grade folders from the CDROM directory, which is located where you extracted the RPAS-13.2-windows.zip file, to the testenv folder.

Sample Data Files

The domain build process requires the following data files to be available:

- prod.dat
- loc.dat
- clnd.dat
- input data files for measures (<measure>.ovr)

These files should be located in the C:/root/testenv/<Configuration>/data directory. This directory path will be used during the domain build process as the input directory.

Domain Environment Setup

The path that the domain will be created must exist prior to running the domain build process.

For the domain, manually create the directory structure:

C:/root/testenv/domain

The name of the domain will automatically be created under the domain path based on the configuration name. So, for the above domain path, the full path to the domain will be as follows once the domain build process is completed.

C:/root/testenv/domain/<Configuration>

Build the Domain

Use the Tools Installer, the `rpasInstall` script, to build the domain. This executable is located in `bin` directory of your Tools installation. There are different scripts to run based on which configuration is being used to build a domain.

Refer to the *RPAS Configuration Tools User Guide* for more information on the Tools Installer and the specific options available when using the `rpasInstall` command.

Note: The `rpasInstall` script only loads the hierarchy files and builds the domain. It does not load any measure data. The hierarchy files are copied to the `/input/processed` directory of the domain and appended with a time-date stamp.

Grade

1. Copy the `plugins` folder from the `Grade/resources` directory and paste it in the `RIDE_HOME/resources` directory.
2. Enter the following command to build a domain for the Grade configuration:

```
rpasInstall -fullinstall -dh <path to the domain> -cn Grade -ch <path to the configuration> -in <path to the data files> -log <path to the location and name of the installation log> -rf AppFunctions -rf ClusterEngine -p pgrp
```
3. After the domain installation has completed, the sales data must be loaded into the domain using the `loadmeasure` utility. Open a command prompt from the master domain (`/Grade`) and type the following commands:

```
loadmeasure -d . -measure dpos  
loadmeasure -d . -measure rsal  
loadmeasure -d . -measure csal  
loadmeasure -d . -measure psal
```
4. Open a command prompt from the local domain (`/Grade/ldom0`) and type the following command:

```
mace -d . -run -group common_batch
```

Repeat this step for each of the remaining local domains (`/Grade/ldom1`, `/Grade/ldom2`).

Curve

1. Copy the `plugins` folder from the `Curve/resources` directory and paste it in the `RIDE_HOME/resources` directory.
2. Enter the following command to build a domain for the Curve configuration:

```
rpasInstall -fullinstall -dh <path to the domain> -cn Curve -ch <path to the configuration> -in <path to the data files> -log <path to the location and name of the installation log> -rf AppFunctions -rf ClusterEngine -p pgrp
```
3. After the domain installation has completed the sales data must be loaded into the domain using the `loadmeasure` utility. Open a command prompt from the master domain (`/Curve`) and type the following commands:

```
loadmeasure -d . -measure dpos  
loadmeasure -d . -measure rsal  
loadmeasure -d . -measure csal  
loadmeasure -d . -measure psal
```

4. Open a command prompt from the local domain (/Curve/lDom0) and type the following command:

```
mace -d . -run -group common_batch
```

Repeat this step for each of the remaining local domains (/Curve/lDom1, /Curve/lDom2).

Start the RPAS Server (DomainDaemon)

In order to use the domains built from the sample configurations, the RPAS Server must be running on the server/machine where the domain is located.

The RPAS Server is started by executing the RPAS DomainDaemon executable, which provides a centralized process for managing domain connections between the client and the server.

Below are the basic instructions for running the DomainDaemon, which will allow a user to connect to the RPAS Server and a domain using the RPAS Clients. Complete information about the Domain Daemon is located in one of the *RPAS Administration Guides*.

Execute the following command from a UNIX command line (or using Cygwin on Windows). If the environment variables paths have been properly set, this command can be run from any directory.

```
DomainDaemon -port <port_number> -start
```

Where <port_number> is an integer between 1025 and 65535.

This port number must be used in the configuration file for the RPAS Classic Client and Fusion Client. Refer to the [Installing and Configuring the RPAS Classic Client](#) and [Installing the RPAS Fusion Client](#) chapters for additional information.

Installing the RPAS Fusion Client

This chapter describes typical installations of the RPAS Fusion Client. It includes the following sections:

- [Overview of the RPAS Fusion Client](#)
- [Road Map for Installing the RPAS Fusion Client](#)
- [Planning](#)
- [Setting Up the WebLogic Server](#)
- [Installing the RPAS Fusion Client](#)
- [Post-Installation Tasks](#)
- [Troubleshooting](#)

Note: The RPAS Fusion Client is different from the RPAS Web Deployment. For more information, see [RPAS Classic Client Web Deployment](#).

Overview of the RPAS Fusion Client

The RPAS Fusion Client is the Web-based Rich Client for the Retail Predictive Application Server (RPAS) platform developed using the latest Oracle Application Development Framework (ADF). It includes all the features available in the RPAS Windows-based Client and delivers an enhanced user experience that meets the performance and scalability requirements set for the RPAS platform.

Overview of Oracle Wallet

As part of the Oracle Software Security Assurance (OSSA), sensitive information such as user credentials required for the RPAS Fusion Client installation will be encrypted and stored in a secure location called the Oracle Wallet.

When the installation starts, all the necessary user credentials will be retrieved from the Oracle Wallet based on the alias name associated with the user credentials.

Road Map for Installing the RPAS Fusion Client

This section explains how to install and set up the RPAS Fusion Client application, along with the required and optional software.

These instructions assume knowledge of application servers, databases, and application installation or administration, and are intended for system administrators and experienced IT personnel. Before carrying out any of these activities, ensure that you understand UNIX commands (including shell configuration and scripting), directory operations, and symbolic links.

In order to install RPAS Fusion Client for production, you must perform the following tasks in a sequence:

Road Map for Installing the RPAS Fusion Client	
Task	Description
<i>Pre-Installation Tasks</i>	
1	Plan your environment, based on your business needs. For more information on the planning process and the supported configurations, see the chapter Getting Started .
2	Install and set up the RPAS Infrastructure. For more information, see the Installing on UNIX and Linux Environments chapter or Installing on a Windows Environment chapter.
3	Set up the WebLogic server. For more information, see the Setting Up the WebLogic Server section in this chapter.
<i>Installation Task</i>	
4	Access the RPAS Fusion Client installation software, set up the install.properties file, and run the Oracle installer. For more information, see the Installing the RPAS Fusion Client section.
<i>Post-Installation Tasks</i>	
5	Clear the browser cache.
6	Optional: Set up Single Sign-On. For more information, see the Setting Up Single Sign-On section.
7	Optional: Set up the configuration properties file, pivot table styles, and layout and formatting. For more information, refer to the <i>Oracle Retail Predictive Application Server Administration Guide for the Fusion Client</i> .
8	Install and set up the RPAS solution to work with the RPAS Fusion Client. For more information, refer to the Installation Guide of the relevant RPAS solution.

Planning

Before installing the RPAS Fusion Client, you must first determine the performance and availability goals for your business, and then plan the hardware, network, and storage requirements accordingly. This section provides some basic considerations for the installation. It also includes the list of hardware and software requirements.

This section includes the following topics:

- [Planning Your Environment](#)
- [Supported Configurations](#)

Planning Your Environment

Planning your implementation prior to an installation also gives you a better understanding of the environment, and enables you to adapt faster to any future changes in the environment setup.

Use the following steps to plan and prepare the product environment:

1. Plan and design the infrastructure, based on your business needs, for the installation. This includes:
 - Meeting the hardware and associated software requirements.
 - Acquiring the prerequisite software (and licensing).
 - Setting up the load balancers and clusters. For more information, see [Considerations for Setting Up Load Balancers](#).
 - Gathering the capacity data.
 - Planning the data security policies.
 - Designing the backup and recovery strategies.
2. Determine the size of the implementation.
3. Identify source systems. Identify the systems that will exchange data with RPAS Fusion Client.

Considerations for Setting Up Load Balancers

You can choose to implement a software load balancer or network-based load balancer hardware.

Note: Using a load balancer is recommended for scenarios where you need to use multiple servers because one server may not be able to handle the load. The RPAS Fusion Client can be installed and used without implementing a load balancer. This section states the considerations you must take into account when you choose to implement a load balancer.

Before you start setting up a load balancer, you must consider the following:

- **SSL Termination at the load balancer** – This establishes a Secure Socket Layer protocol at the load balancer and replaces the need for the Web server to set up the SSL. To set up SSL Termination at the load balancer, ensure that it is configured with an SSL certificate (self generated or signed by a certificate authority).

- Load Balancing Method – It is recommended to use a *Round Robin* load balancing method, coupled with session affinity. In the Round Robin method, requests are balanced across a list of available servers and servers are selected sequentially. By coupling with session affinity, subsequent requests from a specific user are redirected to the same server assigned for the previous requests from the user. This will avoid the excessive need for the application state to be replicated between the servers.
- KeepAlive – The load balancer uses the KeepAlive feature to test the servers before directing the users to an active server. This test typically involves setting up a keepalive page (such as index.html) or a custom page that the load balancer will attempt to load as per the test. You can choose to set up this feature or set up a monitor that checks the ports on the servers ensuring that they are active. Setting up a monitor is the preferred method.

For more information on setting up load balancers, refer to the documentation included with the Load Balancer.

Supported Configurations

For more information on the software and hardware requirements, refer to the [RPAS Fusion Client](#) table in the [Getting Started](#) chapter.

Note: RPAS Fusion Client is included with the RPAS installation media and requires that the RPAS Server and Configuration Tools are upgraded to Release 13.2.

Setting Up the WebLogic Server

The RPAS Fusion Client is a Web-based client for RPAS. When you run the Fusion Client installer, the installer will require a domain set up over the WebLogic Server to deploy the Fusion Client as an application.

Before installing the RPAS Fusion Client, you must install the WebLogic Server and set up a domain for the Fusion Client. This chapter describes how you can set up the WebLogic Server for the Fusion Client. It includes the following sections:

- [Installing the WebLogic Server](#)
- [Setting Up a WebLogic Domain](#)

Important: Once you set up the WebLogic server and domain, you must take note of the location where you installed the WebLogic domain. You will need to set up this location as an environment variable, `WEBLOGIC_DOMAIN_HOME`, before running the Fusion Client installer.

Installing the WebLogic Server

Install the Oracle WebLogic Server and Application Development Runtime. For Weblogic Server installation instructions, see the Oracle WebLogic Server Documentation for guidance. For Application Development Runtime installation, see the *Oracle Fusion Middleware Installation Guide for Application Developer*.

Note: The Oracle RPAS Fusion Client does not require the Oracle Database Server & MDS repository schema specified by the Oracle Application Development Runtime installation instructions.

In the sections below, the WebLogic installation directory is referred to as the <MW_HOME> directory.

Setting Up a WebLogic Domain

Use the WebLogic Configuration Wizard to create and set up a domain on the WebLogic Server. This section describes how you can create and set up a domain. It also introduces the steps to configure the managed servers and clusters on the application server. For more information on the WebLogic Configuration Wizard and customizing the domain environments with managed servers and OAs, refer to the *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard*.

Note: For headless installations, ensure that you set up the WebLogic Startup script with the `java.awt.headless` parameter. For more information, see [Troubleshooting](#).

To set up a WebLogic domain:

1. Navigate to the <MW_HOME>/common/bin directory, and run the following command to start the WebLogic Configuration Wizard in the graphical mode:

```
sh config.sh
```

2. On the WebLogic Configuration Wizard, follow the steps listed in the table below:

Steps to Setup a WebLogic Domain		
Step	Screen	Task
1.	<i>Welcome Screen</i>	
		Click the Create a new WebLogic domain option, and then click Next .
2.	<i>Select Domain Source Screen</i>	
		Click the Generate a domain configured automatically to support the following products option, select the Oracle JRF - 11.1.1.0 [oracle_common] check box, and click Next . Notes: <ul style="list-style-type: none"> ▪ If the JRF option is not available, you must exit the installation, install the Application Development Runtime, and then restart the domain configuration. ▪ The Basic WebLogic Server Domain - 10.3.4.0 [wlserver_10.3] check box is automatically selected and grayed out.

Steps to Setup a WebLogic Domain		
Step	Screen	Task
3.	<i>Specify Domain Name and Location Screen</i>	
		Enter a domain name in the Domain Name field.
		In the Domain location field, specify the location where you want to install the domain. This location is referred to as the WEBLOGIC_DOMAIN_HOME all through this document.
4.	<i>Configure Administrator User Name and Password Screen</i>	
		Set up an administrative user name and password. Important: Please keep a note of the user name and password. You must specify this user name and password in the ant.install.properties file. The Oracle Installer uses this user account to connect to the WebLogic Server during the RPAS Fusion Client installation.
5.	<i>Configure Server Start Mode and JDK Screen</i>	
		Under WebLogic Domain Startup Mode , click Production Mode .
		Under JDK Selection , select the relevant JDK.
		Click Next .
6.	<i>Select Optional Configuration Screen</i>	
		Select the configurations you want to customize and click Next . Go to Step 7.
		OR
		To proceed directly to creating your domain. Skip the following steps and go to Step 15.
7.	<i>Configure the Administration Server Screen</i>	
		Enter relevant information in the following fields: Name – Valid server name. (String of characters that can include spaces.) Listen address – Listen address for a server instance. Listen port – Valid value for the listen port. SSL listen port – Valid value to be used for secure requests. SSL enabled – Select this check box to enable SSL. You can enter values in the SSL listen port field once you select this check box.
		Click Next .

Steps to Setup a WebLogic Domain		
Step	Screen	Task
8.	<i>Configure Managed Servers Screen</i>	
		Click Add , and then enter relevant information in the following fields: Name – Valid server name. (String of characters that can include spaces.) Listen address – Listen address for a server instance. Listen port – Valid value for the listen port. SSL listen port – Valid value to be used for secure requests. Repeat this step to add more managed servers.
		Click Next .
9.	<i>Configure Clusters Screen</i>	
		This window appears, once you specify the managed servers. Click Add , and then enter relevant information in the following fields: Name – Valid cluster name. (String of characters that can include spaces.) Multicast address – Address used by the cluster members to communicate with each other. Multicast port – Port used by the cluster members to communicate with each other. Cluster address – Address that identifies the Managed Servers in the cluster. Repeat this step to specify more clusters.
		Click Next .
10.	<i>Assign Servers to Clusters Screen</i>	
		Use the arrow buttons and assign the servers to the clusters specified in the domain.
		Click Next .

Steps to Setup a WebLogic Domain		
Step	Screen	Task
11.	<i>Configure Machines Screen</i>	
		<p>Click Add, and then add the machine (Unix-based) information where the Fusion Client will be deployed.</p> <p>If you need to specify a local host because one of your target managed server is on the local host (meaning that it is the same as your admin server host), enter "localhost", "127.0.0.1" or the DNS name.</p> <p>Do not enter an IP address of the local host because it will try to use SSH to copy files to the local host. This is not only unnecessary but may not work depending on the SSH environment and on whether you specified SSH properties. In a clustered installation involving multiple machines, this includes all the systems where the RPAS Fusion Client will be deployed.</p> <p>In other words, the installer looks for all machines defined in this section in order to copy files to each of them. If you do not want to install the product on a host, do not specify that host here.</p> <p>Note: Only define machines where you plan to run managed servers. Any additional machine definitions may unnecessarily cause the installer to copy configuration files to that machine.</p>
		Click Next .
12.	<i>Assign Servers to Machines Screen</i>	
		Use the arrow buttons and assign the managed servers to the machines specified in the domain.
		Click Next .
13.	<i>Target Deployments to Clusters or Servers</i>	
		In the left pane, select the clusters or servers, and then select the relevant application check boxes in the right pane to target them to the specific cluster or managed server.
		For each cluster and managed server, select the Library check box. The WebLogic domain must be set up in such a manner that all the clusters and the relevant managed servers include all the libraries included with the WebLogic server.
14.	<i>Target Services to Clusters or Servers</i>	
		In the left pane, select the clusters or servers, and then select the relevant services check boxes in the right pane to target them to the specific cluster or managed server.
15.	<i>Configuration Summary Screen</i>	
		Review and confirm the configuration summary. Click Next .

Steps to Setup a WebLogic Domain		
Step	Screen	Task
16.	<i>Creating Domain Screen</i>	
		Displays the domain configuration progress.
		After the configuration is complete, click Done .

Setting Up the Maximum Heap Size

Once you have set up the WebLogic domain, ensure that you set up the maximum heap size for the WebLogic server. Setting a maximum heap size depends on your implementation.

For more information on heap sizing, refer to the Oracle Java documentation on Java Performance Tuning and the *Oracle Fusion Middleware Performance and Tuning for Oracle WebLogic Server*.

Configuring the Node Manager for Clusters- based Installation

When setting up a WebLogic cluster with multiple physical machines, ensure that you have completed the following tasks:

- Installed WebLogic Server and the ADF Runtime libraries on identical paths on each machine. For example, the identical path could be
`/u00/webadmin/Oracle/Middleware.`
 This path must exist on each machine's filesystem. If this is not done, the essential ADF runtime libraries will not deploy and the application will not run.
- Copy the WebLogic domain structure from the Admin Server machine to all the managed server machines, ensuring identical filesystem locations. You can use the `pack.sh` and `unpack.sh` utilities to perform the copy. This process also copies the `startWebLogic.sh` script, which can be found in the domain directory. This script can be used to start up the managed servers.

Note: The above considerations do not apply if the WebLogic Server and the domain are installed on a shared filesystem.

There are two startup options for customizing managed server startup parameters: manual startup and Node Manager startup. These options are described below.

Manual Startup

The managed servers in a WebLogic cluster can be started manually by using the `startManagedWebLogic.sh` script in the WebLogic domain directory. You can modify this script to customize server startup parameters such as JVM heap size, garbage collection settings, and so on.

Node Manager-Based Startup

Using NodeManager, choose one of the following options for server startup customization:

- Setup custom server startup parameters for each managed server on the WebLogic Administration Console. These parameters can be accessed on the Server Start tab under **Home -> Servers -> <managed-server-name>**.
- Specify startup parameters in the startup.properties file located in the following filesystem path: <domain-home>/servers/<managed-server-name>/data/nodemanager. This file must exist on each server machine's filesystem.

Note: If a shared filesystem is in use, all the startup.properties files must reside on that filesystem.

- Make NodeManager use a start script. The script on each server can be modified as needed, as described in the [Manual Startup](#) section. Use startWebLogic.sh as the base script and then modified as needed.

For more information about cluster-based installation, including information on installing a WebLogic server and setting up WebLogic clusters, see *Oracle Fusion Middleware Node Manager Administrator's Guide for Oracle WebLogic Server*.

Installing the RPAS Fusion Client

Once you have the WebLogic Server and RPAS installed, you can start installing the RPAS Fusion Client. This chapter describes how you can install the RPAS Fusion Client. It also includes instructions on any post-installation tasks you may need to perform to get the application running.

This section includes the following topics:

- [Accessing the Installation Media](#)
- [Overview of the Installation Process](#)
- [Setting Up Your Installation Properties File](#)
- [Setting Up Environment Variables](#)
- [Installing RPAS Fusion Client in Silent Mode](#)
- [Installing RPAS Fusion Client Using the Swing or Text Mode](#)

Note: Before running the RPAS Fusion Client Installer, ensure that the WebLogic Administration Server is configured and running.

Accessing the Installation Media

The RPAS Fusion Client installation media is included with the RPAS installation media. The installation files for the RPAS Fusion Client are available at the following location in the <RPAS_CD_IMAGE> directory:

<RPAS_CD_IMAGE>/fusion/

Note: <RPAS_CD_IMAGE> is the temporary location where the RPAS installation media files were unpacked.

Overview of the Installation Process

The RPAS Fusion Client Installation media includes an Oracle installer that you must run to install the RPAS Fusion Client. The installer installs the application based on the parameters specified in an installation properties file. You can install the application in the following modes:

- Graphical or Text mode - In graphical or text mode, the Oracle Installer will prompt you to enter or modify the value of properties specified in the installation properties file.
- Silent mode - In silent mode, the installer processes the values set in the properties file with no manual intervention required.

Whichever mode you use, it is recommended that you set up the installation properties file.

Setting Up Your Installation Properties File

In order to install the RPAS Fusion Client, it is recommended that you set up the installation properties file (`ant.install.properties`) before running the installer.

Note: For an installation in silent mode, you must set up the installation properties file before running the installer.

To set up your `install.properties` file:

1. Navigate to the RPAS Fusion Client directory, copy the `ant.install.properties.template` file to the same directory, and rename it `ant.install.properties`.
2. Edit the `ant.install.properties` file using any text editor, specifying values as described within the file, and save it. For more information on the parameters, see [Installation Properties File Parameter Reference](#).

Note: Ensure that the `ant.install.properties` file is available in the same directory with the `install.sh` script.

Installation Use Cases

The following use cases can help you understand what to specify for various installation properties which have values that depend on how your domain is configured and whether you are installing for the first time. Your installation may be similar to one or multiple use cases. If your installation is a combination of use cases, all properties from the relevant use cases apply.

Use Case 1: Installation on a Single Managed Server , Same Host as Admin Server

Installation on a single managed server located on the same physical host as the admin server:

- Set `input.appserver.host` to `localhost` or `127.0.0.1`.
- Since the managed server is on the same physical host as the admin server, set `input.is.multiple.hosts` to `no`.
- Any property that begins with `input.ssh` (SSH-related properties) is inconsequential and can be set to `yes` or `no`.

Use Case 2: Installation on the Admin Server

Use the same guidelines as described in [Use Case 1: Installation on a Single Managed Server](#).

Use Case 3: Installation on a Single Managed Server, Different Host from Admin Server

Installation on a single managed server that is located on a different physical host as the admin server host:

- Set `input.is.multiple.hosts` to `yes`
- Set `input.ssh.retrieve.credentials` to `yes` to retrieve the SSH credentials from the OSSA wallet. Set it to `no` if it is the first execution or if you do not have SSH credentials stored in the wallet and need to specify the credentials yourself.

All other SSH-related properties that begin with `input.ssh` must be set or ignored appropriately, so that files can be copied to the managed server host from the current host which is the admin server host.

Notes:

It is assumed that all machines have the same SSH userid and password.

Because the installer uses SCP to migrate files to remote hosts, you should ensure that you can copy files from the installation host to the target server using SCP and the specified parameters. If you cannot, the installer will fail.

Use Case 4: Installation on a Cluster of Managed Servers, Same Host as Admin Server

Installation of a cluster of managed servers, where all managed servers are located on the same physical host as the admin server:

Use the same guidelines as described in [Use Case 1: Installation on a Single Managed Server](#).

Use Case 5: Installation on a Cluster of Managed Servers, Different Host as Admin Server

Installation onto a cluster of managed servers, where at least one of the managed servers is located on a different physical host as the admin server host:

Use the same guidelines as described in [Use Case 3: Installation on a Single Managed Server, Different Host from Admin Server](#).

Use Case 6: Installation on Multiple Standalone Managed Servers, Same Host as Admin Server

Installation on multiple standalone managed servers that are not part of a cluster, where all managed servers are on the same physical host as the admin server host:

Use the same guidelines as described in [Use Case 1: Installation on a Single Managed Server](#).

Use Case 7: Installation on Multiple Standalone Managed Servers, Different Host as Admin Server

Installation on multiple standalone managed servers that are not part of a cluster, where at least one managed server is located on a different physical host as the admin server host:

Use the same guidelines as described in [Use Case 3: Installation on a Single Managed Server, Different Host from Admin Server](#).

Use Case 8: First Time Installation, Managed Server on Different Host as Admin Server

First time installation where at least one managed server is located on a different physical host as the admin server host:

Set `input.ssh.retrieve.credentials` to no because you have never stored SSH credentials in the OSSA wallet.

Use Case 9: Reinstalling Managed Server on Different Host as Admin Server

You are not installing for the first time, and at least one managed server is located on a different physical host as the admin server host.

- Set `input.ssh.retrieve.credentials` to yes if you have previously stored SSH credentials in the OSSA wallet and want to retrieve them for use.
- Set `input.ssh.retrieve.credentials` to no if you want to store new SSH credentials. For instance, your SSH credentials have changed or you want to overwrite the existing SSH credentials using the same alias or if you wish to use a new alias going forward

Installation Properties File Parameter Reference

The following table describes the parameters in the ant.install.properties file that you must set up before you install the RPAS Fusion Client application:

Installation Properties File Parameter Reference	
Parameter Name	Description
Target Installation Directory	
input.install.target.dir	Specify the location where you want to install the RPAS Fusion Client.
Logs and Temporary Directories	
input.app.log.dir	Specify the location for the application log files.
input.install.log.dir	Specify the location for the installation log files.
input.install.tmp.dir	Specify the location for the temporary file directory used during installation.
WebLogic Admin Server Information	
input.appserver.host	Specify the host name where the application server is running. If the application server is running on the same host as the installer, enter the DNS name, localhost, or 127.0.0.1. Do not enter the IP address of the local machine. If the application server is running on a different host as the installer, enter the DNS name or IP address of the host where the application server is running. You must also specify values for appropriate parameters starting with input.ssh.
input.admin.server.port	Specify the port number associated with the application server.
input.admin.username	Specify the administrative user name for the application server.
input.admin.username.alias	Specify an alias name for the administrative user. Specifying an alias name for the administrative user enhances the security for the application. When left blank, the alias name will default to the administrative user name.
input.admin.password	Specify the password associated with administrative user name.
Application Configuration Information	
input.is.multiple.hosts	To specify that your domain contains at least one managed server machine that is different from the admin server machine, set the value to <i>yes</i> . If all the managed server machines are on the same machine as the admin server machine, then set the value to <i>no</i> . In other words, even if you have a cluster with multiple managed servers or have multiple standalone managed servers, the value should be <i>no</i> if all of these managed servers are on the same machine as the admin server machine.
input.sso.enabled	Specify whether you want to install the application to be Single Sign-On enabled (set the value to <i>yes</i>). To install the application without configuring Single Sign-On, set the value to <i>no</i> . For more information on setting up Single Sign-On, refer to the <i>Oracle Retail Application Server Administration Guide for the Fusion Client</i> .

Installation Properties File Parameter Reference	
Parameter Name	Description
Retrieve SSH Credential Applies to cluster-based installations only.	
input.ssh.retrieve.credentials	<p>To specify that you want to retrieve the existing SSH credentials from the OSSA wallet, set the value to <i>yes</i>. You should set the value to <i>yes</i> if you had run an installation previously and had stored SSH credentials to retrieve them for use.</p> <p>If you do not have SSH credentials stored in the OSSA wallet, (which would be the case if you have not run the installation before), or if you want to overwrite existing SSH credentials or store new SSH credentials, set the value to <i>no</i>. The installer will ask you for the SSH credentials to store.</p> <p>This is only applicable if you are copying files to a remote host (meaning that at least one managed server is on a different physical host than the admin server host).</p>
SSH Credentials Applies to cluster-based installations only.	
input.ssh.authentication.mode	<p>Specify one of the following authentication methods:</p> <p>password - Use the specified password (associated with the SSH User Name) to connect to the remote hosts for copying the files.</p> <p>passphrase - Use the specified passphrase (associated with the SSH User Name) along with the SSH Key to connect to the remote hosts.</p> <p>default - Connect to the remote hosts without a user name, password, or passphrase.</p> <p>This is only applicable if you are copying files to a remote host (meaning that at least one managed server is on a different physical host than the admin server host).</p>
input.ssh.username	<p>Specify the SSH use name to connect to the remote hosts.</p> <p>This is only applicable if you are copying files to a remote host (meaning that at least one managed server is on a different physical host than the admin server host).</p>
input.ssh.username.alias	<p>Specify the alias name associated with the SSH user name. This is used to store or retrieve the SSH credentials to and from the OSSA wallet.</p> <p>This is only applicable if you are copying files to a remote host (meaning that at least one managed server is on a different physical host than the admin server host).</p>
input.ssh.keyfile	<p>Enter the location of the SSH key file. When left blank, the installer retrieves the file from <code>\${user.home}/.ssh/id_dsa</code> directory, where <code>user.home</code> is your home directory.</p> <p>To use this default location, ensure that you have the private DSA key stored at this location.</p> <p>This is only applicable if you are copying files to a remote host (meaning that at least one managed server is on a different physical host than the admin server host).</p>

Installation Properties File Parameter Reference	
Parameter Name	Description
input.ssh.pwOrPassphrase	Based on the authentication method you set, enter the relevant SSH password or passphrase. This is only applicable if you are copying files to a remote host (meaning that at least one managed server is on a different physical host than the admin server host).
Application Server Information	
input.target.server.name	Specify the cluster or managed application server names where you want to install the RPAS Fusion Client.
input.target.server.port	Specify the port that is used to access this application. It can be associated with a cluster, or a particular server, or a load balancer.
Single Sign-On User Information	
input.sso.username1 input.sso.username2 input.sso.username3 input.sso.username4 input.sso.username5	Enter up to five enterprise user account names or user group names for Single Sign-On. These user account and user group names refer to the userids and user groups that are created in the SSO ID store. The usernames you list here inform the installer which users and user groups are allowed to access the Fusion Client. The users listed in the SSO ID store must be users of the RPAS solution deployed on the RPAS Fusion Client. To support Single Sign-On, the Web deployment descriptors need to be configured to allow access pages to SSO-authenticated requests. During the application installation, the names entered here are added to the Web deployment descriptor file (weblogic.xml) as <principal-user> under <security-role-assignment> tag. The RPAS Fusion Client application roles are mapped to the enterprise roles or groups in this deployment descriptor file. For more information on setting up Single Sign-On, refer to the Appendix: Workspace and Oracle Single Sign-On appendix.
Application Deployment Information	
input.app.name	Specify an application name. The RPAS Fusion Client will be deployed over the WebLogic Server with this name.
input.app.context.root	Specify the context root for the application. Once deployed, the RPAS Fusion Client will be available on the Web browser using this context path. For example, in case you set the context root to <i>rav</i> , you can access the application using the URL <i>http://<hostname>:<port>/rav</i> .
input.app.image.repository	Specify the location or a network path where the images used in the application are located.
RPAS Information	
input.rpas.details.known	Specify whether you know the details of the RPAS infrastructure and domain.
input.rpas.connection.spec	Specify the connection specification name for the RPAS domain.

Installation Properties File Parameter Reference	
Parameter Name	Description
input.rpas.server.name	Specify the host name where the RPAS infrastructure is installed.
input.rpas.server.port	Specify the post associated with the RPAS installation.
input.rpas.domain.name	Specify the name of the RPAS domain.
input.rpas.domain.path	Specify the location where the RPAS domain is installed.

Note: When the installation starts, values set for all the user credentials will be encrypted and stored in the Oracle Wallet, and then cleared from the ant.install.properties file. Therefore, you will have to change the installation parameters to retrieve the credentials before attempting to re-install.

Setting Up Environment Variables

Before you start the installation, ensure that the following environment variables are set in the system:

- JAVA_HOME – Location where the Java is installed.
- ORACLE_HOME – Location where the WebLogic Server is installed.
- WEBLOGIC_DOMAIN_HOME – Location where the WebLogic domain is installed. For more information, see [Setting Up the WebLogic Server](#).

Although it is recommended that these variables be set up in relevant bash shell startup files (.bash_profile) of the system, you can also set up the variables using the EXPORT command at the UNIX prompt. For more information on setting up these variables in the startup files, refer to the operating system documentation.

To set up the environment variables for the current session, at the UNIX prompt type the following commands in sequence:

```
export ORACLE_HOME=<path where the WebLogic Server is installed>
For example, /u01/app/oracle/middleware
```

```
export WEBLOGIC_DOMAIN_HOME=<path where the WebLogic domain is installed>
For example, /u01/app/oracle/middleware/user_projects/domains/base_domain
```

Installing RPAS Fusion Client in Silent Mode

This section describes how to install RPAS Fusion Client in silent mode. Silent mode is non-interactive.

Note: If you are reinstalling the Fusion Client after installing an RPAS application, you must backup the `rgbu_planning_home/Help/ohwconfig.xml` file and restore it after the installation. Otherwise, access to the application's help files is lost.

To install RPAS Fusion Client in silent mode:

1. Ensure that you have completed [Setting Up Your Installation Properties File](#).

Note: Ensure that the `ant.install.properties` file is available in the same directory with the `install.sh` script.

2. Ensure that the RPAS Domain and WebLogic Server are running.
3. Navigate to the RPAS Fusion Client installation folder, enter the following command:

```
./install.sh silent
```

install.sh

The `install.sh` command enables you to install RPAS Fusion Client.

Syntax

```
./install.sh <mode name>
```

Arguments

Use any arguments listed below as needed.

- | | |
|----------------|--|
| a. Argument | b. Description |
| c. <mode name> | d. Use this argument to specify the installation mode. You can specify the following: <ul style="list-style-type: none">• swing – to launch a graphical installer. This is the default installation mode. In case you do not specify a mode, the installer defaults to swing mode.• text – to launch the installer with instructions that appear as text on screen.• silent – to start the installation based on the parameters set up in the <code>ant.install.properties</code> file. No manual intervention is required. |

Output

The RPAS Fusion Client installation creates the application directory structure, populates it with appropriate files, and when the installation finishes, it generates a log file and two properties files.

Installing RPAS Fusion Client Using the Swing or Text Mode

If you prefer to use a guided user interface, you can use the Oracle Installer in the swing or text mode. Although this section describes how you can install the RPAS Fusion Client in swing mode, the same on-screen instructions appear as text instructions in the text mode.

Note: If you are reinstalling the Fusion Client after installing an RPAS application, you must backup the `rgbu_planning_home/Help/ohwconfig.xml` file and restore it after the installation. Otherwise, access to the application's help files is lost.

To install RPAS Fusion Client using the Swing Mode:

1. Ensure that you have completed Setting Up Your Installation Properties File.

Note: Although you can run the installation without setting up the installation properties file, ensure that you set up the installation properties file, and then start the installation.

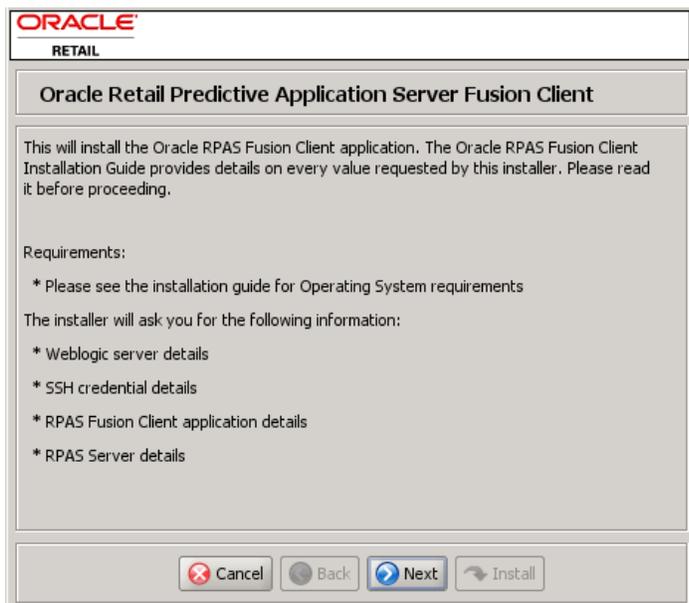
2. Ensure that the RPAS Domain and WebLogic server are running.
3. If you are viewing the installer from a Windows client:
 - On the Windows client, start an Xserver program that enables you to emulate the X terminal.
 - On the application server, set the display for the Windows client where you want the Oracle Installer to display as follows:

```
export DISPLAY=<IP address>:0.0
```

4. From your application server machine, enter the following command:
`./install.sh`

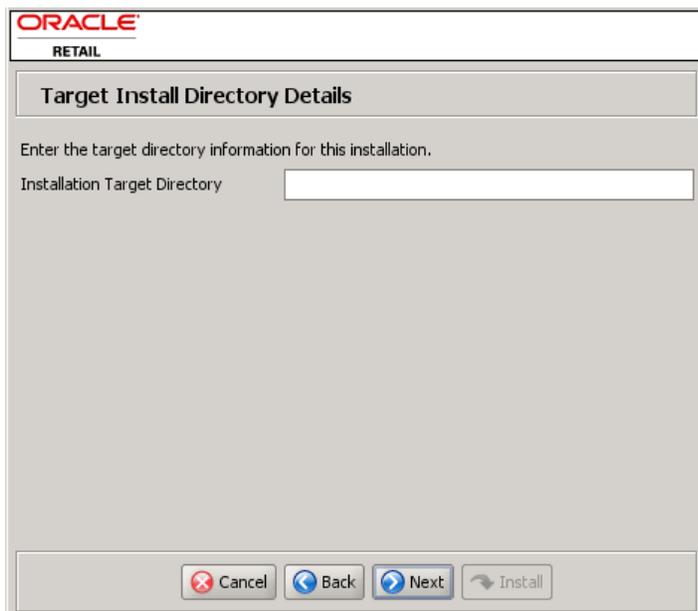
Note: For more information about this command, see [Installing RPAS Fusion Client in Silent Mode](#).

The Oracle Retail Predictive Application Server Fusion Client screen appears.



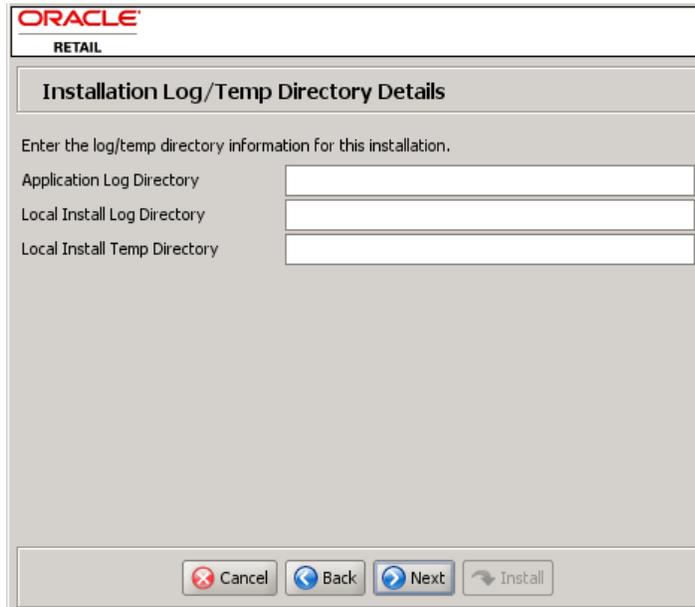
Oracle Retail Predictive Application Server Fusion Client Screen

5. Click **Next**. The Target Install Directory Details screen appears.



Target Install Directory Details Screen

6. In the Installation Target Directory field, specify the location where you want to install the RPAS Fusion Client, and click **Next**. The Installation Log/Temp Directory Details screen appears.



ORACLE
RETAIL

Installation Log/Temp Directory Details

Enter the log/temp directory information for this installation.

Application Log Directory

Local Install Log Directory

Local Install Temp Directory

Cancel Back Next Install

Installation Log/Temp Directory Details Screen

7. Enter the relevant information in the following fields:
 - **Application Log Directory** – Specify the location for the application log files.
 - **Local Install Log Directory** – Specify the location for the installation log files.
 - **Local Install Temp Directory** – Specify the location for the temporary file directory used during installation.

Note: By default, the fields are pre-populated based on the installation directory you specified in the Target Installation Directory screen.

8. Click **Next**. The WebLogic Admin Details screen appears.

WebLogic Admin Server Details Screen

9. On the WebLogic Admin Details screen, enter appropriate information for the following fields:
- **Admin Server Host Name** - Specify the host name of the application server.
 - **Admin Server Port Number** - Specify the port number associated with the application server.
 - **Admin User Name** - Specify the administrative user name for the application server.
 - **Admin User Name Alias** - Specify an alias name for the administrative user. Specifying an alias name for the administrative user enhances the security for the application. When left blank, the alias name will default to the administrative user name.

Note: As part of the Oracle Software Security Assurance, sensitive information such as user credentials for the RPAS Fusion Client are encrypted and stored in a secure location in the application installation directory. This location is called the Oracle Wallet.

When the installation starts, the administrative user credentials will be retrieved from the Oracle Wallet based on the alias name specified in this screen.

- **Admin Password** - Specify the password associated with administrative user name.

10. Click **Next**. The Application Configuration screen appears.

ORACLE
RETAIL

Application configuration

Are you installing to more than one host ?

Yes

No

Do you want to log in via Single Sign-On ?

Yes

No

Cancel Back Next Install

Application Configuration Screen

11. On the Application Configuration screen, specify whether you are installing the application over a cluster of hosts:
 - Select **Yes** to indicate an installation over clusters and go to **Step 13**.
 - Select **No** to indicate an installation on a single target server and go to **Step 16**.
12. Specify whether you want to use the Single Sign-On (SSO) feature to log on to the application. Select **Yes** to indicate that you want use this feature. Go to **Step 18**.

Note: For more information on the setting up Single Sign-On, see the [Setting Up Single Sign-On](#) section.

13. Click **Next**. The Retrieve SSH Credentials? screen appears.

ORACLE
RETAIL

Retrieve SSH Credentials?

Do you want to retrieve saved SSH credentials from a secure wallet for authentication?

Yes, retrieve saved credentials

No, save the credentials to the wallet

Cancel Back Next Install

Retrieve SSH Credentials Screen

14. On the Retrieve SSH Credentials? screen, specify whether you want to retrieve the existing SSH credentials, and click **Next**. The SSH Credentials screen appears.

ORACLE
RETAIL

SSH Credentials

What is your SSH authentication method?

If you do not need to enter a password/passphrase, select the last option and do not enter any credential.

Authentication method:

Password

Passphrase

No need for password or passphrase

Enter an SSH user name and an alias if you selected a password or passphrase method.

SSH User Name

Note: Entering an alias for the SSH user will enhance security for this application. If left, blank it will default to the user name.

SSH User Name Alias

SSH password or passphrase

Cancel Back Next Install

SSH Credentials Screen

15. On the SSH Credentials screen, enter the relevant information in the following fields:

- **Authentication method** - Select one of the following authentication methods:
 - **Password** - Use the specified password (associated with the SSH User Name) to connect to the remote hosts for copying the files.
 - **Passphrase** - Use the specified passphrase (associated with the SSH User Name) along with the SSH Key to connect to the remote hosts.
 - **No need for password or passphrase** - Default option; connect to the remote hosts without a user name, password, or passphrase.
- **SSH User Name** - Specify the SSH user name to connect to the remote hosts.
- **SSH User Name Alias** - Specify the alias name associated with the SSH user name. Specifying an alias name enhances the security for the application. When left blank, the alias name will default to the administrative user name.

Note: As part of the Oracle Software Security Assurance, sensitive information such as user credentials are encrypted and stored in a secure location in the application installation directory. This location is called the Oracle Wallet.

When the installation starts, the SSH user credentials will be retrieved from the Oracle Wallet based on the alias name specified on this screen.

- **SSH password or passphrase** - Based on the authentication method you selected, enter the relevant SSH password or passphrase.
- **SSH Key File Path** - In case you selected the Passphrase option in the **Authentication Method** field, enter the location of the SSH key file. When left blank, the installer will retrieve the file from `${user.home}/.ssh/id_dsa` directory, where `user.home` is your home directory. To use this default location, ensure that you have the private DSA key stored at this location.

Note: The **SSH User Name** and **SSH password or passphrase** fields do not appear when you choose to retrieve the existing SSH credentials (the **Yes, retrieve saved credentials** option in the Retrieve SSH Credentials? screen).

The existing SSH user credentials will be retrieved based on the alias name for the SSH user.

16. Click **Next**. The Application Server Details screen appears.

Application Server Details Screen

17. Enter the cluster or server name and associated port number where you want to deploy the application, and click **Next**. The Single Sign-On screen appears.

Single Sign-On Screen

Note: The Single Sign-On screen appears only when you select the **Yes** option for Single Sign-On in the Application Configuration screen.

18. On the Single Sign-On screen, enter up to five enterprise user account names or user group names for Single Sign-On.

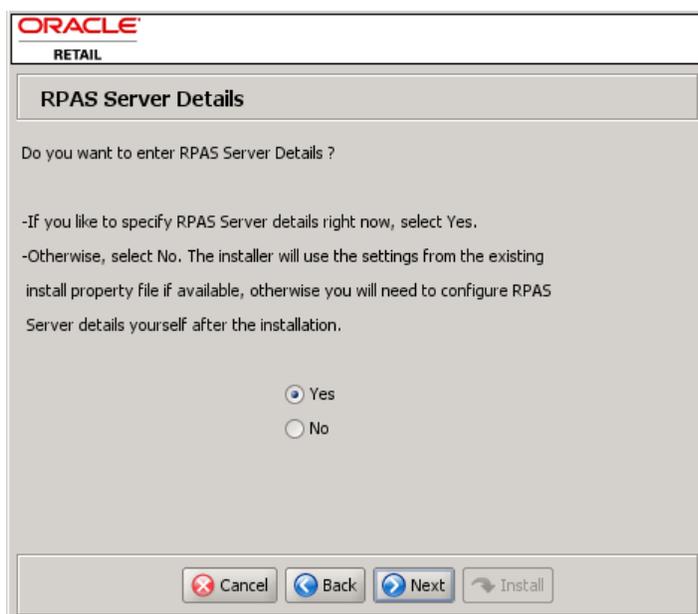
Note: To support Single Sign-On, the Web deployment descriptors need to be configured to allow access pages to SSO-authenticated requests. During the application installation, the names entered here will be added to the Web deployment descriptor file (weblogic.xml) as `<principal-user>` under `<security-role-assignment>` tag. The RPAS Fusion Client application roles are mapped to the enterprise roles or groups in this deployment descriptor file.

19. The Application Deployment Details screen appears.

Application Deployment Details Screen

20. Enter relevant information for the following fields and click **Next**:
- **Application Name** – Specify an application name. The RPAS Fusion Client will be deployed over the WebLogic Server with this name.
 - **Application Context Root** – Specify the context root for the application. Once deployed, the RPAS Fusion Client will be available on the Web browser using this context path. For example, if you set the context root to **rav**, you can access the application using the URL `http://<hostname>:<port>/rav`.
 - **Absolute Path to the Image Repository** – Specify the location or a network path where the images used in the application are located.

21. Click **Next**. The RPAS Server Details screen appears.



RPAS Server Details Screen

22. On the RPAS Server Details screen, select one of the following options:

- Select **Yes** to enter RPAS Server and Domain details in the Installer. During the installation, the relevant RPAS Fusion Client configuration files will be updated based on the information you enter here. Go to **Step 21**.
- Select **No** to skip adding the RPAS Server and Domain details and add them later manually. For more information on adding this configuration manually, refer to the *Oracle Retail Predictive Application Server Administration Guide for the Fusion Client*. Go to **Step 23**.

23. Click **Next**. The RPAS Server Details screen appears again with fields to collect RPAS Server information.

RPAS Server Details Screen

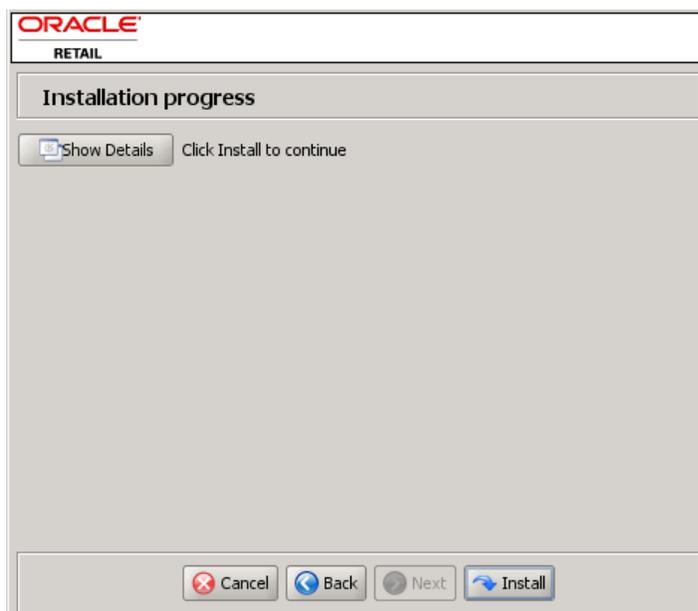
24. Enter relevant information for the following fields:

- **RPAS Connection Specification** - Specify the connection specification name for the RPAS domain.
- **RPAS Server Name** - Specify the host name where the RPAS infrastructure is installed.
- **RPAS Server Port** - Specify the port associated with the RPAS installation.
- **RPAS Domain Name** - Specify the name of the RPAS domain.
- **RPAS Domain Path** - Specify the location where the RPAS domain is installed.

25. Click **Next**. The **Installation Summary** screen appears.

Installation Summary Screen

26. Review the installation summary and click **Next**. The Installation Progress screen appears.



Installation Progress Screen

27. Click **Install** to start the installation.
28. Once the installation is complete, click **Exit** to close the Installer.
29. Restart the WebLogic server, and then verify that the application is accessible over the network. In a Web browser, enter the following URL in the Address bar, and press **Enter**:

`http://<hostname>:<portnumber>/<contextroot>`

Note: In the URL above, <hostname> , <portnumber>, and <contextroot> represent the host name, port, and context root you set up for the application during the installation. You must specify the relevant values in the Address bar.

Post-Installation Tasks

Before you log on to the application, you must set up the Fusion Client based on your business need. This includes the following tasks:

- [Clear the Browser Cache](#)
- [Review the RPAS Configuration Property Files](#)
- [Set Up Single Sign-On](#) (optional)
- Review any [Troubleshooting](#) issues
- Set up the configuration properties file, pivot table styles, and layout and formatting. For more information, refer to the *Oracle Retail Predictive Application Server Administration Guide for the Fusion Client*.
- Set up the RPAS solution to work with the RPAS Fusion Client. For more information, refer to the installation guide of the relevant RPAS solution.

Clear the Browser Cache

After the Fusion Client has been upgraded, ensure that all users clear their browser cache.

Review the RPAS Configuration Property Files

If you install the RPAS Fusion Client over an existing RPAS Fusion Client environment, the installer updates the existing `config/config.properties` and `config/rpas/rpasConfig.properties` files. If you modified any property values in these files, they are overwritten by the files found in the installer. However, the installer backs up the existing files and creates a report on the changed property values and any new properties added that did not exist in the previous version.

Below is an example of the `config.properties`.

```
-rw-r--r-- 1 build users 375 Jun 7 17:18 config.properties
-rw-r--r-- 1 build users 401 Jun 7 16:44 config.properties.201106071642
-rw-r--r-- 1 build users 258 Jun 7 16:44
config.properties.201106071642.mergeReport
```

In this example are the following components:

- `config.properties` is the new file
- `config.properties.201106071642` is the backup of the previous version of `config.properties`
- `config.properties.201106071642.mergeReport` contains what was added, updated, or removed between `config.properties.201106071642` and `config.properties`.

You can review the changes and restore any property value if needed.

Set Up Single Sign-On

RPAS can be set up on an Oracle Single Sign-On (SSO) infrastructure that enables users who are already connected and authenticated to the Oracle Single Sign-On to directly access the RPAS Fusion Client. For more information about Single Sign-On, see [Appendix: Workspace and Oracle Single Sign-On](#).

To set up SSO:

1. Set up the Identity Management Infrastructure for Single Sign-On. Install the following components:
 - Oracle Identity Management (OID) LDAP server. For more information, see the *Oracle Fusion Middleware Installation Guide for Oracle Identity Management 10g Release 3 (10.1.4)*.

- An Oracle Internet Directory repository configured to be used by the OSSO server. (OID uses an Oracle Database as the back end to the SSO server.) See the *Oracle Application Server Single Sign-On Administrator's Guide* and *Oracle Internet Directory Administrator's Guide* at http://download.oracle.com/docs/cd/B28196_01/idmanage.htm
- 2. Ensure that you have a WebLogic domain extended with the JRF template. This was already done before you installed the RPAS Fusion Client. For more information, see the [Setting Up the WebLogic Server](#) section.
- 3. During the RPAS Fusion Client installation, specify that you want to use the Single Sign-On feature to log on to the application and specify the single sign-on user account or group names. For more information, see the section [Installation Properties File Parameter Reference](#) or see steps 12, 17, and 18 in the section [Installing RPAS Fusion Client Using the Swing or Text Mode](#).
- 4. Install the Oracle Fusion Middleware 10g Web Tier Utilities referring to the *Oracle Fusion Middleware Installation Guide for Oracle Web Tier* guide.
- 5. Register the Oracle HTTP server (Web Tier) with the SSO server through the `ssoreg.sh` script. The output of this command is a binary file, denoted here as the `osso.conf` file. Copy `osso.conf` to the Oracle HTTP server:


```
$ORACLE_INSTANCE/config/OHS/<ohs_name>
```

 Then, configure the Oracle HTTP Server to enable the `mod_osso` module. See the Oracle Single Sign-On documentation for further details.
- 6. Obtain the OID information (TCP/IP address and port, whether SSL is used as a transport mechanism and the realm name) from Oracle SSO server administrator. You will also need an administrative login and password, such as that used by the `orcladmin` user.
- 7. Configure the `mod_osso` module to protect the Web resources:
 - a. Copy the `mod_osso.conf` file from the disabled directory to the `moduleconf` directory for editing. For example:


```
From:
ORACLE_INSTANCE/config/OHS/<ohs_name>/disabled/mod_osso.conf
To:
ORACLE_INSTANCE/config/OHS/<ohs_name>/moduleconf/mod_osso.conf
```
 - b. Copy the `osso.conf` file from the location where it was generated to the following location:


```
ORACLE_INSTANCE/config/OHS/<ohs_name>/osso/
```
 - c. Edit the `mod_osso.conf` file and add the following information using values for your deployment. For example, using Oracle HTTP Server as an example:


```
LoadModule osso_module "${ORACLE_HOME}/ohs/modules/mod_osso.so"
<IfModule osso_module>
    OsoIpCheck off
    OsoIdleTimeout off
    OsoSecureCookies off
    OsoConfigFile
ORACLE_INSTANCE/config/OHS/<ohs_name>/osso/osso.conf
    <Location />
        require valid-user
        AuthType Oso
    </Location>
</IfModule>
```
 - d. Navigate to the following location:


```
ORACLE_INSTANCE/config/OHS/<ohs_name>/httpd.conf
```

- e. Edit the `httpd.conf` file and confirm that the `mod_osso.conf` file path for your environment is included. For example:

```
include
/ORACLE_INSTANCE/config/OHS/<ohs_name>/moduleconf/mod_osso.conf
```

- f. Restart the Oracle HTTP Server.
8. Add security providers to your WebLogic domain for SSO. In addition to the OSSO Identity Asserter, Oracle recommends the following Authentication providers:

- DefaultAuthenticator
- OID Authenticator

To add providers to your WebLogic domain for OSSO Identity Assertion:

- a. Log on to the WebLogic Administration Console.
- b. Under the Domain Structure (left navigation pane), click **Security Realms**. The Summary of Security Realms screen appears.
- c. On the Summary of Security Realms screen, click the default security realm (myrealm). The Settings for myrealm screen appears.
- d. On the Settings for myrealm screen, click the Providers tab, and then click **New**. The Create a New Authentication Provider screen appears.
- e. Enter a provider name for the OSSO Identity Asserter, select the relevant type, and then click **OK**. For example,
 - Name: OSSO Identity Asserter
 - Type: OSSOIdentityAsserter
 The new provider is added to the list of providers and appears on the Settings for myrealm screen.
- f. Click the name of the provider you just added.
- g. On the Common tab, set the relevant values for the parameter, set the Control Flag value to **Sufficient**, and then click **Save**.
- h. On the Providers tab, click **DefaultAuthenticator**. The Settings for DefaultAuthenticator screen appears.
- i. Set the Control Flag value to **Sufficient** and click **Save**.
- j. On the Providers tab, click **New**. The Create a New Authentication Provider screen appears.
- k. Enter a provider name for the OID Authenticator, select the relevant type, and then click **OK**. For example,
 - Name: OID Authenticator
 - Type: OracleInternetDirectoryAuthenticator
 The new provider is added to the list of providers and appears on the Settings for myrealm screen.
- l. Click the name of the provider you just added and review the settings. Do not change the Control Flag value until you have verified that the Oracle Internet Directory configuration is valid.

Note: If OID Authenticator is the only provider, to ensure that the WebLogic domain starts properly, the WebLogic Server user account and its granted group memberships must be created in the Oracle Internet Directory.

- m. On the Provider Specific tab, specify relevant values in the following fields:
 - **Host** – specify the host name of the Oracle Internet Directory.
 - **Port** – specify the port number associated with the Oracle Internet Directory.
 - **Principal** – specify an LDAP administrative user. For example, cn=orcladmin.
 - **Credential** – specify the password associated with the LDAP administrative user.
 - **Confirm Credential** – enter the password again to confirm the credential.
 - **User Base DN** – specify the distinguished name (DN) of the tree in the Oracle Internet Directory that contains the users.
 - **Use Retrieved User Name as Principal** – select this check box.
 - **Group Base DN** – specify the distinguished name (DN) of the tree in the Oracle Internet Directory that contains the groups.
 - **Propagate Cause For Login Exception** – select this check box.
 - n. Click **Save**.
 - o. The order in which providers populate a subject with principals is significant. You may want to reorder the list of all providers in your realm and bring the newly added provider to the top of the list.
 - p. Save all configuration settings and restart the WebLogic server for the changes to take effect.
 - q. Log on to the WebLogic Administration Console and navigate to the Settings for myrealm screen. See steps a through c.
 - r. Click the Users and Groups tab to view a list of users and groups included in the configured Authentication providers. You should see user names from the Oracle Internet Directory configuration, which verifies that the configuration is valid and working.
 - If the Oracle Internet Directory instance is configured successfully, you can change the Control Flag.
 - If the Oracle Internet Directory authentication is sufficient for an application to identify the user, then choose the SUFFICIENT flag. SUFFICIENT means that if a user can be authenticated against Oracle Internet Directory, no further authentication is processed. REQUIRED means that the Authentication provider must succeed even if another provider already authenticated the user.
-
- Note:** In case the application requires the user names to be in the same case as stored in the Oracle Internet Directory, select the Use Retrieved User Name as Principal check box in the Provider Specific tab. See step m.
-
- s. Save and activate the changes.
 - t. Restart the WebLogic server.
9. Update the mod_wl_ohs.conf file to send requests to the WebLogic server. To update the mod_wl_ohs.conf file:
- a. Navigate to the location where the mod_wl_ohs_conf file exists and open it for editing. For example,

```
$ORACLE_INSTANCE/ config/ <COMPONENT_TYPE>/ <COMPONENT_NAME>
```

b. Update the file based on the following examples:

- For a single WebLogic instance, specify:

```
<Location /console>
  SetHandler weblogic-handler
  WebLogicHost server1
  WeblogicPort 7001
</Location>
```

- This will forward `/console` from the HTTP server to `/console` on the WebLogic Server with the host name and port number, `server1:7001`.
- For WebLogic instances in a cluster, specify:

```
<Location /myServerURL> SetHandler weblogic-
  handler WebLogicCluster
  server1:7010,server2:7010
</Location>
```

- This will forward `/myServerURL` from the HTTP server to `/myServerURL` on the WebLogic Clusters with the host names and port numbers, `server1:7010` and `server2:7010`.

Notes: In the examples above, `server1` and `server 2` are the host names used for illustrative purposes. Ensure that you use relevant host names, port numbers, and context roots based on your implementation.

Oracle Linux on x86 Architecture

There is a known issue with the JDK running on an Oracle Linux server with Intel x86 processors. For the steps to avoid this error, see the [StringIndexOutOfBoundsException in Oracle Linux on x86 Architecture](#) section in the [Troubleshooting](#) section.

Troubleshooting

This section lists possible solutions for some issues that may occur when using the application.

WebLogic Ulimit Error

An error may occur when starting the WebLogic server if the limit for open files is set too low:

```
<Log Management> <BEA-170019> <The server log file
/u01/Oracle/Middleware/user_projects/domains/domain1/servers/AdminServer/logs/Admi
nServer.log is opened. All server side log events will be written to this file.>
Unhandled exception
Type=Segmentation error vmState=0x00040000
J9Generic_Signal_Number=00000004 Signal_Number=0000000b Error_Value=00000000
Signal_Code=00000033
Handler1=09001000A049F450 Handler2=09001000A0495F70
R0=0000000000000001 R1=000000011757E200 R2=09001000A0340048 R3=09001000A0340178
R4=00000000000000234 R5=0000000000000000 R6=800000000000F032 R7=3000000000000000
R8=000000000012F7D0 R9=0000000000000000 R10=0000000000000000 R11=F0000000301D3600
R12=090000000154ABB0 R13=0000000117588800 R14=0000000116635CA0
R15=0000000116599D00
```

To avoid this issue, set the ulimit to a larger number, at least 8192, by issuing the following command:

```
ulimit -u 8192
```

Error Occurs When Users Access the Charting Feature in the RPAS Fusion Client

If users attempt to access the application from a system that does not have a connected Display/Video card, they may encounter the following error message when they try using the charting feature for the first time:

```
Sun.awt.X11GraphicsEnvironment (initialization failure)
For more information, please see the server's error log for an entry beginning
with: Server Exception during PPR, #
```

To avoid this issue, edit the WebLogic Startup script with the `java.awt.headless` parameter using the following steps:

1. Navigate to the following location on the system where the application server is installed:

```
<WEBLOGIC_DOMAIN_HOME>/bin/
```

2. In a text editor, open the `startWebLogic.sh` script for editing.
3. Append the following parameters to the `set JAVA_OPTIONS = %SAVE_JAVA_OPTIONS%` statement:

```
-Djava.awt.headless=true
```

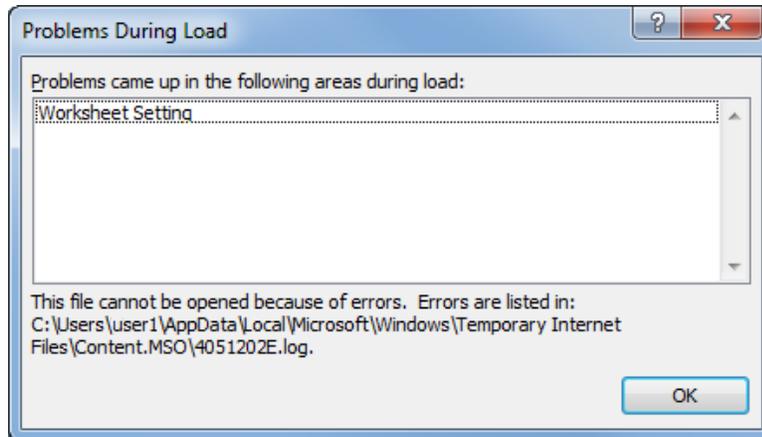
After it is set up, the `JAVA_OPTIONS` statement appears as the example below:

```
set JAVA_OPTIONS=%SAVE_JAVA_OPTIONS% -Djava.awt.headless=true
```

4. Save and close the file.
5. For the changes to take effect, restart the WebLogic Server.

Error Occurs When Users Export to Microsoft Excel in the RPAS Fusion Client

If users attempt to export to Microsoft Excel in the Fusion Client, they may encounter the following error message:



Microsoft Excel Error Message

This error message means that the Excel export file is corrupt due to a headless environment. In the server logs, the error message appears as follows:

```
ERROR view - java.lang.NullPointerException
java.lang.NullPointerException
    at javax.swing.MultiUIDefaults.getUIError(MultiUIDefaults.java:133)
    at javax.swing.UIDefaults.getUI(UIDefaults.java:741)
    at javax.swing.UIManager.getUI(UIManager.java:1002)
    at javax.swing.JPanel.updateUI(JPanel.java:109)
    at javax.swing.JPanel.<init>(JPanel.java:69)
    at javax.swing.JPanel.<init>(JPanel.java:92)
    at javax.swing.JPanel.<init>(JPanel.java:100)
```

To avoid this issue, edit the WebLogic Startup script with the `java.awt.headless` parameter using the following steps:

1. Navigate to the following location on the system where the application server is installed:

```
<WEBLOGIC_DOMAIN_HOME>/bin/
```

2. In a text editor, open the `startWebLogic.sh` script for editing.
3. Append the following parameters to the `set JAVA_OPTIONS = %SAVE_JAVA_OPTIONS%` statement:

```
-Djava.awt.headless=true
```

After it is set up, the `JAVA_OPTIONS` statement appears as the example below:

```
set JAVA_OPTIONS=%SAVE_JAVA_OPTIONS% -Djava.awt.headless=true
```

4. Save and close the file.
5. For the changes to take effect, restart the WebLogic Server.

StringIndexOutOfBoundsException in Oracle Linux on x86 Architecture

If users attempt to access the application from a system that does not have a connected Display/Video card, they may encounter the following error message when they try using the charting feature for the first time:

```
StringIndexOutOfBoundsException in
org.apache.myfaces.trinidadinternal.style.util.CSSGenerationUtils
```

To avoid this issue, you must set up the WebLogic Startup script with the JVM option `-XX:-UseSSE42Intrinsics` parameter. To do this, perform the following steps:

1. Navigate to the following location on the system where the application server is installed:

```
<WEBLOGIC_DOMAIN_HOME>/bin/
```

2. In a Text Editor, open the `startWebLogic.sh` script for editing.
3. Append the following parameters to the `set JAVA_OPTIONS = %SAVE_JAVA_OPTIONS%` statement:

```
-XX:-UseSSE42Intrinsics
```

After set up, the `JAVA_OPTIONS` statement appears like the example below:

```
set JAVA_OPTIONS=%SAVE_JAVA_OPTIONS% -XX:-UseSSE42Intrinsics
```

4. Save and close the file.
5. Remove the cached CSS file, for example:

```
$APP_TMP_FOLDER/public/adf/styles/cache/blafplus-desktop-ezog8j-en-ltr-gecko-
1.9.1.8-cmp.css
```

6. For the changes to take effect, restart the WebLogic Server.
7. Clear the browser cache.

Installing and Configuring the RPAS Classic Client

This section describes the installation of the RPAS Classic Client on Windows machines, and describes how to configure the client to connect to a domain.

Make RPAS Classic Client Files Generally Accessible

Perform the following procedure to make the RPAS Classic Client available.

1. Create a directory on the network from where users will install the RPAS Classic Client.

The location and the name of the directory are up to the system administrator's preferences. This directory is henceforth referred to as the [RPASCLIENT] directory.

2. Copy the files from the following directory on the server:

[RPAS Installation]/Client

to the [RPASCLIENT] directory.

Installing the RPAS Classic Client

The RPAS Classic Client installation procedure is the same for all of the RPAS applications. Perform the following procedures to install the application on a PC.

1. Run the setup.exe file located in the [RPASCLIENT] directory on the network.
2. The welcome page is displayed. Follow the installation procedures as prompted.

The setup program exits after the installation is complete.

Configuration

After creating an RPAS domain and starting the DomainDaemon (see the *RPAS Administration Guide for the Classic Client*), you must configure the RPAS Classic Client to connect to the domain on a server. The eConfigure utility is used to create this connection.

For information about eConfigure, see the eConfigure section in the *RPAS Administration Guide for the Classic Client*.

RPAS Classic Client Web Deployment

The RPAS Classic Client can be deployed through traditional installation or through Web-based environments. This chapter describes the RPAS Web deployment installation process.

Note: Accessing RPAS through a Web-based deployment is different from the RPAS Fusion Client. For more information on the RPAS Fusion Client, see [Installing the RPAS Fusion Client](#).

Web-based deployment allows you to perform the following:

- Use a Web browser to install the RPAS Classic Client application to the user's computer.
- Launch the RPAS Classic Client when it has already been installed.
- Reinstall the RPAS Classic Client when an updated version is available.
- Use the RPAS Web Launch applet to facilitate In-Context Launch integration.

See the [RPAS Classic Client](#) hardware and software table for the supported components used for web deployment of the Classic Client.

These instructions assume that the software specified above has been properly installed and configured. Consult the documentation of each component for installation and configuration information, as well as hardware and software requirements.

For the RPAS Web deployment to function properly, users must have sufficient access to their PCs (typically administrator rights) which allow them to install software, unless the administrator configures the applet to launch only preinstalled RPAS Classic Client. Specifically, they need permission to write into the Windows Registry.

Installation and Configuration Process Overview

The following is an overview of the process that must be followed to install RPAS for Web deployment.

- Install the RPAS Web Application. This installation is completed onto the Web server and involves two components that are included with the RPAS archive (RPAS.war or RPAS_osso.war, and RPASWebData.tar).
- Install multiple versions of RPAS Classic Client files on Web server (as needed).
- Configure the RPAS Servlet by using the deployment descriptor web.xml to specify servlet properties.
- Configure Oracle Single Sign-On for RPAS Web application (if Oracle SSO is used).
- Start the RPAS Web Configuration Utility. Using the URL of the RPAS Web Launch application, administrators and users follow this process to log in to the system.
- Configure Web Launch and Web Tunneling: using the Enterprise Configuration component of the Administration Console, the administrator indicates whether Web tunneling is to be used.
- Perform other Web client administration activities. Once the Web deployment environment is prepared, additional configuration and administration activities, such

as domain configuration and managing administrative users, may need to be performed.

Installing the RPAS Web Application

Installing the RPAS Web Application consists of the following procedures:

- [Preparing your environment](#)
- Installing the necessary files and configuring the environment based on your type of installation. Three different processes may be used for RPAS Web deployment:
 - [Installing on Oracle Application Server with SSO Support](#)
 - [Installing on Oracle Application Server without SSO Support](#)
 - [Installing on WebLogic Server with SSO Support](#)
 - [Installing on WebLogic Server without SSO Support](#)
 - [Installing on Apache Tomcat](#) (a standalone server that is not part of the Single Sign-On (SSO) infrastructure)
- [Configuring the RPAS Servlet](#)
- [Configure and Administer the Web application](#)

Preparing Your Environment

1. Log in to the UNIX server and determine where the RPAS Web files will be installed. A minimum of 50 MB disk space available is required for the application installation files. More space may be needed if multiple versions of RPAS Classic Client are supported on the Web server.
2. Copy the RPAS Web files (RPAS.war, RPAS_osso.war and RPASWebData.tar), located in [RPAS Installation]/Web/ directory, to a newly created staging directory on the UNIX server. This directory will be referred to as STAGING_DIR.
3. Extract the RPASWebData.tar to the appropriate location. This location is referred to as [RPAS_WEB_DATA_DIR] in this document. If the Web server is running in a load balance environment with multiple servers, the RPASWebData files must be deployed to a network drive accessible to all Web server instances. A new directory RPASWebData/ and three subdirectories (client/, db/, and logs/) are created. Verify that the client directory has read permissions and that the db and logs directories have read and write permissions.
4. For each release of RPAS Classic Client, there are two files: buildNumber.txt and client.zip. These files are not part of RPAS Web files. They generally come with RPAS release package. The default installation location for the files is [RPAS_WEB_DATA_DIR]/RPASWebData/client. If multiple client versions are to be supported, both files of each version must be placed under [RPAS_WEB_DATA_DIR]/RPASWebData/client/[VERSION] where [VERSION] is the version number of that release (for example, 13.2, 12.0.10).
5. Perform the necessary procedures based on your type of implementation.

Installing on Oracle Application Server with SSO Support

Perform the following procedure if you are implementing RPAS Web on an Oracle Application Server with Single Sign-On (SSO) Support. This process consists of several steps:

- [Step 1: Meet the Prerequisites for RPAS Web Deployment Using Oracle Single Sign-On \(SSO\)](#)
- [Step 2: Deploying WAR File](#)
- [Step 3: Configuring RPAS Web Launch](#)
- [Step 4: Protect RPAS Root](#)
- [Step 5: Setting RPAS Role for Oracle Single Sign-On Logins](#)

Step 1: Meet the Prerequisites for RPAS Web Deployment Using Oracle Single Sign -On (SSO)

Make sure the following procedures have been performed before installing RPAS Web using Oracle Single Sign-on:

1. Install the Oracle Identity Management 10g Infrastructure server, including the Oracle Internet Directory (OID) LDAP and Oracle Single Sign-On (OSSO) components.
2. Register the RPAS HTTP server with the OSSO server with the `ssoreg.sh` script. The output of this command will be a binary file, denoted here as the `osso.conf` file. Copy `osso.conf` to the RPAS HTTP server:

```
ORACLE_HOME/Apache/Apache/conf/osso/osso.conf)
```

Then, configure the RPAS HTTP Server to enable the `mod_osso` module. See the Oracle Single Sign-On documentation for further details.

3. Obtain the OID information (TCP/IP address and port, whether SSL is used as a transport mechanism and the realm name) from Oracle SSO server administrator. You will also need an administrative login and password, such as that used by the `orcladmin` user.
4. Set the instance security provider for the RPAS OC4J to Oracle Identity Management (the OID server). You will need to use the information gathered in Step 3. Verify this by checking the file:

```
ORACLE_HOME/j2ee/<RPAS_OC4J_INSTANCE>/config/jazn.xml
```

An example file is shown below:

```
<?xml version = '1.0' encoding = 'UTF-8'?>
<jazn xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="http://xmlns.oracle.com/oracleas/schema/jazn-
10_0.xsd" schema-major-version="10" schema-minor-version="0" provider="LDAP"
location="ldap://myhost.mycompany.com:636" default-realm="us">
  <property name="ldap.cache.purge.initial.delay" value="1200000"/>
  <property name="ldap.password"
value="{903}1DjczxpuY0o2BQg2MqM0YReAax9p+Po0wuU0oKU67as"/>
  <property name="ldap.cache.initial.capacity" value="20"/>
  <property name="ldap.user"
value="orclApplicationCommonName=jaznadmin2,cn=JAZNContext,cn=products,cn=OracleContext"/>
  <property name="ldap.cache.policy.enable" value="true"/>
  <property name="ldap.cache.purge.timeout" value="1200000"/>
  <property name="ldap.cache.realm.enable" value="true"/>
  <property name="ldap.cache.session.enable" value="true"/>
</jazn>
```

Note: Only LDAP specific properties are listed above. Your values of these may also differ. See the Oracle Application Server administration documentation for further details.

5. Restart the RPAS OC4J to incorporate your changes.

Step 2: Deploying WAR File

Perform the following procedure to deploy the WAR file to the Oracle Application Server.

1. Log on Oracle Enterprise Manager/Application Server Control as oc4jadmin.
2. Select the intended application group for your deployment.
3. Click **Deploy**.
4. Select **Archive is already present on the server where Application Server Control is running** (second option) and type the following in Location on Server field:

```
[STAGING_DIR]/RPAS_osso.war
```
5. Click **Next**.
6. In the Application Name field, type **RPAS Web Launch**.
7. In the Context Root field, type **RPAS** (or anything you choose). This name is referred to as [CONTEXT_ROOT] in this document. Click **Next**.
8. Click the pen icon for Select Security Provider, and select **Oracle Identity Management** from the list.
9. Select **Enable SSO Authentication** check box. Click **OK**.
10. Click **Deploy**.

Step 3: Configuring RPAS Web Launch

To configure RPAS Web Launch, you need to modify one property file (propfile). This file is located in the following path:

```
[OAS_INSTALL_DIR]/j2ee/home/applications/RPAS Web Launch/[CONTEXT_ROOT] /WEB-INF/config
```

where [OAS_INSTALL_DIR] is the installation location of the OAS server.

1. Locate the following information in propfile and replace [RPAS_WEB_DATA_DIR] with the actual location and [HOSTNAME] with the host name of the server)

```
dbPath=[RPAS_WEB_DATA_DIR]/RPASWebData/db
clientSourceDir=[RPAS_WEB_DATA_DIR]/RPASWebData/client
tunnelLogFile=[RPAS_WEB_DATA_DIR]/RPASWebData/logs/tunnel.[HOSTNAME].log
webLogFile=[RPAS_WEB_DATA_DIR]/RPASWebData/logs/rpasPortal.[HOSTNAME].log
isOSSO=true
debug=false
classicMode=false
launchPreinstalledOnly=false
supportMultipleVersions=true
```

The isOSSO flag must be set to true. Set launchPreinstalledOnly to true if only pre-installed RPAS Client can be launched. Set classicMode to true to support RPAS Client release 9.4. To support multiple versions of RPAS Client, set supportMultipleVersions to true.

2. Restart RPAS Web Launch Application from the Oracle Enterprise Manager/Application Server Control screen.

Step 4: Protect RPAS Root

Perform the following to protect the RPAS root location in the Oracle HTTP Server configuration.

1. In the file `ORACLE_HOME/Apache/Apache/conf/mod_ossso.conf`, add the following protected resource to `<IfModule mod_ossso.c>` section.

```
<Location /[CONTEXT_ROOT]/web>
require valid-user
AuthType Basic
</Location>
```

2. Restart the Oracle HTTP Server to ensure the modification is applied.

Note: Protect `/[CONTEXT_ROOT]/web` instead of `/[CONTEXT_ROOT]` to let through `/[CONTEXT_ROOT]/tunnel` for Web tunneling.

Step 5: Setting RPAS Role for Oracle Single Sign-On Logins

There are two types of roles for RPAS Web Launch users: `RPAS_ADMIN_ROLE` and `RPAS_USER_ROLE`.

Both roles can launch the RPAS Client and connect to a domain. Only `RPAS_ADMIN_ROLE` has the privilege to access the ADMIN interface.

It is recommended that `RPAS_USER_ROLE` be assigned to most Oracle Single Sign-On (OSSO) users (such as planner) and `RPAS_ADMIN_ROLE` be assigned for a few power users (such as executive). This needs to be performed on the LDAP server storing the OSSO user information.

The roles can be created manually by using the OID DAS application. The `oidadmin` application or LDIF scripts may also be used to create users and roles. See the OID documentation for more details.

Creating a Group Using the DAS Application

Use the following procedure to use the DAS application to create the `RPAS_USER_ROLE` and `RPAS_ADMIN_ROLE` accounts.

1. Access the DAS application.

The DAS application is found in the following location:

```
http://<host>:<port>/oiddas
```

where `<host>` and `<port>` are the infrastructure or Oracle Identity Management OAS.

Example: `http://mspdev65.us.oracle.com:7778/oiddas`

2. Click **login** and log in as **orcladmin** or another privileged user.
3. On the right-side of the page, select the **Directory** tab, and on the left side, select the **Groups** link.
4. Click **Create**.
5. Enter the name of the group to create (for example, `RPAS_ADMIN_ROLE`), the Display name, and a description.
6. Ensure the Group Visibility option is set to **Public**.
7. If needed, add additional users. Scroll to the Members section and select **Add User** to add users to this group. You can also nest other groups as well. Members can be added at a later time as needed.
8. When all members have been added, click the **Submit** button.

Creating Groups from an LDIF Script

Alternatively, you can create the groups using an LDIF script. A template is given below. Note that the following token @BASE_REALM_DN@ needs to be replaced with installation specific value of the Realm Distinguished Name. Also, this script creates the group with a single member, orcladmin, as part of the group. Additional members may be added with more uniquemember attributes. You can execute the script with the ldapadd command supplied with the Oracle Identity Management infrastructure OAS server.

Example:

```
# The LDIF template for creating RPAS_ADMIN_ROLE and RPAS_USER_ROLE groups in OID.
# RPAS_USER_ROLE
dn: cn=RPAS_USER_ROLE,cn=groups,@BASE_REALM_DN@
objectclass: top
objectclass: groupOfUniqueNames
objectclass: orclGroup
cn: RPAS_USER_ROLE
displayname: RPAS user role
description: RPAS user role
orclisvisible: true
owner: cn=orcladmin,cn=users,@BASE_REALM_DN@
uniquemember: cn=orcladmin,cn=users,@BASE_REALM_DN@

# RPAS_ADMIN_ROLE
dn: cn=RPAS_ADMIN_ROLE,cn=groups,@BASE_REALM_DN@
objectclass: top
objectclass: groupOfUniqueNames
objectclass: orclGroup
cn: RPAS_ADMIN_ROLE
displayname: RPAS Administrator role
description: RPAS Administrator role
orclisvisible: true
owner: cn=orcladmin,cn=users,@BASE_REALM_DN@
uniquemember: cn=orcladmin,cn=users,@BASE_REALM_DN@
```

Once the RPAS groups have been created with the LDIF script, you could use the OID DAS application to add more members to them.

For more information about Single Sign-On, see [Appendix: Workspace and Oracle Single Sign-On](#).

Installing on Oracle Application Server without SSO Support

Perform the following procedure if you are implementing RPAS Web on an Oracle Application Server without Single Sign-On (SSO) Support. This process consists of several steps:

- [Step 1: Deploying the WAR File](#)
- [Step 2: Configuring RPAS Web Launch](#)

Step 1: Deploying the WAR File

Perform the following procedure to deploy the WAR file to the Oracle Application Server without SSO.

1. Log on Oracle Enterprise Manager/Application Server Control as oc4jadmin.
2. Select the intended application group for your deployment and click **Deploy**.
3. Select **Archive is already present on the server where Application Server Control is running** (second option).
4. In the Location on Server field, type:
[STAGING_DIR]/RPAS.war
5. Click **Next**.
6. In the Application Name field, type **RPAS** (or anything you choose).
7. In the Context Root field, type **RPAS** (or anything you choose).
This name is referred to as [CONTEXT_ROOT] in this document.
8. Click **Next**.
9. Click **Deploy**.

Step 2: Configuring RPAS Web Launch

To configure RPAS Web Launch, you need to modify one property file (propfile). This file is located in the following path:

```
[OAS_INSTALL_DIR]/j2ee/home/applications/RPAS Web Launch/[CONTEXT_ROOT] /WEB-INF/config
```

where [OAS_INSTALL_DIR] is the installation location of the OAS server.

1. Locate the following information in propfile and replace [RPAS_WEB_DATA_DIR] with the actual location and [HOSTNAME] with the host name of the server)

```
dbPath=[RPAS_WEB_DATA_DIR]/RPASWebData/db
clientSourceDir=[RPAS_WEB_DATA_DIR]/RPASWebData/client
tunnelLogFile=[RPAS_WEB_DATA_DIR]/RPASWebData/logs/tunnel.[HOSTNAME].log
webLogFile=[RPAS_WEB_DATA_DIR]/RPASWebData/logs/rpasPortal.[HOSTNAME].log
isOSSO=false
debug=false
classicMode=false
launchPreinstalledOnly=false
supportMultipleVersions=true
```

Please note that isOSSO flag must be set to false. Set launchPreinstalledOnly to true if only pre-installed RPAS Client can be launched. Set classicMode to true to support RPAS Client release 9.4. Set supportMultipleVersions to true to support multiple versions of RPAS Client.

2. Restart RPAS Web Launch Application from the Oracle Enterprise Manager/Application Server Control screen.

Installing on WebLogic Server with SSO Support

Perform the following procedure if you are implementing RPAS Web on a WebLogic server with Single Sign-On (SSO) support. This process consists of several steps:

- [Step 1: Meet the Prerequisites for RPAS Web Deployment Using Oracle Single Sign-On \(SSO\)](#)
- [Step 2: Configure the mod_weblogic Module](#)
- [Step 3: Register the RPAS HTTP Server with the OSSO Server](#)
- [Step 4: Configure the mod_osso Module to Protect the RPAS Root](#)
- [Step 5: Add providers to your WebLogic domain for OSSO](#)
- [Step 6: Set Up the WAR File](#)
- [Step 7: Deploy the WAR File](#)
- [Step 8: Set RPAS Role for Oracle Single Sign-On Logins](#)

Step 1: Meet the Prerequisites for RPAS Web Deployment Using Oracle Single Sign -On (SSO)

Make sure the following procedures have been performed before installing RPAS Web using Oracle Single Sign-on:

1. Install the Oracle Identity Management (OID) LDAP server. For more information, refer to the *Oracle Fusion Middleware Installation Guide for Oracle Identity Management 10g Release 3 (10.1.4)* and *Oracle Fusion Middleware Administrator's Guide for Oracle Internet Directory*.
2. Obtain the OID information (TCP/IP address and port, whether SSL is used as a transport mechanism and the realm name) from Oracle SSO server administrator. You will also need an administrative login and password, such as that used by the orcladmin user.
3. Install the Oracle WebLogic Server, create a WebLogic domain, and extend it with the JRF template. For more information, refer to the Oracle WebLogic Server documentation.
4. Install the Oracle HTTP Server 11g as a front end to the Oracle WebLogic server by referring to the *Oracle Fusion Middleware Installation Guide for Oracle Web Tier 11g Release 1 (11.1.2)*.

Step 2: Configure the mod_weblogic Module

Configure the mod_weblogic module using the following steps:

1. The Oracle HTTP Server uses the httpd.conf file as its base configuration file. Ensure that the httpd.conf references the mod_weblogic module configuration file (mod_wl_ohs.conf).
2. Navigate to the location where the mod_wl_ohs.conf file exists and open it for editing. For example, \$ORACLE_INSTANCE/config/OHS/<ohs_name>
3. Update the file based on the following examples:

- For a single WebLogic instance, specify:

```
<Location /[CONTEXT_ROOT]>
  SetHandler weblogic-handler
  WebLogicHost server1
  WeblogicPort 7001
</Location>
```

This will forward /console from the HTTP server to /console on the WebLogic Server with the host name and port number, server1:7001.

- For WebLogic instances in a cluster, specify:

```
<Location /[CONTEXT_ROOT]> SetHandler
  weblogic-handler WebLogicCluster
  server1:7010,server2:7010
</Location>
```

This will forward /myServerURL from the HTTP server to /myServerURL on the WebLogic Clusters with the host names and port numbers, server1:7010 and server2:7010.

Note: In the examples above, server1 and server 2 have been used for illustrative purposes. Ensure that you use relevant host names, port numbers, and context root based on your implementation.

Step 3: Register the RPAS HTTP Server with the OSSO Server

Register the RPAS HTTP server with the OSSO server with the ssoreg.sh script. The output of this command will be a binary file, denoted here as the osso.conf file. Copy osso.conf to the RPAS HTTP server

```
ORACLE_INSTANCE/config/OHS/<ohs_name>/osso/osso.conf
```

Then, configure the RPAS HTTP Server to enable the mod_osso module. For more information, refer to the following documentation:

- *Oracle Application Server Single Sign-On Administrator's Guide 10g Release 3 (10.1.4).*
- *Oracle Identity Management Application Developer's Guide 10g Release 3 (10.1.4).*

Step 4: Configure the mod_osso Module to Protect the RPAS Root

Perform the following to protect the RPAS root location in the Oracle HTTP Server configuration. You must configure the mod_osso module to protect the Web resources:

1. Copy the mod_osso.conf file from the disabled directory to the moduleconf directory for editing. For example:

From:

```
ORACLE_INSTANCE/config/OHS/<ohs_name>/disabled/mod_osso.conf
```

To:

```
ORACLE_INSTANCE/config/OHS/<ohs_name>/moduleconf/mod_osso.conf
```

2. Copy the osso.conf file from the location where it was generated to the following location:

```
ORACLE_INSTANCE/config/OHS/<ohs_name>/osso/
```

3. Edit the mod_osso.conf file and add the following information using values for your deployment. For example, using Oracle HTTP Server as an example :

```
LoadModule osso_module "${ORACLE_HOME}/ohs/modules/mod_osso.so"
<IfModule osso_module>
    OsoIpCheck off
    OsoIdleTimeout off
    OsoSecureCookies off
    OsoConfigFile ORACLE_INSTANCE/config/OHS/<ohs_name>/osso/osso.conf
    OsoHTTPOnly off
    <Location /[CONTEXT_ROOT]/web>
        require valid-user
        AuthType Oso
    </Location>
</IfModule>
```

4. Navigate to the following location:

```
ORACLE_INSTANCE/config/OHS/<ohs_name>/httpd.conf
```

5. Edit the httpd.conf file and confirm that the mod_osso.conf file path for your environment is included. For example:

```
include
ORACLE_INSTANCE/config/OHS/<ohs_name>/moduleconf/mod_osso.conf
```

6. Restart the Oracle HTTP Server.

Note: Protect /[CONTEXT_ROOT]/web instead of
/[CONTEXT_ROOT] to let through /[CONTEXT_ROOT]/tunnel for
Web tunneling.

Step 5: Add providers to your WebLogic domain for OSSO

In addition to the OSSO Identity Asserter, Oracle recommends the following Authentication providers:

- DefaultAuthenticator
- OID Authenticator

To add providers to your WebLogic domain for OSSO Identity Assertion:

1. Log on to the WebLogic Administration Console.
2. Under the Domain Structure (left navigation pane), click **Security Realms**. The Summary of Security Realms screen appears.
3. On the Summary of Security Realms screen, click the default security realm (myrealm). The Settings for myrealm screen appears.
4. On the Settings for myrealm screen, click the **Providers** tab, and then click **New**. The Create a New Authentication Provider screen appears.
5. Enter a provider name for the OSSO Identity Asserter, select the relevant type, and then click **OK**. For example,

Name: OSSO Identity Asserter
Type: OSSOIdentityAsserter

The new provider is added to the list of providers and appears on the Settings for myrealm screen.
6. Click the name of the provider you just added.
7. On the Common tab, set the relevant values for the parameter, set the Control Flag value to **Sufficient**, and then click **Save**.
8. On the Providers tab, click **DefaultAuthenticator**. The Settings for DefaultAuthenticator screen appears.
9. Set the Control Flag value to **Sufficient** and click **Save**.
10. On the Providers tab, click **New**. The Create a New Authentication Provider screen appears.
11. Enter a provider name for the OID Authenticator, select the relevant type, and then click **OK**. For example,

Name: OID Authenticator
Type: OracleInternetDirectoryAuthenticator

The new provider is added to the list of providers and appears on the Settings for myrealm screen.
12. Click the name of the provider you just added and review the settings. Do not change the Control Flag value until you have verified that the Oracle Internet Directory configuration is valid.

Note: If OID Authenticator is the only provider, to ensure that the WebLogic domain starts properly, the WebLogic Server user account and its granted group memberships must be created in the Oracle Internet Directory.

13. On the Provider Specific tab, specify relevant values in the following fields:
 - **Host** – specify the host name of the Oracle Internet Directory.
 - **Port** – specify the port number associated with the Oracle Internet Directory.
 - **Principal** – specify an LDAP administrative user. For example, cn=orcladmin.
 - **Credential** – specify the password associated with the LDAP administrative user.
 - **Confirm Credential** – enter the password again to confirm the credential.
 - **User Base DN** – specify the distinguished name (DN) of the tree in the Oracle Internet Directory that contains the users.
 - Use Retrieved User Name as Principal – select this check box.
 - **Group Base DN** – specify the distinguished name (DN) of the tree in the Oracle Internet Directory that contains the groups.
 - Propagate Cause For Login Exception – select this check box.
 14. Click **Save**.
 15. The order in which providers populate a subject with principals is significant. You may want to reorder the list of all providers in your realm and bring the newly added provider to the top of the list, similar to the following:
 - OSSO Identity Asserter
 - OID Authenticator
 - Default Authenticator
 - Default Identity Asserter
 16. Save all configuration settings and restart the WebLogic server for the changes to take effect.
 17. Log on to the WebLogic Administration Console and navigate to the Settings for myrealm screen. See steps a through c.
 18. Click the **Users and Groups** tab to view a list of users and groups included in the configured Authentication providers. You should see user names from the Oracle Internet Directory configuration, which verifies that the configuration is valid and working:
 - If the Oracle Internet Directory instance is configured successfully, you can change the Control Flag.
 - If the Oracle Internet Directory authentication is sufficient for an application to identify the user, then choose the SUFFICIENT flag. SUFFICIENT means that if a user can be authenticated against Oracle Internet Directory, no further authentication is processed. REQUIRED means that the Authentication provider must succeed even if another provider already authenticated the user.
- Note:** In case the application requires the user names to be in the same case as stored in the Oracle Internet Directory, select the Use Retrieved User Name as Principal check box in the Provider Specific tab. See step 13.
19. Save and activate the changes.
 20. Restart the WebLogic server.

Step 6: Set Up the WAR File

Perform the following procedure to set up and deploy the WAR file to the WebLogic Server.

1. **Configure the Application for the OSSO Identity Asserter** – The WebLogic Server supports adding multiple authentication-methods. If you are setting up an OSSO Identity Asserter in the WebLogic Application Console, the Web application using the OSSO Identity Asserter must have its auth-method set to CLIENT-CERT. After deploying the application on the WebLogic Server, all web.xml files in the application EAR file must include CLIENT-CERT in the element auth-method for the appropriate realm. To edit web.xml for the OSSO Identity Asserter

- a. Locate the web.xml file in the application WAR file. For example:

```
WEB-INF/web.xml
```

- b. Locate the auth-method for the appropriate realm and enter CLIENT-CERT. For example:

```
<login-config>
  <auth-method>CLIENT-CERT</auth-method>
  <realm-name>myrealm</realm-name>
</login-config>
```

- c. Save the file.

- d. Create a new weblogic.xml file with the following contents (replace [CONTEXT_ROOT] with the actual context root):

```
<?xml version='1.0' encoding='UTF-8'?>
<weblogic-web-app xmlns="http://xmlns.oracle.com/weblogic/weblogic-web-app"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://xmlns.oracle.com/weblogic/weblogic-web-app
  http://xmlns.oracle.com/weblogic/weblogic-web-app/1.0/weblogic-web-app.xsd">

  <context-root>[CONTEXT_ROOT]</context-root>

  <security-role-assignment>
    <role-name>RPAS_ADMIN_ROLE</role-name>
    <principal-name>RPAS_ADMIN_ROLE</principal-name>
  </security-role-assignment>

  <security-role-assignment>
    <role-name>RPAS_USER_ROLE</role-name>
    <principal-name>RPAS_USER_ROLE</principal-name>
  </security-role-assignment>

</weblogic-web-app>
```

- e. Save the weblogic.xml file to the same location of the web.xml file in the WAR file.

2. **Configure the RPAS Web Launch** – To configure RPAS Web Launch, you need to modify one property file (propfile) located within the WEB-INF/config directory of the RPAS_osso.war file.

- a. Locate the following information in propfile and replace [RPAS_WEB_DATA_DIR] with the actual location and [HOSTNAME] with the host name of the server)

```
dbPath=[RPAS_WEB_DATA_DIR]/RPASWebData/db
clientSourceDir=[RPAS_WEB_DATA_DIR]/RPASWebData/client
tunnelLogFile=[RPAS_WEB_DATA_DIR]/RPASWebData/logs/tunnel.[HOSTNAME].log
webLogFile=[RPAS_WEB_DATA_DIR]/RPASWebData/logs/rpasPortal.[HOSTNAME].log
isOSSO=true
debug=false
classicMode=false
launchPreinstalledOnly=false
supportMultipleVersions=true
```

Note: The `isOSSO` flag must be set to `true`. Set `launchPreinstalledOnly` to `true` if only pre-installed RPAS Classic Client can be launched. Set `classicMode` to `true` to support RPAS Classic Client release 9.4. To support multiple versions of RPAS Classic Client, set `supportMultipleVersions` to `true`.

- b. Save the file and the WAR archive.

Step 7: Deploy the WAR File

Perform the following procedure to deploy the WAR file to the WebLogic Server:

1. Log on to the WebLogic Administration Console.
2. Under the Domain Structure (left navigation pane), select **Deployments**. The Summary of Deployments screen appears.
3. On the Summary of Deployments screen, click **Install**. The Install Application Assistant screen appears.
4. On the Install Application Assistant screen, navigate to the location where you extracted the RPAS_osso.war ([STAGING_DIR]/RPAS_osso.war), select the file, and click **Next**.
5. Click the Install this deployment as an application option and then click **Next**. The next screen displays optional settings. You can choose to set them up or accept the default values and proceed.
6. Optional. Enter relevant information for the optional settings.
7. Click **Finish**. The WAR file is deployed and it appears listed in the Summary of Deployments screen.
8. On the Summary of Deployments screen, click the deployment you just added. The Settings for <deployment-name> screen appears.
9. On the Configuration tab, under General, enter a relevant value in the **Context Root** field. You can choose to type RPAS or any other context root. This name is referred to as [CONTEXT_ROOT] in this document.
10. Click **Save**. The Save Deployment Plan Assistant screen appears.
11. Enter or select a location for the deployment plan, and click **OK**.
12. Restart your deployment for the changes to take effect.

Step 8: Set RPAS Role for Oracle Single Sign -On Logins

There are two types of roles for RPAS Web Launch users: RPAS_ADMIN_ROLE and RPAS_USER_ROLE.

Both roles can launch the RPAS Classic Client and connect to a domain. Only RPAS_ADMIN_ROLE has the privilege to access the ADMIN interface.

It is recommended that RPAS_USER_ROLE be assigned to most Oracle Single Sign-On (OSSO) users (such as planner) and RPAS_ADMIN_ROLE be assigned for a few power users (such as executive). This needs to be performed on the LDAP server storing the OSSO user information.

The roles can be created manually by using the OID DAS application. The oidadmin application or LDIF scripts may also be used to create users and roles. See the OID documentation for more details.

Creating a Group Using the DAS Application

Use the following procedure to use the DAS application to create the RPAS_USER_ROLE and RPAS_ADMIN_ROLE accounts.

1. Access the DAS application.

The DAS application is found in the following location:

`http://<host>:<port>/oiddas`

where <host> and <port> are the infrastructure or Oracle Identity Management OAS.

Example: `http://mspdev65.us.oracle.com:7778/oiddas`

2. Click **login** and log in as orcladmin or another privileged user.
3. On the right-side of the page, select the **Directory** tab, and on the left side, select the **Groups** link.
4. Click **Create**.
5. Enter the name of the group to create (for example, RPAS_ADMIN_ROLE), the Display name, and a description.
6. Make sure the Group Visibility option is set to **Public**.
7. If you would like, add additional users. Scroll to the Members section and select the **Add User** button to add users to this group. You can also nest other groups as well. Members can be added at a later time as needed.
8. When all members have been added, click the **Submit** button.

Creating Groups from an LDIF Script

Alternatively, you can create the groups using an LDIF script. A template is given below. Note that the following token `@BASE_REALM_DN@` needs to be replaced with installation specific value of the Realm Distinguished Name. Also, this script creates the group with a single member, `orcladmin`, as part of the group. Additional members may be added with more `uniquemember` attributes. You can execute the script with the `ldapadd` command supplied with the Oracle Identity Management infrastructure OAS server.

Example:

```
# The LDIF template for creating RPAS_ADMIN_ROLE and RPAS_USER_ROLE groups in OID.
# RPAS_USER_ROLE
dn: cn=RPAS_USER_ROLE,cn=groups,@BASE_REALM_DN@
objectclass: top
objectclass: groupOfUniqueNames
objectclass: orclGroup
cn: RPAS_USER_ROLE
displayname: RPAS user role
description: RPAS user role
orclisvisible: true
owner: cn=orcladmin,cn=users,@BASE_REALM_DN@
uniquemember: cn=orcladmin,cn=users,@BASE_REALM_DN@

# RPAS_ADMIN_ROLE
dn: cn=RPAS_ADMIN_ROLE,cn=groups,@BASE_REALM_DN@
objectclass: top
objectclass: groupOfUniqueNames
objectclass: orclGroup
cn: RPAS_ADMIN_ROLE
displayname: RPAS Administrator role
description: RPAS Administrator role
orclisvisible: true
owner: cn=orcladmin,cn=users,@BASE_REALM_DN@
uniquemember: cn=orcladmin,cn=users,@BASE_REALM_DN@
```

Once the RPAS groups have been created with the LDIF script, you could use the OID DAS application to add more members to them.

For more information about Single Sign-On, see [Appendix: Workspace and Oracle Single Sign-On](#).

Installing on WebLogic Server without SSO Support

Perform the following procedure if you are implementing RPAS Web on a WebLogic Server instance without Single Sign-On (SSO) Support. This process consists of several steps:

- [Step 1: Configuring RPAS Web Launch](#)
- [Step 2: Deploying the WAR File](#)

Step 1: Configuring RPAS Web Launch

To configure RPAS Web Launch, you need to modify one property file (profile) located within the WEB-INF/config directory of the RPAS.war file.

1. Locate the following information in **profile** and replace [RPAS_WEB_DATA_DIR] with the actual location and [HOSTNAME] with the host name of the server)

```
dbPath=[RPAS_WEB_DATA_DIR]/RPASWebData/db
clientSourceDir=[RPAS_WEB_DATA_DIR]/RPASWebData/client
tunnelLogFile=[RPAS_WEB_DATA_DIR]/RPASWebData/logs/tunnel.[HOSTNAME].log
webLogFile=[RPAS_WEB_DATA_DIR]/RPASWebData/logs/rpasPortal.[HOSTNAME].log
isOSSO=false
debug=false
classicMode=false
launchPreinstalledOnly=false
supportMultipleVersions=true
```

Please note that `isOSSO` flag must be set to `false`. Set `launchPreinstalledOnly` to `true` if only pre-installed RPAS Classic Client can be launched. Set `classicMode` to `true` to support RPAS Classic Client release 9.4. Set `supportMultipleVersions` to `true` to support multiple versions of RPAS Classic Client.

2. Save the file and WAR archive.

Step 2: Deploying the WAR File

Perform the following procedure to deploy the WAR file to the Oracle Application Server without SSO.

1. Log on to the WebLogic Administration Console.
2. Under the Domain Structure (left navigation pane), select **Deployments**. The Summary of Deployments screen appears.
3. On the Summary of Deployments screen, click **Install**. The Install Application Assistant screen appears.
4. On the Install Application Assistant screen, navigate to the location where you extracted the RPAS.war ([STAGING_DIR]/RPAS.war), select the file, and click **Next**.
5. Click the Install this deployment as an application option and then click **Next**. The next screen displays optional settings. You can choose to set them up or accept the default values and proceed.
6. Optional. Enter relevant information for the optional settings.
7. Click **Finish**. The WAR file is deployed and it appears listed in the Summary of Deployments screen.
8. On the Summary of Deployments screen, click the deployment you just added. The Settings for <deployment-name> screen appears.

9. On the Configuration tab, under General, enter a relevant value in the **Context Root** field. You can choose to type RPAS or any other context root. This name is referred to as [CONTEXT_ROOT] in this document.
10. Click **Save**. The Save Deployment Plan Assistant screen appears.
11. Enter or select a location for the deployment plan, and click **OK**.
12. Restart your deployment for the changes to take effect.

Installing on Apache Tomcat

Perform the following procedure if you are deploying RPAS Web launch on a standalone Apache Tomcat server, which implies a non-SSO environment.

Installing RPAS Web Launch on Apache Tomcat consists of two steps:

- [Step 1: Deploying the RPAS WAR File](#)
- [Step 2: Configuring RPAS Web Launch on Apache Tomcat](#)

Step 1: Deploying the RPAS WAR File

Please refer to your Apache Tomcat documentation for more details of how to deploy a Web archive.

1. Log on to the Tomcat Web server URL: <http://server:port/manager/html>.
2. Scroll to **Deploy directory or WAR file located on server** section.
3. In the Context Path field, type **/RPAS** (or anything else you choose).
This location is referred to (without the “/”) as [CONTEXT_ROOT] in this document.
4. In the WAR or Directory URL field, type [STAGING_DIR]/RPAS.war.
5. Click **Deploy**.

The display name should show RPAS Web Launch for a successful deployment. In the event you need to a re-deploy RPAS Web Launch, it is recommended that the following be performed:

- Undeploy the Web application.
- Restart the Web server to clear any caching.
- Re-deploy the Web application.

Step 2: Configuring RPAS Web Launch on Apache Tomcat

To configure RPAS Web Launch, you need to modify one property file (propfile). This file is located in the following path:

```
[TOMCAT_INSTALL_DIR]/webapps/[CONTEXT_ROOT]/WEB-INF/config
```

where [TOMCAT_INSTALL_DIR] is the installation location of the Tomcat Web server. If the Web server is running in a load balance environment with multiple servers, this file must be modified for all Web server instances.

1. Locate the following information in propfile and replace [RPAS_WEB_DATA_DIR] with the actual location and [HOSTNAME] with the host name of the server.

```
dbPath=[RPAS_WEB_DATA_DIR]/RPASWebData/db
clientSourceDir=[RPAS_WEB_DATA_DIR]/RPASWebData/client
tunnelLogFile=[RPAS_WEB_DATA_DIR]/RPASWebData/logs/tunnel.[HOSTNAME].log
webLogFile=[RPAS_WEB_DATA_DIR]/RPASWebData/logs/rpasPortal.[HOSTNAME].log
isOSSO=false
debug=false
classicMode=false
launchPreinstalledOnly=false
supportMultipleVersions=true
```

The isOSSO flag must be set to false. Set launchPreinstalledOnly to true if only pre-installed RPAS Classic Client can be launched. Set classicMode to true to support RPAS Classic Client release 9.4. Set supportMultipleVersions to true to support multiple versions of RPAS Classic Client.

2. Restart the RPAS Web Launch application.

Migrating from Previous Versions

If you have been running an older version of RPAS Web Launch, here are the steps to migrate old data to the new deployment.

1. Migrate client binary:

Copy buildNumber.txt and client.zip files to the location specified by property clientSourceDir. If multiple versions are supported, they should be copied to clientSourceDir/[VERSION] where [VERSION] is the version number of that release (12.1.2, 11.1.15 etc.).
2. Migrate admin user data:

Copy userdata.dat file to the location specified by property dbPath.
3. Migrate domain registration data:

Copy domaindata.dat to the location specified by property dbPath.
4. Restart Web application RPAS Web Launch.

Please note that after the migration, if an admin user fails to log on, that would indicate that the userdata.dat file is corrupt. Please remove the file, and log on the administration interface using default user **adm** (default password **adm**) and re-create all admin users.

Configuring the RPAS Servlet

The class for the RPAS servlet is `com.retek.mdap.servlet.ServletManager`. The servlet properties have been configured in the deployment descriptor `web.xml` that is originally archived in `RPAS_osso.war` or `RPAS.war`.

This deployment descriptor provides two sets of initialization parameters to the RPAS servlet.

Note: The deployment descriptor should not be modified. All of the servlet initialization parameters should not be modified, except the “timeout” and “sleep” parameters (which specify the time in seconds) for Web tunneling.

After the servlet is configured, load it into your Web server. You might be required to reload your Web server to activate the new servlet.

Configuring and Administering the Web Application

The following topics provide information on accessing the RPAS Web Administration console to perform administrative tasks such as defining the RPAS enterprise configuration, and adding, modifying and deleting domain configurations.

Start the RPAS Web Configuration Utility – Administration Console

1. To access the RPAS Web configuration utility, start a Web browser (Internet Explorer 6 recommended) and go to the following location:

`http://[WEB_SERVER_ADDRESS]/[CONTEXT-NAME]/web`

where

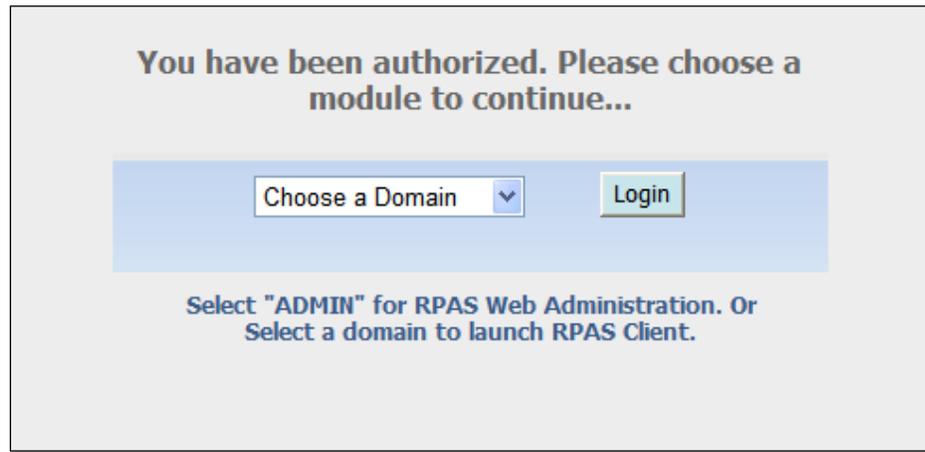
`WEB_SERVER_ADDRESS` is the address you use to access your Web server.

`CONTEXT_NAME` is the value you defined for the Context Root field as described in each of the three installation processes listed in the [Installing the RPAS Web Application](#) section.

Note: The Web application support internationalization. It uses the locale from the browser to determine the appropriate language to display in the Web interface. The default language is English.

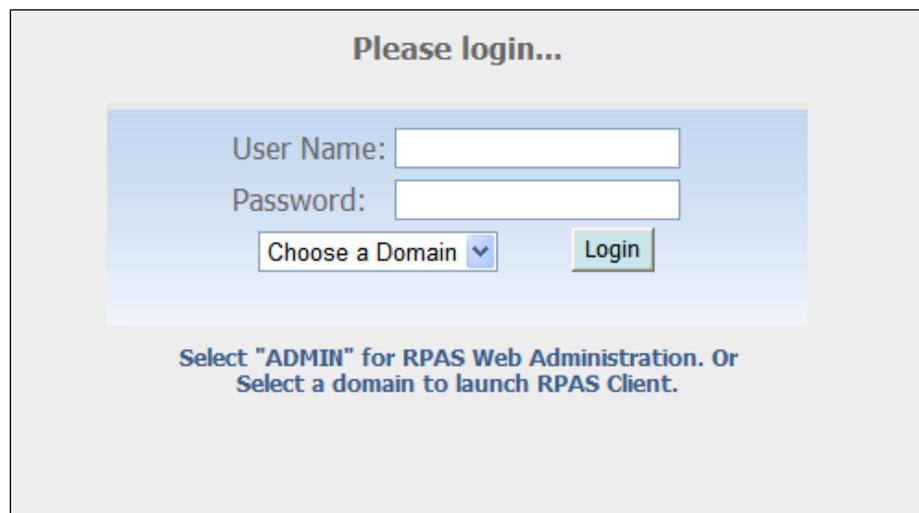
Example: `http://rpasweb.oracle.com:13085/RPAS/web`

Depending the type of RPAS deployment being implemented (with SSO or without SSO), one of the following screens appears.



The screenshot shows a light gray background with the text "You have been authorized. Please choose a module to continue..." centered at the top. Below this is a light blue rectangular area containing a "Choose a Domain" dropdown menu and a "Login" button. At the bottom of the gray area, there is a blue instruction: "Select 'ADMIN' for RPAS Web Administration. Or Select a domain to launch RPAS Client."

Login Screen after OSSO Authentication



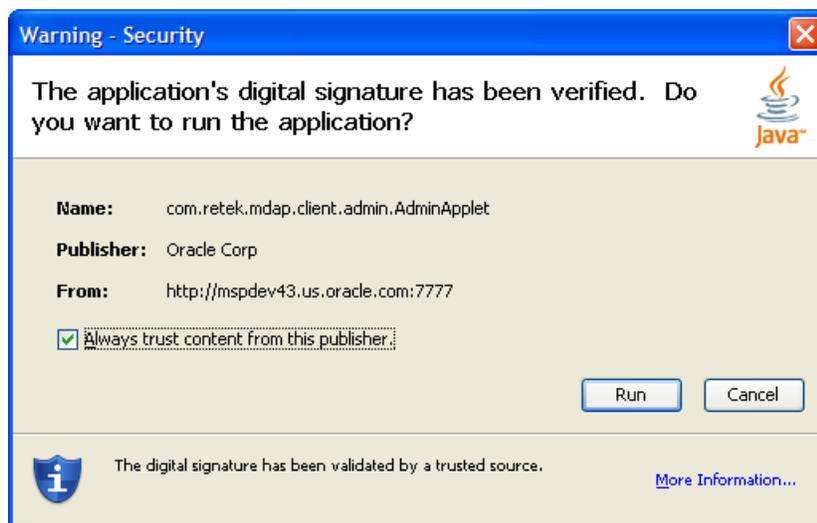
The screenshot shows a light gray background with the text "Please login..." centered at the top. Below this is a light blue rectangular area containing a "User Name:" label with an input field, a "Password:" label with an input field, a "Choose a Domain" dropdown menu, and a "Login" button. At the bottom of the gray area, there is a blue instruction: "Select 'ADMIN' for RPAS Web Administration. Or Select a domain to launch RPAS Client."

Login Screen for non-OSSO Configuration

Note: If there is a very long list of domains, use URL `http://[WEB_SERVER_ADDRESS]/[CONTEXT-NAME]/web?app=[AppID]` to filter domains on the login page. Only domains with an application ID field matching `AppID` will be displayed in the list.

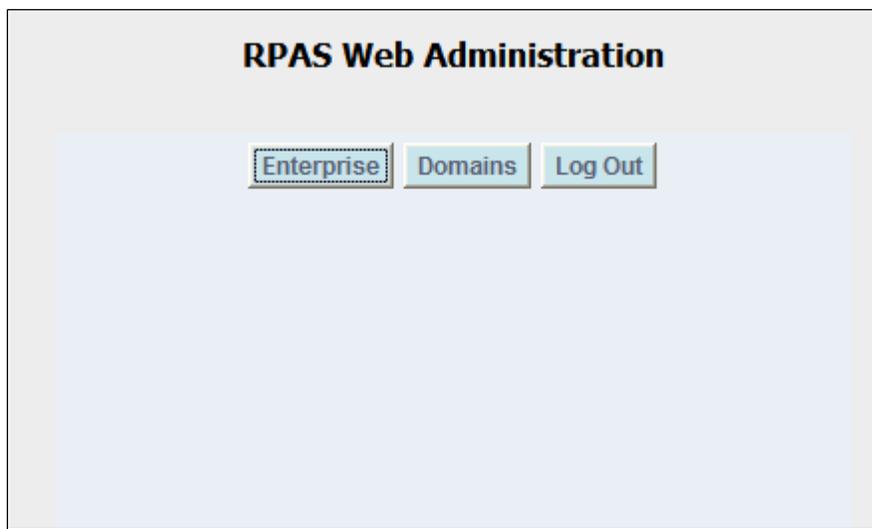
2. Perform one of the following:
 - If you are using an SSO environment, select **ADMIN** as the domain and click **Login** to access the Administration Console.
 - If you are not using an SSO environment, enter an Administrator user name and password (the initial administration user name is **adm** and the password is **adm**). Select **ADMIN** as the domain and click **Login** to access the Administration Console.

A security warning dialog box appears.



Security Warning on Internet Explorer

3. Click **Run**. To avoid seeing this message in the future, make sure **Always trust content from this publisher** option is selected. The RPAS Web Administration console appears.



RPAS Web Administration Console in SSO Environment



RPAS Web Administration Console without SSO

4. Refer to the following topics to configure RPAS Web Launch or perform other administration activities.

Configure Web Launch and Web Tunneling – Enterprise Configuration

The following section describes how to configure the use of the Web launch or the Web tunneling architecture. Both the Web launch and Web tunneling architectures allow domain location setup, client application installation, and application launch processes to be initiated from a Web browser. The difference between the two architectures is in how data is communicated between the RPAS Classic Client application that runs on a user's PC and the RPAS domain that runs on the database server.

The Web tunneling architecture sends all data through the Web server as it travels from a user's PC to the database server. This method allows PCs that are located outside a company's network to communicate through the Internet to a database server that is located inside a company's network.

The Web launch architecture sends all data directly from a user's PC to the database server. This architecture assumes that the database server is on a network directly accessible by each user's PC (that is, the company's LAN).

1. Click **Enterprise** to open the RPAS Enterprise Configuration window.

This dialog allows you to define the communications architecture that connects client PCs to the database server.

From a configuration perspective the key differentiator, between the two options is in the value of the Web Server Name field (described below). To use the Web tunneling architecture, this field must be populated; if it is empty, the Web launch architecture is used.

- To configure the Web launch architecture, make sure the **Web Server Name** field in the RPAS Enterprise Configuration dialog is empty, and click the **Confirm** button. All other fields in this window are ignored.

RPAS Enterprise Configuration Window

- To configure the Web tunneling architecture, the RPAS Enterprise Configuration window must be filled with appropriate values following the table below.

Filed Name	Value Description
Web Server Name	The hostname or the IP address of the Web server and the port number of the Web server. They must be entered sequentially with a colon in between. If the Force SSL checkbox is checked, replace the port with the SSL port number. Required.
Tunnel Servlet Name	The path to the servlet that tunnels the information between the client and server. Formatting: <code>/[CONTEXT_NAME]/tunnel</code> . Required.
Proxy Server Name	The hostname or the IP address of the proxy server.
Proxy Server Port	The port number on which the proxy server is active. Must be an integer between 1 and 65535.
Staging Server Name	Leave blank. Not used right now.
Staging Input Path	Leave blank. Not used right now.
Staging Output Path	Leave blank. Not used right now.

Filed Name	Value Description
Socks Port	If HTTP 1.1 is being used along with a proxy server, then the proxy server must enable SOCKS protocol. Must be an integer between 1 and 65535.
SSL Encryption Level	If SSL is to be used, this value should be 128 Bit US, or 64 Bit International encryption level. 128 bit encryption should be preferred.
Message Timeout	Used in HTTP 1.1 to specify the number of milliseconds of inactive communication after which the client will timeout and reconnect. Must be an integer between 1 and 65535.
Compression Threshold	The number of bytes above which client and server will be using compression.
Force SSL	This is a check box that specifies whether SSL is used for transferring data between client and server.
Use HTTP 1.1	This is a check box that specifies whether HTTP 1.1 should be used. If not selected, HTTP 1.0 will be used.

The screenshot shows the 'RPAS Enterprise Configuration' dialog box with the following settings:

- Web Server Name: mspdev43:8888
- Tunnel Servlet Name: /RPAS/tunnel
- Proxy Server Name: (empty)
- Proxy Server Port: (empty)
- Staging Server Name: (empty)
- Staging Input Path: (empty)
- Staging Output Path: (empty)
- Socks Port: (empty)
- SSL Encryption Level: None
- Message Timeout: Client Default
- Compression Threshold: Client Default
- Force SSL:
- Use HTTP 1.1:

Buttons: Confirm, Cancel

Sample Web Tunneling Configuration

Other Web Client Administration Activities

Adding, Modifying and Deleting Domain Configuration

1. Click **Domains** in the RPAS Web Administration Console. The RPAS Domain Dialog appears. This dialog is used to specify the location of RPAS domains. Each domain that can be accessed by a user must be specified with the dialog.

RPAS Domain Dialog

2. To add a new domain, click **New**, enter the following information, and click **Confirm**.

Field Name	Value Description
Description	This is displayed to users when they are selecting a domain to log in to. Required.
Application ID	Used in domain filtering. Can be any string without spaces. Leave blank if preferred.
Client Version	The version number of the RPAS Classic Client to launch. It must match exactly the version number in the path of the client files on the Web server. Leave blank if multiple version support is not enabled.
Path	The full path to the directory containing the domain on the database server. Required.
Database Server Name	The hostname of the database server containing the domain. Required.

Field Name	Value Description
Daemon Port	The port number of the DomainDaemon process running on the database server. The port must be between 1025 and 65535 (inclusive). Required.
Memory Size	Leave Blank. Not used right now.
Start Port	Start of the range of ports used by a client PC (Web launch architecture) or the Web server (Web tunneling architecture) to connect to the database server. This value must be great than (>) 1025. If it not specified, the RPAS database server attempt to find a free port whenever a client connects.
End Port	End of the range of ports used by a client PC (Web launch architecture) or the Web server (Web tunneling architecture) to connect to the database server. This value cannot be greater than 65535.

3. To change an existing domain configuration, select the domain from the **Domains List**, modify the fields as necessary, and click the **Confirm** button. Select the **Cancel** button to discard any changes that have been made.
4. To remove a domain, select a domain from the **Domains List** and click **Delete**. The selected domain configuration is removed.
5. To copy all of the domain settings of a domain, perform the following:
 - a. Select the domain from the **Domains List** and click **Copy**.
 - b. Selecting another domain from the **Domains List** and click **Paste**. The domain is updated the domains settings you have copied.
 - c. Click **Confirm** to save the updated information.

Changing Administrator Password

Perform the following procedure from the RPAS Web Administration Console.

1. Click **Change Password**. The RPAS Change Password window appears. This allows the currently logged in administrator to change his/her password that allows access to the administrative console.
2. Enter the current password in the **Old Password** field. Passwords should not exceed 30 characters in length.
3. Enter the new password in the **New Password** and **Confirm New Password** fields.
4. Click **Confirm** to save the new password.

Adding a New Administrator Account

Perform the following procedure from the RPAS Web Administration Console.

1. Click **Add Admin User** to open the RPAS Add Admin User window. This window is used to add another RPAS administrative user.
2. Enter the administrative user's name in the **User Name** field. The user name must not be used by other people.
If the user name has been used, an error dialog appears. Click **OK** on this error dialog if this occurs, and enter another name for this new administrative user.
3. Enter the initial password in the **Password** and **Confirm Password** fields.
4. Click **Confirm** to create the new administrator account.

Deleting an Administrator Account

Perform the following procedure from the RPAS Web Administration Console.

1. Click **Delete Admin User** to open the RPAS Delete Admin User window. This allows you to delete an RPAS administrative user.
2. Select the administrative user's name from the list in the window, and click **Confirm** to delete the user account.

Logging Out

From the RPAS Web Administration Console, click **Logout** to exit the administrative console. This returns you to the Login screen.

Install and Launch the RPAS Classic Client Application

Perform the following procedure to install the RPAS Classic Client and log in to a domain using RPAS Web Launch:

1. Start a Web browser (Internet Explorer 7 is recommended) and go to the following location/URL: `http://[WEB_SERVER_ADDRESS]/[CONTEXT_NAME]/web`

Example: `http://rpsweb.oracle.com:13085/RPAS/web`

This address is established during the initial installation and configuration. Administrators must provide this location/URL to end users. The `[WEB_SERVER_ADDRESS]` portion of the URL is the host address where the Java application service is running. This address may also include an alternate TCP/IP port number to communicate on (for instance, for port 8080, `webss:8080`). The login screen appears.

Note: If using Windows 7, start the web browser in "Run as administrator" mode the first time you use RPAS Web Launch.

This ensures that the browser has privileges to install the RPAS Classic Client. After the first time, run the web browser in regular mode for better security.

2. Perform one of the following based on your environment:
 - If your environment is not using Oracle Single Sign-On (SSO), enter a user name and password, select a domain from the list, and then click **Login**.
 - If you are using SSO, you will enter your SSO credentials for authentication. A login screen appears. Select a domain from the list and click **Login**. The user name must have been added to the domain to allow access.

Note: When using SSO, you can by-pass the login page by specifying the domain in the URL:
`http://[WEB_SERVER_ADDRESS]/[CONTEXT_NAME]/web?domain=[Desc]`. The domain with a description field matching `Desc` will be launched automatically after the authentication. No spaces are allowed in the description field if this direct triggering mechanism feature is used.

When the **Login** button is selected, the **DomainDaemon** on the database server is contacted to verify that the specified user is allowed to access the selected domain. Ensure that the **DomainDaemon** process is running on the database server before clicking on **Login**.

If access to the domain is allowed, a security dialog window may appear.

3. If the security window appears, click **Run**.

After you click **Run** in the security window, a check is made to see if the RPAS Classic Client application needs to be installed on the user's PC. The Web server administrator is able to define a common installation location of the RPAS Classic Client for all users' PCs.

This is accomplished by setting the appropriate value in the server-side `clientPath.txt` file (note the mixed-case filename) under the `clientSourceDir/[VERSION]` directory where the optional `[VERSION]` is the client version number if multiple versions are supported. The file `clientPath.txt` is an optional file which must reside under the same directory as `buildNumber.txt` does. RPAS Web installation files do not contain it. The administrator, or person responsible for installing RPAS Server components, must decide whether or not to define the installation location on user's PC by creating this file and specifying the full path of installation directory in the first line of the file. If `launchPreinstalledOnly` flag is set to `true`, the Web Launch applet will try to launch RPAS Classic Client from that location without downloading and installing the client. It will fail if the RPAS Classic Client has not been installed, and the applet will display an error message. If `launchPreinstalledOnly` flag is set to `false` and the user has not previously installed the RPAS Classic Client, or a newer version has become available on the server, the RPAS Classic Client will be downloaded and installed. If `launchPreinstalledOnly` flag is set to `false` and the RPAS Classic Client path is not specified, the user is prompted for an installation location for the RPAS Classic Client. The RPAS Classic Client installation directory must have at least 50 MB storage space.

4. If necessary, select a directory that has at least 50 MB of free storage for installing RPAS Classic Client, and click **OK**. A status dialog box appears as files are copied from the server to the user's PC. After the files have been copied, a RPAS installation program runs, and the RPAS Classic Client starts. If everything is successful, the user sees a **Login Successful** message in the bottom left corner of the RPAS Classic Client window.

Note: If the RPAS Classic Client does not need to be installed on the user's PC after you click **Login**, the RPAS Classic Client immediately starts and connects the user to the selected domain.

Troubleshooting

If a problem is encountered when using RPAS Web Launch, review any log files and record the output to determine the causes. Any support ticket submitted to Oracle must have the logging output attached.

On the server side, the log files are specified by the properties `webLogFile` and `tunnelLogFile`. On the client side, logging output is written to Java Console which can be opened by right-clicking the Java icon in the Windows system tray and choosing **Open Java Console**.

If the browser fails to launch the client without displaying an error message or behaves abnormally, we recommend that the user clear all browser cookies and try again.

If an instance of RPAS Classic Client is already running when the Web Launch applet is trying to install RPAS Classic Client, the installation may fail. We recommend that the user stop all RPAS Classic Client processes and try again.

Note: You can turn on the `debug` flag to obtain additional logging information by setting property `debug` to `true` in property file `propfile` and restarting the web application.

RPAS Web Launch and Oracle Retail Workspace

If you plan to implement RPAS Web Launch (including In-Context Launch) in conjunction with Oracle Retail Workspace or other web-based applications, refer to the *RPAS Administration Guide for the Classic Client* or the *RPAS Administration Guide for the Fusion Client* in addition to the Oracle Retail Workspace documentation for more information.

PATCH INSTALLATION

Part II of this guide details the steps needed to perform a patch installation of RPAS.

Part II contains the following chapters:

- [Chapter 1: RPAS Package Extraction](#)
- [Chapter 2: RPAS Patch Installation Instructions](#)
- [Chapter 3: RPAS Classic Client Installation](#)

For information about a full installation, see [Part I: Full Installation](#).

Upgrading Process

RPAS upgrades can be applied directly to an existing installation of the same major release. RPAS does not require customers to incrementally upgrade their installation.

An important aspect of upgrading is updating the existing RPAS domain to be compatible with the most recent upgrade that has been applied. This can be done with the RPAS utility `upgradeDomain`.

Though RPAS encourages customers to stay up-to-date with releases, upgrades, and patches, it is possible that some customers may not have been able to update to the current upgrade or patch. At the time of the 13.2.3 release, Oracle Retail is aware of customer implementations that are still below version 12.1. Oracle Retail advises such customers to be sure to follow the process outlined in the 12.1 version of the *RPAS Installation Guide* to convert their pre-12.1 domain to a post-12.1 domain. Fundamental changes have been made to RPAS's storage layer, and pre-12.1 domains are not upgradeable to 13.2.3 domains simply with the use of the `upgradeDomain` utility.

RPAS Package Extraction

The first step in upgrading to the most recent installation is to download the 13.2.3 release from the My Oracle Support Web site (<https://support.oracle.com>) to a staging folder (such as \$PACKAGEDIR) that is accessible to all components of your current RPAS environment.

Example Package Extraction

The following example describes a sample upgrade installation. These sample commands are provided to guide you through the file extraction process and to identify the files provided in this upgrade.

```
$ mkdir packagedir
$ cp rpas.zip packagedir
$ cd packagedir
$ export PACKAGEDIR=`pwd`
$ unzip rpas.zip
```

The following items may be extracted to the current directory:

- ARPOPlatform-13.2.3.aix53.tar.zip
- ARPOPlatform-13.2.3.aix61.tar.zip
- ARPOPlatform-13.2.3.sun10.tar.zip
- ARPOPlatform-13.2.3.linux.tar.zip
- ARPOPlatform-13.2.3.nt.zip
- ARPOPlatform-13.2.3.clients.zip
- Curve13.2.3.zip
- Grade13.2.3.zip
- FusionClient.zip
- README.html
- DOCS folder

Notes:

ARPOPlatform-13.2.3.clients.zip is an archive of the RPAS Classic Client and ODBC Client for all platforms.

The Curve and Grade documentation sets which were previously included in the DOCS folder are now combined with the Oracle Retail Demand Forecasting (RDF) documentation. This documentation is available within the RDF package and on the following Web site:

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

At this point, you must choose which package you wish to extract, based on your current server platform and version. AIX 6.1 is used for the purpose of the example below.

Next, run the following commands.

```
$ unzip ARPOPlatform-13.2.3.aix61.tar.zip
$ tar -xf ARPOPlatform-13.2.3.aix61.tar
```

Now the package directory should contain a subdirectory named ARPOPlatform. You have successfully completed extracting the upgrade.

RPAS Server Patch Installation

This chapter describes how to patch the RPAS Server on UNIX. For instructions on patching the server on Windows, see [Appendix: RPAS Server Patch Installation on Windows](#).

RPAS Upgrade Prerequisites

In order to upgrade RPAS, first verify the following criteria for the RPAS system:

- Verify that RPAS is currently installed.
- Verify that UNIX operating system is updated to the currently supported version, which can be found in the [Hardware and Software Requirements](#) section.
- Verify that the environment variables are correctly set; if they are not, follow these instructions to set them:
 - Change directories to the original RPAS installation directory (such as the one created by the most recent installer), and execute `retaillogin.ksh` to set all environment variables. For example:

```
$ cd /retail
$ . ./retaillogin.ksh
```

Notes:

Once you have run the script, verify that the environment variables all point to the correct locations on your environment.

If you have updated Java since the last installation of RPAS, verify that the `JAVA_HOME` path is correct. If not, please update your `RIDE_HOME/toolslogin.ksh` script and source your `retaillogin.ksh` again as outlined above.

Java Environment

Ensure that Java Development Kit (JDK) has been installed on the machine where RPAS will run and that the `JAVA_HOME` environment variable is properly set.

For detailed Java environment information, see the [Java Environment](#) section in the [Installing on UNIX and Linux Environments](#) chapter.

Ride Options

The `RIDE_OPTIONS` environmental variable has been defined to allow users to pass information into the `rpasInstall` process. Unlike the regular arguments passed on the command line to `rpasInstall` (such as `-fullinstall` and `-updatestyles`), arguments defined in `RIDE_OPTIONS` are passed to every `rpasInstall` instance that runs in the environment.

Described below are the three supported properties for use with `RIDE_OPTIONS`.

- `Xmx` – used for Java
- `HP 64-bit mode Java (-d64)` – used for HP Itanium
- `Drpas.maxProcesses` – used for RPAS

For Java

Xmx - By default, the Java Virtual Machine requests on the order of 268 MB of RAM from the OS to allocate for its heap. Large domains that are built from complex configurations can potentially exhaust this limited amount of memory. This is even more of an issue in patch installations than in builds since a patch installation requires two different versions of a configuration to be held in memory simultaneously.

By using the `-Xmx` option, you can instruct the Java Virtual Machine to request more memory from the OS to prevent situations when all allocated memory is exhausted. The syntax of the property is:

`-Xmx###m`, where `###` is the amount, in megabytes, of memory the JVM is to request. Common values for this argument are `-Xmx512m` or `-Xmx1024m`.

For HP Itanium

HP 64-bit mode Java (-d64) - The HP distribution of Java does not consist of separate executables for 32-bit and 64-bit operating systems. Instead, there is a single distribution of Java that can run in either 32-bit or 64-bit mode. By default, the HP Java runs in 32-bit mode. Because RPAS is built as a 64-bit executable on the Itanium OS, the RPAS libraries are unable to link with Java if it is running in 32-bit mode.

By adding the `-d64` property to `RIDE_OPTIONS`, the HP Java distribution is 64-bit mode enabled and the RPAS libraries link successfully.

It is often the case that users may want to use or more different properties in conjunction with `RIDE_OPTIONS`. When this is the case, all desired properties should be included within the environmental variable definition separated by white space with the entire definition enclosed in double quotes. An example of this is shown below:

```
export RIDE_OPTIONS="-d64 -Xmx1024m -Drpas.maxProcesses=8"
```

For RPAS

Drpas.maxProcesses - Several RPAS server utilities are designed to take advantage of multi-processor hardware to improve their performance. These utilities attempt to perform operations in parallel, each process running on a distinct processor. The `-Drpas.maxProcesses` argument is used to instruct RPAS how many processors it should attempt to run in parallel when executing one of the server utilities that has multi-processor support when that utility is executed as a part of the `rpasInstall` process.

Note that the `-Drpas.maxProcesses` argument only affects those calls to server utilities made from within the `rpasInstall` process and does not affect calls to server utilities made from the command line or as part of a batch job. The syntax of the property is:

`-Drpas.maxProcesses=###`, where `###` is the number of sub-processes the RPAS server utility should attempt to run in parallel. The number of processes to use should be determined by the administrator of the hardware system based on the physical number of processors available and the amount of load that is acceptable for the `rpasInstall` process to place on the system.

RPAS Upgrade Process

The following process outlines how to upgrade the RPAS server environment to the current version.

1. In a command prompt, change to location of the base directory of this upgrade.

```
- $ cd $PACKAGEDIR/ARPOPlatform/13.2.3
```

2. Run RSP Manager to upgrade your environment:

- If the platform is Linux, use the following command:

```
- $ ./rsp_manager.linux -install -sp linux -no_domain
```

- For all other platforms, use the following command:

```
- $ ./rsp_manager -install -sp [PLATFORM] -no_domain
```

Notes:

[PLATFORM] represents your current platform and should be replaced with the correct label, such as **aix53**.

`-no_domain` indicates that there no domain in need of upgrading.

If you want to upgrade a single domain, include `-domain` with the full name or path of the domain. If you want to upgrade multiple domains at the same time, you must include `-domain` and pass on a file that contains a list of all domains that need to be upgraded.

For instructions on upgrading domains, see the Domain Administration chapter of the *RPAS Administration Guide for the Fusion Client* or the *RPAS Administration Guide for the Classic Client*.

3. Verify that none of the files failed during the upgrade; this can be determined based on the output of RSP Manager. For example, a successful output message would read:

```
- Validation complete...
- Files Checked: 106
- Files Passed: 106
- Files Failed: 0
```

The RPAS upgrade process is complete.

Domain Upgrade Process

After you have upgraded/patched RPAS server, you should upgrade any individual domains to be synchronized with that version. For information about upgrading domains, see the Domain Administration chapter of the *RPAS Administration Guide for the Fusion Client* or the *RPAS Administration Guide for the Classic Client*.

ODBC/JDBC Upgrade Process

This section describes how to save and migrate your existing ODBC/JDBC configurations to the new version. If you do not have any existing configurations to migrate, you can uninstall the old version and install the new one.

ODBC Server

Upgrading from 13.0.x

On all platforms, the 13.0.x ODBC Server configurations are stored in `openrda.ini` and `oadrd.ini`.

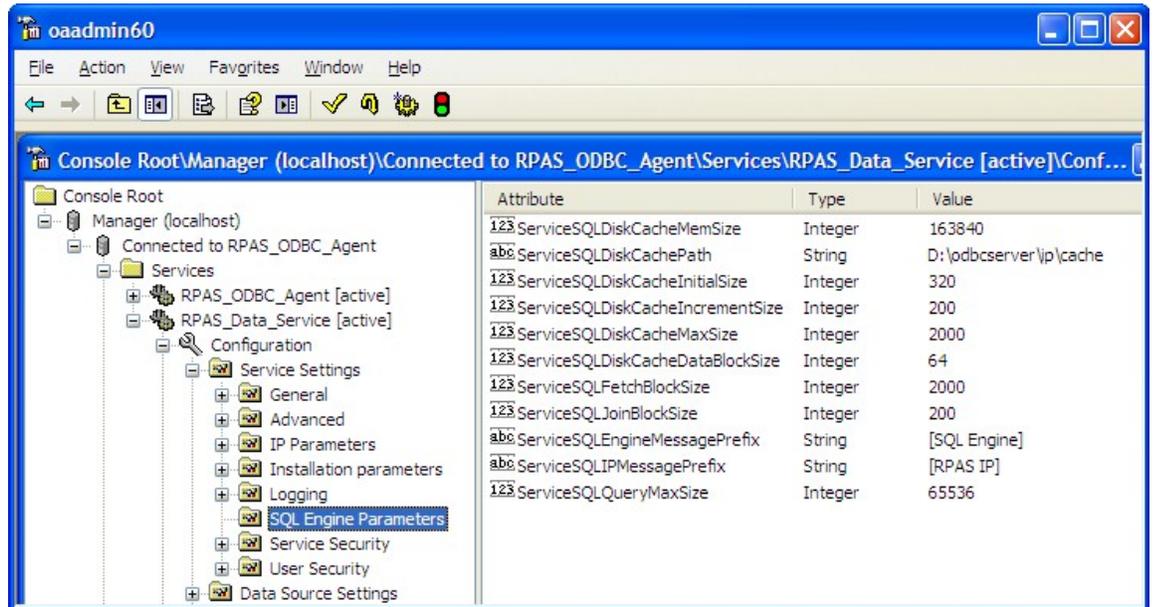
1. Before upgrading `$RPAS_HOME`, save a copy of `openrda.ini` and `oadrd.ini` to a temporary location.
2. Uninstall the 13.0.x version of the ODBC Server. To do this on Windows, run `setup.exe` and choose the **Remove** option. On UNIX platforms, the ODBC directory should be automatically overlaid when you upgrade your `$RPAS_HOME`.
3. Install the new version (13.1.2 or later) of the ODBC Server. Use the information below to migrate the 13.0.x configuration to the new ODBC Server.

Migrating Server Configuration

The table below shows the mapping of the configurations between 13.0.x and the new version (13.1.2 or later) of the ODBC Server

13.0.x Server Configurations	Corresponding Server Configurations (13.1.2 and Later)
INITIAL_SIZE	ServiceSQLDiskCacheInitialSize
INCREMENT_SIZE	ServiceSQLDiskCacheIncrementSize
MAX_SIZE	ServiceSQLDiskCacheMaxSize
DATABLOCK_SIZE	ServiceSQLDiskCacheDataBlockSize
CacheMemSize	ServiceSQLDiskCacheMemSize
FETCHBLOCK_SIZE	ServiceSQLFetchBlockSize
JOINBLOCK_SIZE	ServiceSQLJoinBlockSize
QueryMaxSize	ServiceSQLQueryMaxSize

The figure below shows the new ODBC Manager with the configuration attributes that are listed in the previous table.



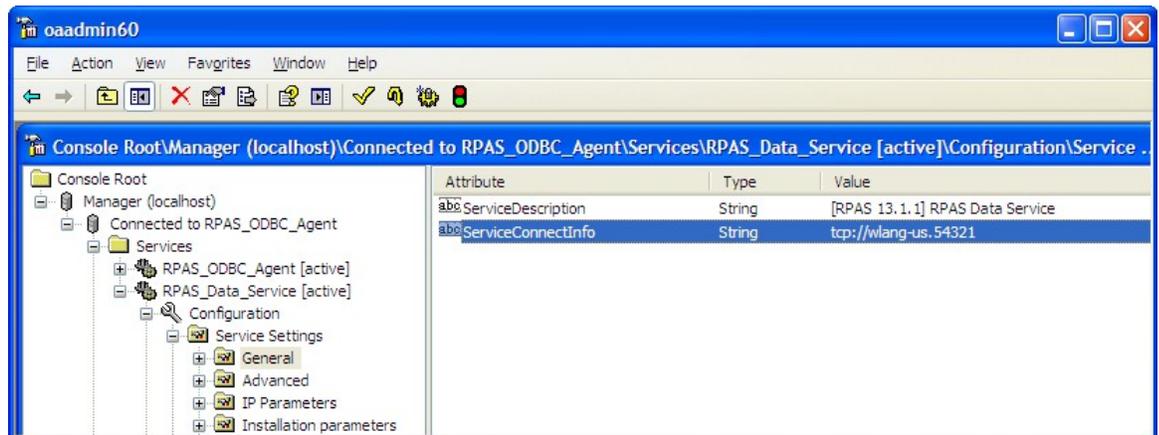
Server Configuration Attributes (Versions 13.1.2 and Later)

Migrating Data Source Information

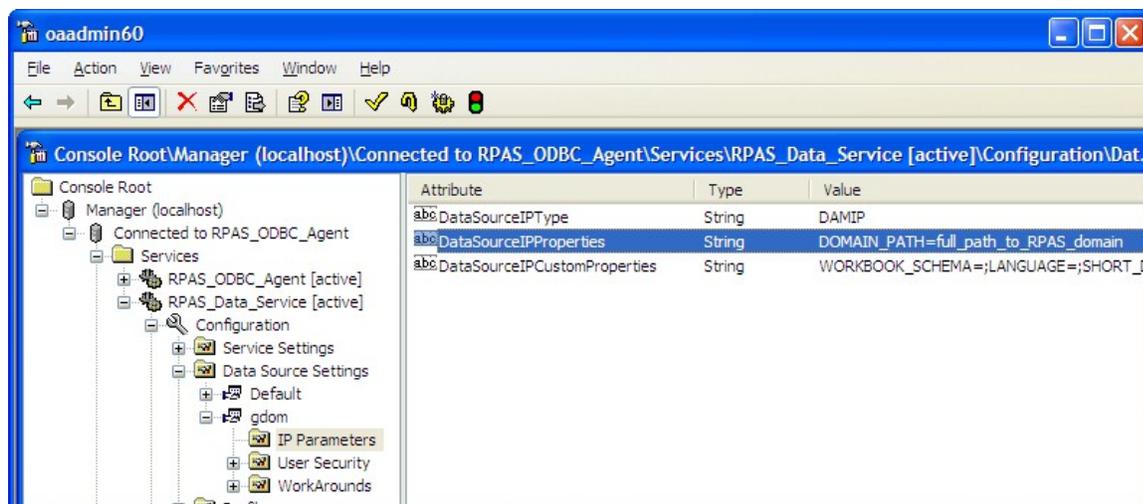
A data source in oadrd.ini looks like the sample below.

```
ADDRESS=mspdev41
PORT=1710
CONNECT_STRING=/vol.nas/u08/aip_triage/hany/Position_parent/croad_SR
TYPE=BTREE
SCHEMA_PATH=
REMARKS=
```

The attributes that you need to migrate are ADDRESS, PORT, and CONNECT_STRING. CONNECT_STRING in 13.0.x maps to DOMAIN_PATH in the new version. The figures below show where they are in the new Server configuration.



Server Address and Port Number (Versions 13.1.2 and Later)



DOMAIN_PATH (Versions 13.1.2 and Later)

Upgrading from 13.1.1.x

1. Before uninstalling 13.1.1.x, take screenshots of the server configuration and server address as shown in three previous figures: **Server Configuration Attributes**, **Server Address and Port Number**, and **DOMAIN_PATH**. These figures show the server's connecting and configuration information as well as the data sources you have.
2. Uninstall 13.1.1.x ODBC Server. To do this on Windows platform, run setup.exe in the server installation package and choose the **Remove** option. On UNIX platforms, delete the ODBC directory under \$RPAS_HOME.
3. Install the new version (13.1.2 or later) ODBC Server. Use the information saved in the screenshots created in Step 1 to complete the server and data source configuration.

ODBC Client

UNIX Platform

In 13.0.x, the client configuration information to be migrated is stored in oadrd.ini and odbc.ini. Note that odbc.ini is not required by the 13.0.x version of the RPAS ODBC Client, but it may be required by your ODBC application (such as OBIEE).

Below is a sample data source definition in oadrd.ini.

```
ADDRESS=mspdev41
PORT=54321
REMARKS=
```

To migrate SampleDataSource to the new version (13.1.2 or later) of the ODBC Client, create an entry for SampleDataSource in odbc.ini:

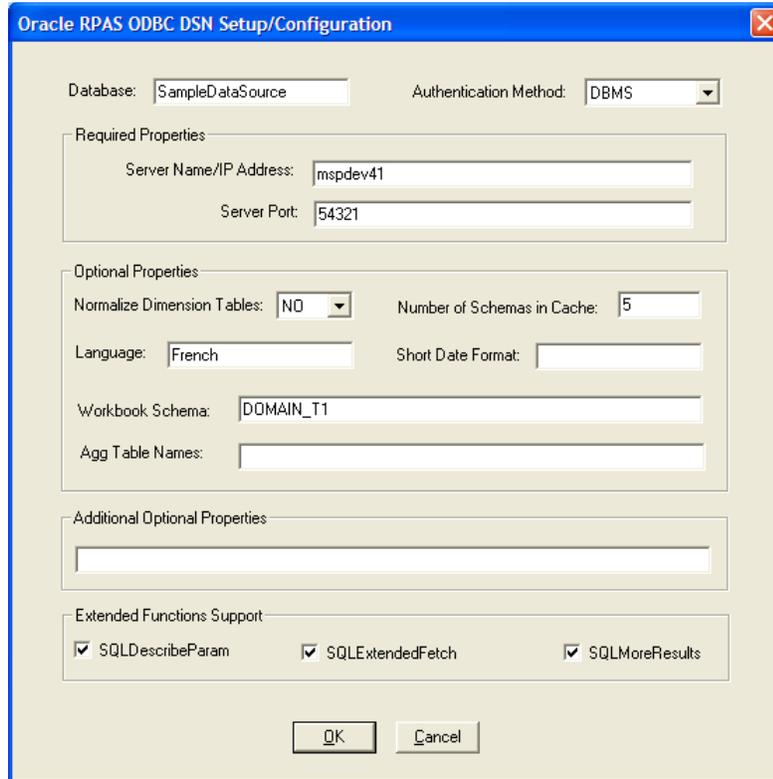
```
[ODBC Data Sources]
SampleDataSource=Oracle Retail RPAS ODBC Driver

[SampleDataSource]
Driver=PATH_TO_ODBC_CLIENT/odbcclient32/lib/ivoa22.so
Description=Oracle Retail RPAS ODBC Driver
Host=mspdev41
Port=54321
ServerDataSource=gdom
UseLDAP=0
DistinguishedName=
Encrypted=0
LoadBalancing=0
AlternateServers=
ConnectionRetryCount=0
ConnectionRetryDelay=3
CustomProperties=
```

The customProperties entry in odbc.ini can be copied to the same entry in the new version of odbc.ini.

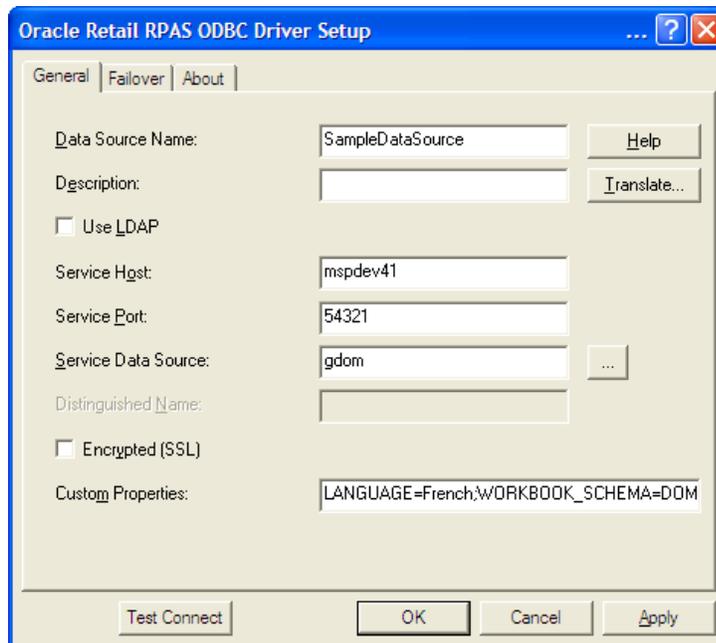
Windows Platform

The figure below shows a sample data source in the 13.0.x version of the ODBC Client.



RPAS ODBC DSN Setup/Configuration for 13.0.x

In 13.1.2 and later versions, the Microsoft ODBC Administrator is used for creating and configuration the ODBC data source.



RPAS ODBC Driver Setup (Versions 13.1.2 and Later)

All properties in **Optional Properties** and **Additional Optional Properties** in 13.0.x map to the **Custom Properties** in the new version (13.1.2 or later). The properties are listed below.

- NORMALIZE_DIM_TABLES
- SCHEMA_IN_CACH
- LANGUAGE
- WORKBOOK_SCHEMA
- AGG_TABLE_NAMES
- SHORT_DATE_FORMAT
- DEFAULT_SCHEMA
- LOG_FILE
- RPAS_LOG_LEVEL

JDBC Client

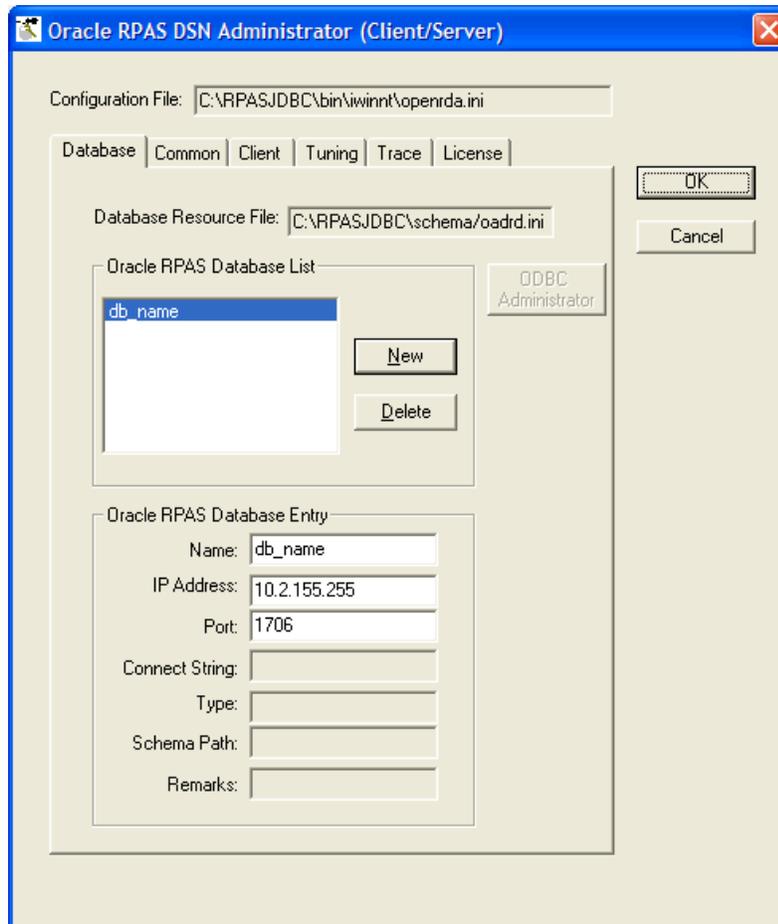
Upgrading from 13.0.x

1. Before uninstalling 13.0.x JDBC Client, record the data sources that you want to migrate to the new version (13.1.2 or later).
 - To do this on Windows platforms, open the Admin Tool (shown in Step 3), gather the name, IP address, and port (of the server).
 - On UNIX platforms, use the command line Admin utility rpsajdbcclientadmin to gather the same information.

You should also collect the optional custom connection properties that may exist in your JDBC URLs if you use URL in your JDBC applications.

2. Uninstall 13.0.x JDBC Client.
 - To do this on Windows, run setup.exe and choose the **Remove** option.
 - On UNIX, delete the jdbcclient directory.

3. Install the new version (13.1.2 or later) of the JDBC Client. For instructions, see the RPAS ODBC/JDBC Driver chapter in the *RPAS Administration Guide for the Fusion Client* or the *RPAS Administration Guide for the Classic Client*. Then use the information gathered in Step 1 to construct the URLs for your JDBC applications.



RPAS DSN Administrator (Client/Server) Window

Upgrading from 13.1.1.x

1. Gather the information for the server's IP address, port number, data source name, and any custom connection properties in the 13.1.1.x JDBC URLs.
2. Delete the 13.1.1.x version of the JDBC Client.
3. Install the new version (13.1.2 or later) JDBC Client.
4. Use the information gathered in Step 1 to construct the JDBC URLs for the new JDBC Client.

RPAS Fusion Client Patch Installation

The Fusion Client patch process follows the same process as the full installation. See the [Installing the RPAS Fusion Client](#) section for detailed instructions. Before applying the patch, ensure that you backup the Fusion Client installation as a precaution.

When applying a Fusion Client patch, the existing configuration files are backed up and applied to the new installation. Ensure that the configuration files are restored correctly and that the ProfileList.xml file is correct. For more information on the configuration files, refer to the *Oracle Retail Predictive Application Server Administration Guide for the Fusion Client*.

Notes:

After applying any Fusion Client patch, ensure that all users clear their browser cache.

The patch installation may add an entry into the ProfileList.xml file based on the information provided in the installation properties file (ant.install.properties).

If the connection-spec name is the same as the one already in the ProfileList.xml, the patch installation will update the connection-spec parameters with the ones specified in the ant.install.properties file.

If this connection information is not needed, update the ProfileList.xml file and restart the WebLogic server.

RPAS Classic Client Patch Installation

The RPAS Classic Client can be installed through either of the following methods:

- [Windows installer](#)
- [Web-based deployment](#)

The following sections describe the installation processes for these two methods.

Windows Installer Method

This section describes the installation of the RPAS Classic Client on Windows machines, and describes how to configure the client to connect to a domain.

Make RPAS Classic Client Files Generally Accessible

Perform the following procedure to make the RPAS Classic Client available.

1. Create a directory on the network from where users will install the RPAS Classic Client.

The location and the name of the directory are up to the system administrator's preferences. This directory is henceforth referred to as the [RPASCLIENT] directory.

2. Extract the client from the ARPOPlatform-13.2.3.clients.zip included in the main package to the [RPASCLIENT] directory.

Installing the RPAS Classic Client

The RPAS Classic Client installation procedure is the same for all of the RPAS applications. Perform the following procedures to install the application onto a PC.

1. Run the setup.exe file located in the [RPASCLIENT] directory on the network.
2. The welcome page is displayed. Follow the installation procedures as prompted.

The setup program exits after the installation is complete.

Configuration

After creating an RPAS domain and starting the DomainDaemon (see the *RPAS Administration Guide for the Fusion Client* or the *RPAS Administration Guide for the Classic Client*), you must configure the RPAS Classic Client to connect to the domain on a server. This section provides instructions for configuring the RPAS Classic Client on a local computer using a Microsoft Windows operating system.

The EConfigure Utility

EConfigure is a Windows application that configures the client-server communication for RPAS. EConfigure lets you specify communication parameters and produces a file that is used as input to the client. These files must be in FCF (Foundation Configuration File) format/extension. The files contain the necessary information for the client to start up the communication with the server. These files can be stored on the client machine or on the network.

When the client is executed, a file named `Foundation.FCF` is expected in the same directory. If the file has a different name or if it is stored somewhere on the network, the path to this file must be passed in as an argument to the client.

EConfigure consists of a menu bar, a main view, and the advanced settings dialog box. Passwords saved in the FCF file are encrypted. To launch EConfigure, double-click the `EConfigure.exe` file, which is by default located in the root directory of the RPAS Classic Client.

The Menu Bar

The files produced by EConfigure may contain multiple connections. Each connection will be specific for a server with certain communication settings. Connections need to have unique descriptions, and they can be added and deleted using the menu bar.



The Main View

The main view has the basic connection parameters. On this view, three groups of controls are available:

- The connection group
- The domains group
- The Advanced Settings dialog

The Connection Group

Database Server: The hostname or the IP address of the server, for example, `atldev03` or `10.2.1.23`. This value should be `localhost` when running the RPAS Server on a Windows machine.

Daemon Port: The port number on which the domain daemon is listening. This must be an integer between 1025 and 65535 (for example, 55278).

The Domains Group

Domain: The name of the domain that is displayed to the user when logging in. Select a domain from the list or type the name of a new domain and click **Add Domain**. You can delete a domain from the list by selecting it and then clicking **Delete Domain**.

Domain Path: The full path to the directory containing the domain, for example, `/root/testenv/domain/Sample_Project`

User: Provide the user ID if you do not want to force the user to provide it when logging in. The user ID must be defined in the associated domain.

Password: provide the password for the above user if you do not want to force the user to provide it when logging in. This password must match the password defined in the domain for the associated user.

The Advanced Settings Dialog

Default Database Login

User: The database user that is used by the client if a domain specific user has not been entered, for example, adm.

Password: Like the default database user, default database password is used if a domain specific password has not been entered, for example, adm.

Database Port Range: Port range is used to specify the range of ports on which the RPAS Server processes is started by the DomainDaemon (the rpaDbServer processes). The port **Start** and port **End** fields are the lower and upper limits of this range respectively.

These fields must be integers between 1025 and 65535, which are also the default values if values are not specified, for example, Start: 40000, End: 45000.

Compression Threshold: The number of bytes above which client and server are using compression. Only advanced users should manipulate this number.

Web Tunneling: The configuration of Web tunneling.

Proxy Settings: The configuration of the RPAS Classic Client to support a proxy server is not completed in this utility.

Classic Client Web Deployment

For instructions on Classic Client web deployment for patch installations, see the [RPAS Classic Client Web Deployment](#) chapter in the Full Installation section. The web deployment instructions for full installations and patch installations are the same.

Appendix: Bandwidth Requirements

Understanding Bandwidth Requirements

The bandwidth requirements for a Web-based deployment of the RPAS Classic Client are minimal. The only large data transfer that occurs in this configuration is installation of the RPAS Classic Client to a PC (approximately 5 MB of data). This happens very infrequently. The client software is installed the first time a PC tries to connect to a domain or if the PC has an older version of the software that needs to be upgraded.

Appendix: RPAS Sizing and Partitioning Considerations

This appendix provides guidelines and information on what to consider when sizing and partitioning RPAS domains. This appendix is not specific to any one solution. It is meant to give general information that will help you size and partition your solutions to achieve optimal performance.

RPAS Sizing

The number of positions within the hierarchies of a solution has an effect on the on-line and batch performance of a domain. When using a global domain, the positions along the partitioned hierarchy will be split among local domains. This partitioning will help in certain areas but is not a reason to include large numbers of positions in a single global domain environment. While there is no hard limit on how big a single global domain environment should be, the number of positions within the lowest level of each hierarchy should not be excessive. There are certain batch operations (loading hierarchies, reshaping arrays, repartitioning data between domains) that will be affected no matter how many local domains are created.

For example, assume that there is a solution that has a product, location and calendar hierarchy. In one environment, you have a single global domain instance with the product hierarchy having 1 million positions at the lowest level, the location hierarchy having 100 positions and the calendar hierarchy having 5 years. In a second environment, you have two global domain instances each with 500,000 product positions, 100 locations and 5 years of data. The loading of the product hierarchy in the first environment will be longer in than the second environment no matter how the local domains are partitioned.

Partitioning Considerations

The purpose of using a global domain and partitioning data across multiple domains is to help reduce contention, provide smaller domains for most users to interact with and to allow for parallel processing during batch. If the partitioning is not done correctly, it can lead to unnecessary contention or poor performance.

Here are some key considerations to make when determining how to partition a global domain environment.

- The hierarchy that you partition on should allow the users the ability to work in a single local domain. If users require access to all positions within a hierarchy, that is not a good candidate for partitioning. For example, it does not make sense to partition on the location hierarchy if your business process requires all users to include all locations in each workbook.
- The partition level should also be above the level at which most of the data is stored. If most data is stored at the division level or below in the product hierarchy, the partition level should be at the division level or above. When data is based above the partition level of the domain, the data will be stored in the master domain. All users across the local domains that require this data will

have contention from all of the users and not just the users of the local domain they are working in.

- The partitioning should be set such that the business requirements do not require high usage of the master domain. The performance of a workbook built from the master domain will never match that of a local domain workbook. The heavy usage of workbooks should take place across the local domains. For example, if most of the users only need to see data within a division then the partitioning should not be done below that level.
- The number of users that are in a single local domain should be evenly distributed across all the domains in a global domain environment. If there are a larger number of users in a single local domain than others, it will not matter how many partitions you create. The domain with the largest user group will always have the potential to experience more contention issues and poor performance. If possible, create more domains and separate more users across those domains.

Workbook Sizing Considerations

The impact of size for the end user is not limited to just the size of the domain or where they are building a workbook from. The size of the individual workbooks will have a direct affect on the performance they experience. The workbook size is a result of the number of measures and number of positions from each of the hierarchies included in the built workbook.

The number of measures for a workbook template is static based on what is configured. The more measures that are configured in a template the larger the workbook becomes. As workbooks get larger, workbook operations will take longer. Specifically, operations like save and open are directly related to the overall size of the workbook.

Since the number of measures in a given workbook template are static based on what is configured, the number of positions in each hierarchy is the only factor that the end user controls from workbook to workbook using the same template. Two workbooks for the same template may have completely different performance based on how many positions are included.

The simplest way to compare the size of two workbooks for the same template is to multiply the number of positions for each hierarchy at the base intersection of the template and the measures. For example, assume that there is a workbook that has the majority of measures based at the week/style-color/channel. This workbook always contains 500 measures so that is a constant. If there is one workbook that contains 52 weeks (1 year), 300 style colors and 3 channels, the total possible positions at the base level would be slightly over 23 million cells. This does not include any aggregate values a user may view. If a user built the same workbook for 2 years (104 weeks), the total possible positions double to over 46 million cells. Going back to the first example and just including 450 style colors instead of 300, the total possible base level cells would increase to over 35 million. Although there is no maximum number of cells that should be contained in a workbook, the number does have an impact on performance and therefore should be considered during design. If workbooks contain a total possible number of positions at the base level in the hundreds of millions, not only will the workbook performance be less than ideal but also the user will not be able to manage that level of detail.

Appendix: RPAS Server Patch Installation on Windows

The RPAS Server can be patched on a Windows machine by using `rsp_manager`. The `rsp_manager` (Retail Service Pack Manager) is a Perl script system that is capable of currently patching the following:

- RPAS
- Configuration Tools
- Domains
- Solution Environments (AIP_HOME, SCL_HOME, etc)

This system will automatically run any creates, scripts, or procedures that need to be run when a patch is applied.

Prerequisites

You must have Perl 5.005 or later installed on your system. Most Unix variants will have this installed by default. On Windows, an installation of Cygwin is required.

Install Cygwin

Cygwin is required if the RPAS Server is to be installed on Windows operating systems. You can find more information about downloading this product at <http://www.cygwin.com>.

For installation guidance, see the following note on My Oracle Support (<https://support.oracle.com>):

Cygwin Setup Guide for RPAS (Note 1333398.1)

This document details necessary options you should select when installing Cygwin to make it function properly with RPAS.

Applying a Service Pack

The following instructions describe how to install a service pack.

1. Copy `component-ver.os.tar.zip`

Note: This component will be named “-ver.os.zip” for Windows.

The service pack is shipped as a compressed `.tar` or `.zip`, depending on the platform. The file will be named based on the release level of the code contained within. Copy the service pack `.tar.zip` or `.zip` file to a standard service pack directory that you have previously set up.

Example

Create a service pack directory at:

```
/files1/service_packs
```

Then, copy the service pack file to:

```
cp ./ARPOplatform-13.2.3.sun.tar.zip /service_packs
```

...where `/service_packs` is a user-created directory for archived service packs. In Windows, this directory would resemble the directory `C:\service_packs`.

2. Unpack the service pack from the `.tar.zip` or `.zip` file from step 1.

Example

The following are example Unix commands to unpack the service pack.

```
cd /service_packs
unzip ARPOplatform-13.2.3.sun.tar.zip
tar -xvf
```

This will create a subdirectory in your service pack directory named the same as the service patch/pack version, which contains a directory for the platform. In this directory, you will see subdirectories for each of the modules this service pack is updating. For example, if this service pack has updates to RPAS, domains, and tools, the following module directories could be created:

```
/service_packs/ARPOplatform/13.2.3/sun/rpas
/service_packs/ARPOplatform/13.2.3/sun/domain
/service_packs/ARPOplatform/13.2.3/sun/tools
```

Additionally, this document, Release Notes, and a copy of any service pack installation scripts/libraries will be copied to a location such as:

```
/service_packs/ARPOplatform/13.2.3
```

Note: In Windows, you may use WinZip or a similar unzipping tool for this step.

3. Apply the service pack on a staging or production server. After extracting the service pack, you will have to apply the service pack to the installed components and any domains that have been built. Note that the service pack installation should be carried out on the same operating system as that on which the product resides.

The syntax of applying a service pack with `rsp_manager` is:

```
rsp_manager -install -sp <sp path> -domain <domain path>
```

Example 1

To apply service pack 13.2.3 for ARPOplatform and domain `/domain1`, use the following commands:

```
cd /service_packs/ARPOplatform/13.2.3/
./rsp_manager -install -sp sun -domain /domain1
```

Example 1

To turn on file logging of the output and store the results of the application in `domain1.log`, use the following commands:

```
cd /service_packs/ARPOplatform/13.2.3/
./rsp_manager -install -sp sun -domain /domain1 -log domain1.log
```

Following installation, a validation process will be run against your patched install.

Applying Service Packs on Multiple Domains

If you have more than one domain running off the same ARPOplatform, it is possible to create a domain list file and supply that file path, instead of the domain path, as an argument. This will be a text file with a full path to a domain on each line.

The additional syntax of `rsp_manager` is:

```
rsp_manager -install -sp <sp path> -domain <domain_list_file>
```

Example

To install service pack 13.2.3 for ARPOplatform and all domains listed in `/files/domain_list.txt`, use the following commands:

```
cd /service_packs/ARPOplatform/13.2.3/
./rsp_manager -install -sp sun -domain /files/domain_list.txt
...where /files/domain_list.txt looks similar to this:
cat /files/domain_list.txt
/domains/domain1
/domains/domain2
/domains/domain3
```

Note: Logging will work with multiple domains, but only one file will be created and written to. This single log will contain the output from all updated modules and domains.

Optional Arguments or Commands for `rsp_manager`

`rsp_manager` has optional arguments that will allow you to perform tasks such as an installation version report, install or patch validation, and patch application forcing. The following sections provide details on these arguments.

-no_rpas

This flag stops your `RPAS_HOME` from being patched. This can be used in conjunction with `-no_tools`, but still passing domains, in order to upgrade a domain to your `RPAS_HOME` code level without performing an `RPAS` upgrade.

-no_tools

This flag stops your `RIDE_HOME` from being patched. This can be used in conjunction with `-no_rpas`, but still passing domains, in order to upgrade a domain to your `RPAS_HOME` code level without performing a tools upgrade.

-no_domain

This flag stops the patch from being applied to any domains.

-log <logfile>

Although logging is done by default, the log will be saved to the current working directory as a date-stamped filename. This flag allows you to change the name of the log file created to the argument you pass.

-force

This flag enforces the application of the patch/patch regardless of the versions that the components report. This allows you to reapply a patch that has already been applied, while also running any update scripts that might have already been run.

Example

To force reinstallation of the 13.2.3 service patch onto your installation and a single domain, with logging:

```
cd /service_packs/ARPOplatform/13.2.3/  
./rsp_manager -install -sp sun -domain /domain1 -log domain1.log -force
```

-validate

This flag is run by default at the end of all `-install` processes. The purpose of this flag is to validate components of the service patch/patch against your installation. Currently, this will only check your core binaries and libraries in both `RPAS_HOME` and `RIDE_HOME`. Tests include permissions comparisons and file checksum validation, which are represented in the output as “P” or “C” respectively upon errors.

Example

To validate the 13.2.3 Sun service patch against your installation any time after patching:

```
cd /service_packs/ARPOplatform/13.2.3/  
./rsp_manager -validate -sp sun  
Validating your updated install against the service pack/patch -  
.....  
....  
.....  
Validation complete...  
Files Checked: 106  
Files Passed: 106  
Files Failed: 0
```

Note that the number of files checked might not match the above number, as it changes quantity based on platform and patch version. If any files fail, a listing of those failed files will be presented, each being preceded by flags (“C” or “P”) to indicate which check(s) failed.

-report

This flag checks each component of your installation, including domain(s) that you pass in, and reports the current service pack/patch level of each. If you believe that a patch has been applied, yet you are still having an issue that is reported to be resolved, the output of this flag will confirm whether the patch has actually been applied.

Example

To check versions of installed components and domains listed in the /files/domain_list.txt text file:

```
./rsp_manager -report -domain /files/domain_list.txt
rpas level: 13.2.3
tools level: 13.2.3
/domains/domain1: 13.2.3
/domains/domain2: 13.2.3
/domains/domain3: 13.2.3
```

This output shows that RPAS_HOME, RIDE_HOME, and the domains listed have all been patched up to 13.2.3.

This report output, along with the output of a `-validate` execution, can be of great use to support when trying to debug an issue.

Optional Environment Variables

Note: The following process is not a suggested installation process, but Oracle Retail acknowledges that it may be more efficient in some limited cases.

Since `rsp_manager` relies on the `Retek.pm` library, this file must normally be in the same directory as that from which you run `rsp_manager`. You may use an environment variable to point to the path that contains the library so that they can be split from each other. A useful instance would be setting up a directory in your path and placing `rsp_manager` inside, while using the `RSP_HOME` environment variable to point to the directory that contains the `Retek.pm` file. This would allow you to run `rsp_manager` from anywhere on the system.

Example

To be able to run `rsp_manager` from anywhere:

```
> cd /service_packs/ARPOplatform/13.2.3/
> ls
rsp_manager      Retek.pm
> mkdir ~/bin
> cp ./rsp_manager ~/bin/
> export PATH=~:/bin:$PATH
> export RSP_HOME=/service_packs/ARPOplatform/13.2.3
```

At this point, you can `cd` to anywhere on the disk and run `rsp_manager`.

Please keep in mind that if you do choose to split these files, when you obtain new copies of the script and library, you will need to place them into the locations you reference in `$PATH` and `$RSP_HOME`.

Appendix: Workspace and Oracle Single Sign-On

The Oracle Retail Workspace installer prompts you to enter the URL for your supported Oracle Retail applications. However, if a client installs a new application after Oracle Retail Workspace is installed, the `retail-workspace-page-config.xml` file needs to be edited to reflect the new application.

Integration with Oracle Retail Workspace

The file as supplied comes with all appropriate products configured, but the configurations of non-installed products have been turned off. Therefore, when turning on a product, locate the appropriate entry, set **rendered** to **true**, and enter the correct URL and parameters for the new application.

The entry consists of the main URL string plus one parameter named `config`. The value of the `config` parameter is inserted by the installer. Somewhere in the installer property files there is a value for the `deploy.retail.product.rms.url` and `deploy.retail.product.rms.config` properties.

The entry consists of the main URL string plus one parameter named `config`. The value of the `config` parameter will be inserted by the installer. Somewhere in the installer property files there will be a value for the `deploy.retail.product.rms.url` and `deploy.retail.product.rms.config` properties.

For example, suppose RMS was installed on `mycomputer.mycompany.com`, port `7777`, using a standard install and configured with the application name of `rms121sedevhpsso`. If you were to access RMS directly from your browser, you would type in:

```
http://mycomputer.mycompany.com:7777/forms/frmservlet?config=rms121sedevhpsso
```

The entry in the `retail-workspace-page-config.xml` after installation would resemble the following:

```
http://mycomputer.mycompany.com:7777/forms/frmservlet</url>
  <parameters>
    <parameter name="config">
      <value>rms121sedevhpsso</value>
    </parameter>
  </parameters>
```

Oracle Single Sign-On Overview

This section provides a basic description of Oracle Single Sign-On.

What is Single Sign-On?

Single Sign-On (SSO) is a term for the ability to sign onto multiple Web applications via a single user ID/Password. There are many implementations of SSO. Oracle currently provides three different implementations: Oracle Single Sign-On (OSSO), Java SSO (with the 10.1.3.1 release of OC4J) and Oracle Access Manager (provides more comprehensive user access capabilities).

Most, if not all, SSO technologies use a session cookie to hold encrypted data passed to each application. The SSO infrastructure has the responsibility to validate these cookies and, possibly, update this information. The user is directed to log on only if the cookie is not present or has become invalid. These session cookies are restricted to a single browser session and are never written to a file.

Another facet of SSO is how these technologies redirect a user's Web browser to various servlets. The SSO implementation determines when and where these redirects occur and what the final screen shown to the user is.

Most SSO implementations are performed in an application's infrastructure and not in the application logic itself. Applications that leverage infrastructure managed authentication (such as deploying specifying Basic or Form authentication) typically have little or no code changes when adapted to work in an SSO environment.

What Do I Need for Oracle Single Sign -On?

The nexus of an Oracle Single Sign-On system is the Oracle Identity Management Infrastructure installation. This consists of the following components:

- An Oracle Internet Directory (OID) LDAP server, used to store user, role, security, and other information. OID uses an Oracle database as the back-end storage of this information.
- An Oracle HTTP Server 11g Release 1 as a front end to the Oracle WebLogic Server. The Oracle HTTP Server is included in the Oracle Web Tier Utilities 11g Release 1 (11.1.1).
- An Oracle Single Sign-On Plug-in, used to authenticate the user and create the OSSO session cookie. This is available in the Oracle Fusion Middleware 11g Web Tier Utilities package.
- The Delegated Administration Services (DAS) application, used to administer users and group information. This information may also be loaded or modified through standard LDAP Data Interchange Format (LDIF) scripts.
- Additional administrative scripts for configuring the OSSO system and registering HTTP servers.

For more information on setting up single sign-on, see *RPAS Administration Guide for the Classic Client* or the *RPAS Administration Guide for the Fusion Client*.

Additional WebLogic managed servers are needed to deploy the business applications leveraging the OSSO technology.

Can Oracle Single Sign-On Work with Other SSO Implementations?

Yes, OSSO has the ability to interoperate with many other SSO implementations, but some restrictions exist.

Oracle Single Sign-On Terms and Definitions

This section lists the terms and definitions used in Oracle Single Sign-On.

Authentication

Authentication is the process of establishing a user's identity. There are many types of authentication. The most common authentication process involves a user ID and password.

Dynamically Protected URLs

A Dynamically Protected URL is a URL whose implementing application is aware of the OSSO environment. The application may allow a user limited access when the user has not been authenticated. Applications that implement dynamic OSSO protection typically display a Login link to provide user authentication and gain greater access to the application's resources.

Identity Management Infrastructure

The Identity Management Infrastructure is the collection of product and services which provide Oracle Single Sign-On functionality. This includes the Oracle Internet Directory, an Oracle HTTP server, and the Oracle Single Sign-On services. The Oracle Application Server deployed with these components is typically referred as the Infrastructure instance.

MOD_OSSO

mod_osso is an Apache Web Server module an Oracle HTTP Server uses to function as a partner application within an Oracle Single Sign-On environment. The Oracle HTTP Server is based on the Apache HTTP Server.

MOD_WEBLOGIC

mod_weblogic operates as a module within the HTTP server that allows requests to be proxied from the Apache HTTP server to the WebLogic server.

Oracle Internet Directory

Oracle Internet Directory (OID) is an LDAP-compliant directory service. It contains user IDs, passwords, group membership, privileges, and other attributes for users who are authenticated using Oracle Single Sign-On.

Partner Application

A partner application is an application that delegates authentication to the Oracle Identity Management Infrastructure. One such partner application is the Oracle HTTP Server (OHS) supplied with the Oracle Application Server. OHS uses the MOD_OSSO module to configure this functionality.

All partner applications must be registered with the Oracle Single Sign-On server. An output product of this registration is a configuration file the partner application uses to verify a user has been previously authenticated.

Realm

A Realm is a collection users and groups (roles) managed by a single password policy. This policy controls what may be used for authentication (for example, passwords, X.509 certificates, and biometric devices). A Realm also contains an authorization policy used for controlling access to applications or resources used by one or more applications.

A single OID can contain multiple Realms. This feature can consolidate security for retailers with multiple banners or to consolidate security for multiple development and test environments.

Statically Protected URLs

A URL is considered to be Statically Protected when an Oracle HTTP server is configured to limit access to this URL to only SSO authenticated users. Any attempt to access a Statically Protected URL results in the display of a login page or an error page to the user.

Servlets, static HTML pages, and JSP pages may be statically protected.

Note: Dynamically Protected URL and Statically Protected URL are within the context of the Oracle Software Security Assurance (OSSA). The static protection for URLs is a common JEE feature.

What Single Sign-On is Not

Single Sign-On is not a user ID/password mapping technology.

However, some applications can store and retrieve user IDs and passwords for non-SSO applications within an OID LDAP server. An example of this is the Oracle Forms Web Application framework, which maps OSSO user IDs to a database logins on a per-application basis.

How Oracle Single Sign-On Works

Oracle Single Sign-On involves four different components. These are:

- The Oracle Single Sign-On (OSSO) servlet, which is responsible for the back-end authentication of the user.
- The Oracle Internet Directory LDAP server, which stores user IDs, passwords, and group (role) membership.

Note: RPAS usernames are case sensitive. Therefore, when setting up an SSO environment, ensure that the case sensitivity is maintained.

- The Oracle HTTP Server associated with the Web application, which verifies and controls browser redirection to the OSSO servlet.
- If the Web application implements dynamic protection, then the Web application itself is involved with the OSSO system.

Statically Protected URLs

When an unauthenticated user accesses a statically protected URL, the following occurs:

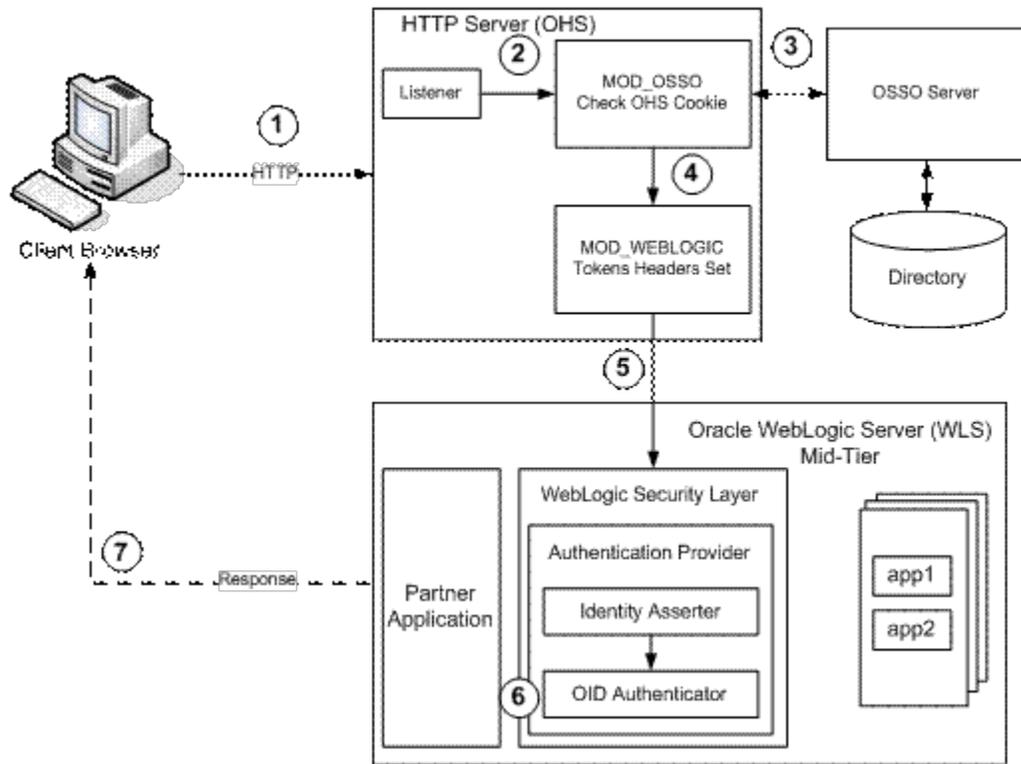
1. The user's Web browser makes an HTTP request to a protected URL serviced by the Oracle HTTP Server (OHS).
2. The Oracle HTTP Server processes the request and routes it to the mod_oss module.
3. This module determines whether the user is already authenticated. If the authentication is required, it directs the browser to the OSSO server. The OSSO server checks for a secure cookie containing the authentication information. If the cookie is not found, the following occurs:
 - a. The OSSO servlet determines the user must authenticate, and displays the OSSO login page.
 - b. The user must sign in with a valid user ID and password. If the OSSO servlet has been configured to support multiple Realms, a valid realm must also be entered. The user ID, password, and realm information is validated against the Oracle Internet Directory LDAP server. The browser is then redirected back to the Oracle HTTP Server with the encrypted authentication credentials. It does NOT contain the user's password.
4. The mod_osso module then decrypts the user credentials and sets HTTP headers with relevant user attributes, marking the user's session as authenticated.

5. The `mod_weblogic` module (within the Oracle HTTP Server) then forwards the request to the Oracle WebLogic Server.
6. The Oracle WebLogic Server then invokes the configured authentication providers that decode the headers and provide the user's role membership. In an OSSO implementation, ensure that the OSSO Identity Asserter is invoked and Oracle Internet Directory (OID) Authenticator is executed to provide the user's role membership.
7. Once the authentication is established, the relevant application logic is initiated and the response is sent back to the user through the Oracle HTTP Server. Because the Web browser session is now authenticated, subsequent requests in that session are not redirected to the OSSO server for authentication.

Dynamically Protected URLs

When an unauthenticated user accesses a dynamically protected URL, the following occurs:

1. The user's Web browser makes an HTTP request to a protected URL serviced by the Oracle HTTP Server (OHS). The Oracle HTTP server recognizes the user has not been authenticated, but allows the user to access the URL.
2. The application determines the user must be authenticated and send the Oracle HTTP Server a specific status to begin the authentication process.
3. The Oracle HTTP Server processes the request and routes it to the `mod_oss` module.
4. This module determines whether the user is already authenticated. If the authentication is required, it directs the browser to the OSSO server. The OSSO server checks for a secure cookie containing the authentication information. If the cookie is not found, the following occurs:
 - a. The OSSO servlet determines the user must authenticate, and displays the OSSO login page.
 - b. The user must sign in through a valid user ID and password. If the OSSO servlet has been configured to support multiple Realms, a valid realm must also be entered. The user ID, password, and realm information is validated against the Oracle Internet Directory LDAP server. The browser is then redirected back to the Oracle HTTP Server with the encrypted authentication credentials. It does NOT contain the user's password.
5. The `mod_osso` module then decrypts the user credentials and sets HTTP headers with relevant user attributes, marking the user's session as authenticated.
6. The `mod_weblogic` module (within the Oracle HTTP Server) then forwards the request to the Oracle WebLogic Server.
7. The Oracle WebLogic Server then invokes the configured authentication providers that decode the headers and provide the user's role membership. In an OSSO implementation, ensure that the OSSO Identity Asserter is invoked and Oracle Internet Directory (OID) Authenticator is executed to provide the user's role membership.
8. Once the authentication is established, the relevant application logic is initiated and the response is sent back to the user through the Oracle HTTP Server. Because the Web browser session is now authenticated, subsequent requests in that session are not redirected to the OSSO server for authentication.



Single Sign-On Topology

Installation Overview

Installing Oracle Single Sign-On consists of installing the following components:

1. Installing the Oracle Internet Directory (OID) LDAP server and the Infrastructure Oracle Application Server (OAS). These are typically performed using a single session of the Oracle Universal Installer and are performed at the same time. OID requires an Oracle relational database and if one is not available, the installer will also install this as well.

The Infrastructure OAS includes the Delegated Administration Services (DAS) application as well as the OSSO servlet. The DAS application can be used for user and realm management within OID.

2. Installing additional midtier instances (such as OAS 10.1.4) for the Oracle Retail applications, such as RMS, that are based on Oracle Forms technologies. These instances must be registered with the Infrastructure OAS installed in step 1.
3. Installing additional application servers to deploy other Oracle Retail applications and performing application specific initialization and deployment activities.

Infrastructure Installation and Configuration

The Infrastructure installation for OSSO is dependent on the environment and requirements for its use. Deploying an Infrastructure OAS to be used in a test environment does not have the same availability requirements as for a production environment. Similarly, the Oracle Internet Directory (OID) LDAP server can be deployed in a variety of different configurations. See the *RPAS Installation Guide* and the *Oracle Internet Directory Installation Guide* for more details.

OID User Data

Oracle Internet Directory is an LDAP v3 compliant directory server. It provides standards-based user definitions out of the box.

The current version of Oracle Single Sign-On only supports OID as its user storage facility. Customers with existing corporate LDAP implementations may need to synchronize user information between their existing LDAP directory servers and OID. OID supports standard LDIF file formats and provides a JNDI compliant set of Java classes as well. Moreover, OID provides additional synchronization and replication facilities to integrate with other corporate LDAP implementations.

Each user ID stored in OID has a specific record containing user specific information. For role-based access, groups of users can be defined and managed within OID. Applications can thus grant access based on group (role) membership saving administration time and providing a more secure implementation.

OID with Multiple Realms

OID and OSSO can be configured to support multiple user Realms. Each realm is independent from each other and contains its own set of user IDs. As such, creating a new realm is an alternative to installing multiple OID and Infrastructure instances. Hence, a single Infrastructure OAS can be used to support many development and test environments by defining one realm for each environment.

Realms may also be used to support multiple groups of external users, such as those from partner companies. For more information on Realms, see the *Oracle Internet Directory Administrators Guide*.

User Management

User Management consists of displaying, creating, updating or removing user information. There are two basic methods of performing user management: LDIF scripts and the Delegate Administration Services (DAS) application.

OID DAS

The DAS application is a Web-based application designed for both administrators and users. A user may update their password, change their telephone number of record, or modify other user information. Users may search for other users based on partial strings of the user's name or ID. An administrator may create new users, unlock passwords, or delete users.

The DAS application is fully customizable. Administrators may define what user attributes are required, optional or even prompted for when a new user is created.

Furthermore, the DAS application is secure. Administrators may also what user attributes are displayed to other users. Administration is based on permission grants, so different users may have different capabilities for user management based on their roles within their organization.

LDIF Scripts

Script based user management can be used to synchronize data between multiple LDAP servers. The standard format for these scripts is the LDAP Data Interchange Format (LDIF). OID supports LDIF script for importing and exporting user information. LDIF scripts may also be used for bulk user load operations.

User Data Synchronization

The user store for Oracle Single Sign-On resides within the Oracle Internet Directory (OID) LDAP server. Oracle Retail applications may require additional information attached to a user name for application-specific purposes and may be stored in an application-specific database. Currently, there are no Oracle Retail tools for synchronizing changes in OID stored information with application-specific user stores. Implementers should plan appropriate time and resources for this process. Oracle Retail strongly suggests that you configure any Oracle Retail application using an LDAP for its user store to point to the same OID server used with Oracle Single Sign-On.

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), Optional: Oracle Retail Fiscal Management (ORFM)

Note: ORFM is an optional application for RMS if you are implementing Brazil localization.

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 `remote_service_locator_info_ribserver.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 `remote_service_locator_info_ribserver.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)

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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 (IP COE)
 24. Oracle Retail Advanced Inventory Planning (AIP)
 25. Oracle Retail Integration Bus (RIB)
 26. Oracle Retail Point-of-Service (ORPOS)
 27. Oracle Retail Markdown Optimization (MDO)
 28. Oracle Retail Clearance Optimization Engine (COE)
 29. Oracle Retail Analytic Parameter Calculator for Markdown Optimization (APC-MDO)
 30. Oracle Retail Analytic Parameter Calculator for Regular Price Optimization (APC-RPO)
 31. Oracle Retail Promotion Intelligence and Promotion Planning and Optimization (PI-PPO)
 32. Oracle Retail Workspace (ORW)