

**Oracle® E-Business Suite**

Upgrade Guide

Release 12.0 and 12.1 to 12.2

**Part No. E48839-03**

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Oracle E-Business Suite Upgrade Guide, Release 12.0 and 12.1 to 12.2

Part No. E48839-03

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# Send Us Your Comments

## Oracle E-Business Suite Upgrade Guide, Release 12.0 and 12.1 to 12.2

### Part No. E48839-03

Oracle welcomes customers' comments and suggestions on the quality and usefulness of this document. Your feedback is important, and helps us to best meet your needs as a user of our products. For example:

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

## Intended Audience

Welcome to Release 12.0 and 12.1 to 12.2 of the *Oracle E-Business Suite Upgrade Guide*.

This book provides instructions for upgrading existing Oracle E-Business Suite Release 12.0 and 12.1 systems to Release 12.2. In this upgrade, run Rapid Install to prepare your 12.0 or 12.1 system for the upgrade. It delivers the unified driver that you use to upgrade the technology stack and products to Release 12.2.

This book is intended as a guide for the database administrator and the application specialists who are responsible for upgrading to Release 12.2 of Oracle E-Business Suite.

See Related Information Sources on page x for more Oracle E-Business Suite product information.

## Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

## Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

## Structure

- 1 Planning for an Upgrade**
- 2 Preparing for the Upgrade**
- 3 Upgrading to Release 12.2**
- 4 Oracle E-Business Suite Online Patching**

## 5 Post Upgrade Tasks

### A Financials Upgrade Impact

### B Human Resource Management Upgrade Impact

This appendix describes the way the upgrade affects your existing Oracle Human Resource Management System (HRMS) products, and highlights the impact of these functional changes on your day-to-day business. This section contains products in the HRMS product family, arranged alphabetically.

### C Supply Chain Management Upgrade Impact

### D Product Documentation List

## Related Information Sources

This book was current as of the time it was initially published. It is included in the Oracle E-Business Suite Document Library, which is supplied in the Release 12.2 software bundle. Later versions of this and other documents that have changed sufficiently between releases to warrant re-publishing are made available at the following URL:

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

A full list of documentation resources is also published on *My Oracle Support*. See *Oracle E-Business Suite Documentation Resources, Release 12.2*. You should be familiar with a basic subset of references before you upgrade. They include:

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<b>If you are looking for information about...</b>	<b>Refer to these documents...</b>
System setup and procedures	<i>Oracle E-Business Suite Concepts</i> <i>Oracle E-Business Suite Setup Guide</i> <i>Oracle E-Business Suite Maintenance Guide</i> <i>Oracle E-Business Suite Security Guide</i> <i>Oracle Workflow Administrator's Guide</i> <i>Oracle XML Gateway User's Guide</i>
Installation and upgrade	<i>Oracle E-Business Suite Installation Guide: Using Rapid Install</i> <i>Oracle E-Business Suite Upgrade Guide: Release 11i to Release 12.2</i> <i>Oracle E-Business Suite Installation and Upgrade Notes*</i> <i>Oracle E-Business Suite Release Notes*</i> <i>Oracle E-Business Suite NLS Release Notes*</i>

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If you are looking for information about...	Refer to these documents...
Product-specific features	<i>Electronic Technical Reference Manual (eTRM)*</i> Release Content Documents (RCDs)* Product-specific implementation and upgrade guides
RDBMS	<i>Database Preparation Guidelines for an Oracle E-Business Suite Release 12.2 Upgrade</i> <i>Oracle Database 11g Release 2 Documentation Set</i> <i>Interoperability Notes: Oracle E-Business Suite Release 12 with Oracle Database 11g Release 2 (11.2.0)*</i>

\* Available only on *My Oracle Support*.

Patch readme files may also contain information about additional recommended documentation.

## Do Not Use Database Tools to Modify Oracle E-Business Suite Data

Oracle STRONGLY RECOMMENDS that you never use SQL\*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle E-Business Suite data unless otherwise instructed.

Oracle provides powerful tools you can use to create, store, change, retrieve, and maintain information in an Oracle database. But if you use Oracle tools such as SQL\*Plus to modify Oracle E-Business Suite data, you risk destroying the integrity of your data and you lose the ability to audit changes to your data.

Because Oracle E-Business Suite tables are interrelated, any change you make using an Oracle E-Business Suite form can update many tables at once. But when you modify Oracle E-Business Suite data using anything other than Oracle E-Business Suite, you may change a row in one table without making corresponding changes in related tables. If your tables get out of synchronization with each other, you risk retrieving erroneous information and you risk unpredictable results throughout Oracle E-Business Suite.

When you use Oracle E-Business Suite to modify your data, Oracle E-Business Suite automatically checks that your changes are valid. Oracle E-Business Suite also keeps track of who changes information. If you enter information into database tables using database tools, you may store invalid information. You also lose the ability to track who has changed your information because SQL\*Plus and other database tools do not keep a record of changes.



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# Planning for an Upgrade

This chapter covers the following topics:

- Overview of the Upgrade
- Installed Components and System Requirements
- Release 12.2 Architecture
- Scheduling Time for an Upgrade
- NLS Upgrade Considerations
- Customized Environments
- Product-specific Considerations

## Overview of the Upgrade

This guide provides a high-level view of an upgrade of Oracle E-Business Suite technology stack and products from Release 12.0 and Release 12.1 to Release 12.2.

## Supported Upgrade Paths

This release includes a re-packaged Rapid Install that makes it possible to upgrade existing 12.0 (12.0.4, 12.0.6) and 12.1(12.1.1, 12.1.2 and 12.1.3) systems directly to Release 12.2.

## Database Upgrade Requirements

To complete the upgrade to Release 12.2, you must upgrade your database to at least Oracle 11g Release 2 (11.2.0.3).

**Note:** See *Database Preparation Guidelines for an Oracle E-Business Suite Release 12.2 Upgrade* (Doc ID: 1349240.1) for more information.

## The Upgrade Process

**Note:** A successful upgrade is a collaboration between the DBA and the application specialists. Both should understand and coordinate all aspects of the upgrade as a part of the planning process.

## Obsolete Products in Release 12.2

This section lists obsolete products in Release 12.2.

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**Product Name**

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\* Oracle Balanced Scorecard

\* Oracle CAD-View 3D

\* Oracle Contracts Intelligence

\* Daily Business Intelligence for Quoting

Demand-Side Product Data Synchronization for GDSN

Document Management and Collaboration

Global Accounting Engine

Information Technology Audit

Supply-Side Product Data Synchronization for GDSN

\* Oracle E-Business Intelligence

\* Oracle Enterprise Planning and Budgeting

\* Oracle Enterprise Performance Foundation

Oracle Financial Aid

\* Oracle Financial Consolidation Hub

\* Oracle Financials and Sales Analyzers

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**Product Name**

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\* Oracle Financials Intelligence

Oracle Funds Pricing

\* Oracle Grants Proposal

\* Oracle HR Intelligence

\* Oracle Install Base Intelligence

\* Oracle Interaction Center Intelligence

\* Oracle Internal Controls Manager

\* Oracle Marketing Intelligence

\* Oracle Operational Intelligence

Oracle Personal Portfolio

\* Oracle Process Manufacturing Intelligence

\* Oracle Procurement Intelligence

\* Oracle Product Intelligence

\* Oracle Product Lifecycle Management

\* Oracle Profitability Manager

\* Oracle Projects Intelligence

\* Oracle Public Sector Budgeting

\* Oracle Sales Intelligence

\* Oracle Service Intelligence

\*\* Oracle Student Recruiting

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**Product Name**

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\*\* Oracle Student Systems

\* Oracle Supply Chain and Order Management Intelligence

\* Oracle Transportation Execution

\* Oracle Transportation Planning

Web Analytics Daily Business Intelligence for iStore

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\* A migration plan exists for customers who have purchased these products in earlier releases. Contact your Sales Representative or Account Manager for more information.

\*\* Customers continuing to use Oracle Student Recruiting and Oracle Student Systems should not upgrade to this release.

Support will be provided to existing customers on earlier releases, in accordance with the Oracle Lifetime Support Policy.

## Business Impact and Functional Changes

In addition to changes to the technology stack and file system, an upgrade also initiates specific changes that affect the way your existing products work after the upgrade, and the look and feel of the user interface. These functional (business-related) changes have an impact on the way you use the products as you conduct daily business.

Functional topics in this guide that pertain to a Release 12.2 upgrade include:

- Reasons for the change and areas that benefit from new functionality
- Functionality that is temporarily disabled or has been made obsolete
- Changes to user interfaces, terminology or concepts, and menu options
- Steps you can take to verify that all transactional data is upgraded as expected
- Suggestions for reducing downtime

## General Information and Required Tasks

Before you prepare your system and product data, you should gather information about the upgrade process, the tools required, the number and types of tasks involved, and the way your system and products will look in Release 12.2. You can find a documentation roadmap on *My Oracle Support*. See *Oracle E-Business Suite*



*Documentation Resources, Release 12.2.* Take special note of the Known Issues section.

## Release 12.2 Updates

Completing this upgrade brings your system to the 12.2.0 release. You can continue to apply the latest Release Update Pack (RUP) at any time to keep your system at the most current release level available. Each release update pack is made up of individual product family RUPs, which contain all the patches associated with that family. You can apply the entire release update pack, or you can apply the product family packs individually.

RUPs are released periodically. Each one is cumulative and includes system updates from all previous RUPs. You can keep abreast of the latest release information, including new RUP announcements and other updates that may affect your upgrade by reviewing the latest version of *Oracle E-Business Suite Release Notes Release 12.2.0*.

## Reference Information

It is very important that you read the documentation associated with this release. It is available in *Oracle E-Business Suite Documentation Resources, Release 12* on *My Oracle Support*. The Product Documentation List in this guide contains a list of basic required reading. In addition, you may also find it useful to review any presentation materials on upgrade technology and white papers on Multi-org, and links to various Consulting services as well as Oracle University training courses.

Application specialists and functional users should pay special attention to the Release Content Documents (RCDs), Electronic Technical Reference Manuals (eTRMs), and Transfer of Information (TOI) documentation for the products that are active in your system. This information describes new features and functionality in Release 12.2.

## Technical Upgrade Tasks

In general, DBAs perform the following tasks in an upgrade:

- Understand installed components, system sizing information, NLS considerations, how to manage customizations, and so on. This information is described in this chapter.
- Upgrading to Release 12.2 begins the system downtime. Tasks in this chapter include upgrading your database (if you have not done so already), using AutoPatch to apply any required patches.
- The Post Upgrade Tasks complete the upgrade process and prepare your system and products for user logon.

## Functional Upgrade Tasks

In general, application specialists perform the following tasks in an upgrade:

- Understand the functional changes that your users will see and work with after the upgrade. Review the information in Appendixes A - D in this guide.
- Perform the tasks required to verify that your transaction data was upgraded or migrated as you intended.
- Determine the best way to upgrade historical data. For example, instead of upgrading all your Oracle Financials accounting data during downtime, you might include only the last fiscal year. If you want to upgrade other fiscal years - months or even years after - you can do so, at any time after the upgrade.

## Installed Components and System Requirements

This section lists the certified components supplied by Rapid Install. Note that requirements for CPU, memory, and disk space (for log files and backup) are typically much larger during an upgrade than during normal operation.

### Technology Stack Components

For a new Release 12.2 installation, Rapid Install automatically installs and configures the required technology stack components for both the database tier and the application tier.

On the database tier, the technology stack includes:

- Oracle Database 11g Release 2 (11.2.0.3)

On the application tier, the technology stack includes:

- Oracle Fusion Middleware 11g PS3 (11.1.1.6.0)
  - Oracle WebLogic Server 11g PS3
  - Oracle WebLogic JSP compiler
  - Oracle FMW 11g Java Required Files (JRF) libraries (except the use of ADF and MDS 11g)
  - Oracle WebLogic Portlet 11g PS3 Container
- JRockit or JDK 6.0
- Apache version 2.2
- Oracle 10g (10.1.2) Applications Server for Oracle EBS Forms based Applications

## Web Services

The Web services component of Oracle Application Server processes requests received over the network from the desktop clients, and includes the following major components:

- Web Listener (Oracle HTTP Server powered by Apache)
- Java Servlet Engine (Oracle WebLogic Server, WLS)

The Web listener component of the Oracle HTTP server accepts incoming HTTP requests (for particular URLs) from client browsers, and routes the requests to WLS.

If possible, the Web server services the requests itself, for example by returning the HTML to construct a simple Web page. If the page referenced by the URL needs advanced processing, the listener passes the request on to the servlet engine, which contacts the database server as needed.

**Note:** See *Oracle E-Business Suite Concepts Release 12.2* for details.

## Software Requirements

Some systems may require platform-specific release maintenance tools. Refer to the *Oracle E-Business Suite Installation and Upgrade Notes* for further information, and to verify whether you need to include them in your upgrade plan. The upgrade requires a minimum of Oracle 11g Release 2 (11.2.0.3). See *Database Preparation Guidelines for an Oracle E-Business Suite Release 12.2 Upgrade* for instructions.

## CPU

The CPU requirements for an upgrade depend on many factors, including:

- The size of the database
- The volume of data in the primary product installation group

**Note:** You may have multiple Primary Products.

- The number and duration of long-running patch worker processes associated with products that have intensive upgrade operations
- Desired response time

**Note:** Refer to *Oracle E-Business Suite Maintenance Guide* for

recommendations on the number of workers to use during the upgrade, and *Applications Release 12 Upgrade Sizing and Best Practices* for the statistics on production system upgrades.

## Memory

To calculate the memory requirements for an upgrade, consider the following:

- Number of concurrent users
- Infrastructure requirements for multi-tiered architecture

**Note:** For statistics on these production system upgrades, refer to *Applications Release 12 Upgrade Sizing and Best Practices*.

**Note:** For minimum memory and swap space requirements, refer to the relevant *Oracle E-Business Suite platform-specific Installation and Upgrades Notes (IUN)* and the *Rapid Install Guide* for 11gR2 sizing available on My Oracle Support Knowledge, and the *Oracle E-Business Suite Documentation Resources, Release 12.2* document (Doc ID: 1498411.1).

## Disk Space Requirements

The approximate file system disk space requirements for a standard installation are:

<b>Node:</b>	<b>Space Required:</b>
Applications node file system (includes OracleAS 10.1.2 Oracle Home, Oracle FMW Oracle Home, COMMON_TOP, APPL_TOP, and INST_TOP)	64 GB (for the dual file system required by online patching - see note below)
Database node file system (Fresh install)	90 GB
Database node file system (Vision Demo database)	200 GB

The database node disk space requirements for both the production database and the Vision Demo database include database files (.dbf) and the 11gR2 database Oracle Home.

**Important:** The introduction of Online Patching (OP) in Oracle E-Business Suite Release 12.2 means that the disk space required size for the application tier is significantly larger, since the APPL\_TOP, COMMON\_TOP, INST\_TOP, OracleAS 10.1.2 Oracle Home, and Fusion Middleware Oracle Home are in effect duplicated to provide the dual file system OP needs.

## Obsolete Technology Integrations

Oracle no longer supports the following technology integrations:

Technology Integration	Description
OSSO 10	For single sign-on integration, you must migrate to Oracle Access Manager (either 10g or 11g) and Oracle E-Business Suite AccessGate.
OID 10g	You must upgrade to OID 11g
OBIEE 10g	If you are using Oracle Business Intelligence Enterprise Edition (OBIEE) with products Oracle Incentive Compensation (OIC), Manufacturing Operations Center (MOC), Advanced Planning Command Center (APCC), or Demand Signal Repository (DSR), then you must migrate to OBIEE 11g.
ODI 10g	If you are using Oracle Data Integrator (ODI) with products Oracle Incentive Compensation (OIC), Product Information Management (PIM), Distributed Warehouse Management System (WMS), or Demand Signal Repository (DSR), then you must migrate to ODI 11g (11.1.1.5.0).
JPDK Portlet Producer	If you are using E-Business Suite Portlets based on the proprietary JPDK Portlet Producer implementation, then you must migrate these to use the WSRP standards compliant Portlet Producer implementation.

Technology Integration	Description
BPEL 10g	If you are are using BPEL 10g with EBS 12.1.3, then you must migrate to SOA Suite 11g as the external system.
SES 10g	If you are using 11i, 12.0.x, 12.1.1 - 12.1.2 and are upgrading to 12.2, then you must also upgrade to SES 11g.

## Schemas Not Used by Oracle E-Business Suite Release 12.2

The following schemas are not used by Oracle E-Business Suite Release 12.2. You can delete these schemas after completely ensuring they are not required.

Schema Name	Schema ID
Oracle Single Sign On	ORASSO
	ORASSO_DS
	ORASSO_PA
	ORASSO_PS
	ORASSO_PUBLIC
Oracle Internet Directory	ODS
OracleAS Certificate Authority	OCA
	ORAOCA_PUBLIC
Discoverer OLAP	D4OSYS
Discoverer Portlet Provider Metadata	DISCOVERER5
Oracle Portal-to-Go and OracleAS Wireless	PTG
	WIRELESS
Oracle Warehouse Builder	OWBRT_SYS
	OWBSYS_AUDIT

Schema Name	Schema ID
E-Business Suite product schemas DSR and MOC for Oracle Warehouse Builder integration	DDROWNER
	DDRUSER
	DSROWNER
	MTHUSER
Oracle Business Intelligence Applications	OBIA
MapView	MVDEMO
OracleAS UDDI Registry	UDDISYS
SOA Suite	ORABPEL

## Release 12.2 Architecture

The upgrade process may affect system architecture and the way you use your Applications products after an upgrade. *Oracle E-Business Suite Concepts* contains a complete discussion of the architecture in this release, including information about the Oracle E-Business Suite multi-tiered architecture, enhancements, language support, file system structure, and the basic data model.

### Oracle E-Business Suite Architecture: The Application Tier

The *application tier* has a dual role: hosting the various servers and service groups that process the business logic, and managing communication between the desktop tier and the database tier. The architecture of this tier (unlike that of the database and desktop tiers) has changed significantly in Oracle E-Business Suite Release 12.2.

Three servers or service groups comprise the basic application tier for Oracle E-Business Suite:

- Web services
- Forms services
- Concurrent Processing server

In Release 12.2, Web and Forms services are provided by *Oracle Application Server*. They are no longer servers in the sense of being a single process.

**Tip:** It is advisable to avoid using a mixture of different platforms on your application tier. This makes maintenance easier, since only one set of patches needs to be downloaded.

## Application Tier ORACLE\_HOMEs in Release 12.2

Oracle E-Business Suite Release 12.2 uses two application tier ORACLE\_HOMEs. The first is the OracleAS 10.1.2 ORACLE\_HOME, and the second is the Oracle Fusion Middleware (FMW) ORACLE\_HOME. This combination enables Oracle E-Business Suite to take advantage of the latest Oracle technologies.

Notable features of this architecture include:

- The Oracle E-Business Suite modules are deployed out of the OracleAS 10.1.2 ORACLE\_HOME, and the `frmweb` executable is also invoked out of this ORACLE\_HOME.
- All major services are started out of the FMW ORACLE\_HOME.

Key changes from earlier releases include:

- The FMW ORACLE\_HOME (sometimes referred to as the Web or Java ORACLE\_HOME) replaces the OracleAS 10.1.3.-based ORACLE\_HOME used in Oracle E-Business Suite 12.x releases prior to 12.2.

## Scheduling Time for an Upgrade

In an upgrade, *critical system downtime* refers to the period of time when users cannot log on to the system or use Oracle E-Business Suite. There are several actions you can take to reduce this downtime period. For example, performing certain product-specific tasks before an upgrade can substantially reduce the downtime, as can using the Oracle cloning methodology, and a test file system to upgrade your production system.

This section briefly describes some of the issues that affect the amount of downtime required for an upgrade, and some of the actions we recommend to reduce that downtime.

## Backup

Oracle strongly recommends that you back up your entire system before beginning the upgrade.

## Database Initialization Parameters

Review the requirements for database initialization parameters before you begin. See *Database Initialization Parameters for Oracle E-Business Suite Release 12* (Doc ID 396009.1).



## Determining Upgrade Tasks

This section discusses tools you can use to examine your system and determine which upgrade steps apply for your system.

### Maintenance Wizard

The Maintenance Wizard is a tool provided by Oracle Support to guide you through the upgrade and code line maintenance process. It draws on instructions from numerous manuals and other documentation (including this document, the *Oracle E-Business Suite Installation Guide: Using Rapid Install*, and the *Oracle E-Business Suite Release Notes*) to provide you with a complete picture of the activities required for an upgrade.

The Maintenance Wizard helps you reduce upgrade tasks by dynamically filtering the necessary steps based on criteria it obtains from your Applications environment. The resulting report is a set of step-by-step instructions of exactly what you need to do to complete your specific upgrade, including any critical patches that your system may require. It can also automatically execute many of the tasks for you, so as to reduce the possibility of errors or accidental omission of vital tasks.

Specifically, the Maintenance Wizard:

- Presents a consolidated, personalized set of instructions in a step-by-step format
- Enables validation of important activities to prevent downstream issues
- Maintains log and status information for all tasks
- Enables a project administrator to assign different groups of upgrade tasks to different users
- Downloads, merges, and installs many required patches automatically
- Provides project management utilities to record the time taken for each task and its completion status

**Note:** For information on setting up and using the Maintenance Wizard, see *Master Issue List for the Maintenance Wizard* (Doc ID: 215527.1).

### Maintenance Mode

The Maintenance Mode feature provides a clear separation between the normal runtime operation of Oracle E-Business Suite and system downtime for maintenance. To ensure optimal performance and reduce downtime when applying a patch, shut down the Workflow Business Events System and set up function security before you initiate an AutoPatch session. This provides the security needed to ensure that no Oracle

E-Business Suite functions are available to users while you are applying a patch.

**Note:** See *Using Maintenance Mode in Oracle E-Business Suite Maintenance Guide*. See also *Patch Application Utilities in Oracle E-Business Suite Maintenance Guide*.

## Test Upgrade

To provide a baseline for upgrade execution times and an opportunity to work out any upgrade issues ahead of time, Oracle suggests that you perform a test upgrade using a copy (clone) of your existing system, and hardware that is similar to your production system. Oracle recommends several upgrade tests, especially if your system has been customized.

## User Preferred Time Zone Support

Special upgrade steps are not required for those products that support User Preferred Time Zones.

## Upgrade By Request

For some Oracle E-Business Suite products, upgrade planning includes choosing the most active set of data for upgrade processing. Then, you can upgrade historical data that was omitted from the upgrade at a later date, or when it is needed. For example, you might include only the last fiscal year in the upgrade to Release 12.2, and then upgrade the remaining data outside the 12.2 downtime window.

## NLS Upgrade Considerations

This section discusses some important considerations for managing your translations, languages, and character sets during the upgrade.

## Languages

Additional space for each non-American English language will be required in the database to complete the upgrade. It is not possible to predict the amount of additional space your system will need, because the space depends on factors such as the database character set, the number of active languages other than American English, and in particular the volume of transaction data in the system.

**Note:** For the recommended minimum space required for each active language in the APPL\_TOP, see the *Oracle E-Business Suite NLS Release Notes* for your release level.

## Language Status

You must retain your existing Applications Release status until the entire upgrade process (including the post-upgrade and finishing steps) is complete. The base language must also remain the same, and new languages cannot be activated.

After the upgrade process is complete, you can activate new languages or change the base language. Oracle does not support disabling or removing installed or enabled languages.

**Note:** See Adding and Maintaining NLS Languages section in *Oracle E-Business Suite Maintenance Guide*.

## Character Sets

You cannot set the APPL\_TOP character set. It is automatically set to the same value to what you selected as the db character set.

**Note:** See License Manager in *Oracle E-Business Suite Maintenance Guide*. See also *Migrating an Applications Installation to a New Character Set*.

## Customized Environments

Customized environments require additional attention during an upgrade. The instructions in this guide assume that you have followed the standards for customizing Oracle E-Business Suite as described in the *Oracle E-Business Suite Developer's Guide* and the *Oracle E-Business Suite User Interface Standards for Forms-based Products*.

To preserve customizations and minimize the impact during the upgrade:

- Follow the Oracle E-Business Suite Developer's Guide instructions for customizing your system and upgrading your customizations
- Maintain complete documentation for customizations
- Back up customizations before the upgrade

**Caution:** Customizing any concurrent program definitions, menus, value sets, or other seeded data provided by Oracle E-Business Suite is not supported. The upgrade process overwrites these customizations.

## Protecting Data in Renamed Files

Because files may be renamed for a variety of reasons, it is good practice to protect them from being accidentally overwritten during the upgrade. Therefore, if you have renamed files using the <filename>old, <filename>new, or any other generic designation, then rename them again, to something meaningful before you begin the upgrade.

## Customized Help Files

The help files in this release are in HTML format, making them easy to modify. You can reapply previously customized help files to your upgraded system if you convert them to HTML. If you don't convert customized help files to HTML and reapply, then it is important that you save the pre-upgrade customized help files as a reference.

**Note:** See Customizing Oracle E-Business Suite Help in the *Oracle E-Business Suite Setup Guide*.

## Product-specific Considerations

The information in this section applies to specific Applications products in this release. See the Release Content Documents for information about other products that are active in your system.

**Note:** Appendixes A - D describe changes to Oracle E-Business Suite products in this release. See also Appendix H, "Product Documentation List" for product-specific documentation.

## Cross-Product Functionality

Changes to the products described in this section affect many Oracle E-Business Suite products. Prior to the upgrade, ensure that functional specialists have completed their review to avoid unnecessary disruptions.

---

## Preparing for the Upgrade

This chapter covers the following topics:

- Review Upgrade Tasks
- Database and System Administration Tasks
- Application DBA (AD) Tasks (Conditional)
- Applications Technology Tasks
- Customer Relationship Management Tasks
- Financials and Procurement Tasks
- Human Resource Management (HRMS)
- Supply Chain Management Tasks
- Prepare for the Upgrade

### Review Upgrade Tasks

If you have not already reviewed the information in Business Impact and Functional Changes in Chapter 1, do so before you begin. It is especially important that both the DBA and the application specialists be familiar with the tasks in Appendix as the information that can help reduce system downtime and verify data migration.

### Database and System Administration Tasks

These generic tasks pertain to all systems. You must complete them prior to the product-specific tasks in this chapter. The steps in this section can be performed on the existing system while it is operational.

#### **Back up database, Oracle E-Business Suite, and customizations (recommended):**

Make a cold backup of the Oracle E-Business Suite database. You can use it to restore

the database should you encounter problems during the upgrade process.

**Note:** Shut down the database with the NORMAL option. You may not be able to restore it from the backup if you use the IMMEDIATE or ABORT option.

In addition to the database files, back up the APPL\_TOP, product customizations, and customized help files (in HTML).

**Note:** The upgrade process does not save customizations. You should copy all your customized files and put them in a safe place so you can reapply the customizations after the upgrade.

### **Prepare an upgrade plan for customizations (conditional):**

You may have customized your system for business use. Take note of these important considerations before upgrading custom database objects:

- The *Oracle E-Business Suite Developer's Guide* contains extensive instructions about naming standards and issues related to upgrading custom database objects. Familiarize yourself with this information before you begin the upgrade.
- Run several test upgrades and track their impact on your custom database objects.
- Rename any custom database objects with Applications prefixes that you have created so that they do not conflict with Oracle object names.

**Note:** Failure to test the impact on custom database objects before the upgrade can result in a loss of functionality.

At your discretion, and depending on the customizations in your system, you should also perform the following tasks:

1. Preserve the CUSTOM library by making a backup copy of CUSTOM.pll. You can use this copy later in the upgrade process to migrate your CUSTOM library to Release 12.2.
2. If you have customized forms with Oracle Forms 6*i*, then upgrade them to Oracle Forms 10*i* after the upgrade.

### **Drop event alert triggers in custom schemas (conditional):**

To drop all event alert database triggers in custom schemas, run the alrdtrig.sql script, located in \$ALR\_TOP/patch/115/sql. Re-create the triggers after the upgrade is complete.

### **Review sizes of old and new tablespaces (required):**

Make sure you allocate sufficient tablespace. For guidelines based on an upgrade of the largest Oracle production system (oraprod), see *Applications Release 12 Upgrade Sizing and Best Practices*.

### **Migrate Existing Objects to New Tablespace Model (recommended):**

Oracle E-Business Suite Release 12 environments contain the new Oracle Applications Tablespace Model (OATM). This model is based on database object type rather than product affiliation, making it simpler to manage and requiring far fewer tablespaces and operating system files.

If you previously upgraded your environment from Release 11*i* to Release 12, then the upgrade process created tablespaces for all new products, configured the database for the new tablespace model, and created new objects. However, it did not automatically migrate your existing objects. If you have not already done so, Oracle strongly recommends that you use the Tablespace Migration Utility to perform this migration now. Note that this utility is not supported for use after you enable Online Patching, so you cannot perform the migration after your environment is upgraded to Release 12.2. If you choose not to migrate to OATM now, then you must continue to manage your tablespaces separately. For more information, see the *Oracle E-Business Suite Setup Guide, Release 12.2*, or the *Oracle Applications Release 12.2 System Administrators Guide - Configuration*.

## **Application DBA (AD) Tasks (Conditional)**

If you are upgrading your E-Business Suite environment from Release 12.0.4 or Release 12.0.6, then you must apply the following AD patch as the very last patch on the Application Tier:

- Patch 11939659:R12.AD.A

**Important:** If there are any other patches to be applied on your E-Business Suite Release 12.0.4 or Release 12.0.6 environment, then you must complete those patches and then apply AD patch 11939659:R12.AD.A.

## **Applications Technology Tasks**

### **Oracle E-Business Suite Integrated SOA Gateway:**

Oracle E-Business Suite Integrated SOA Gateway (ISG) enables Web service generation, deployment, and invocation. If an earlier release of this product or the Oracle XML Gateway Web service feature has been leveraged, install Oracle SOA Suite 11g first,

before the upgrade to Release 12.2.

In addition, release 12.2 provides an ISG Diagnostics and Designer script allowing services to be upgraded from Oracle E-Business Suite Release 12.1.X to Release 12.2.

**Note:** Oracle E-Business Suite Integrated SOA Gateway 12.2 has product dependencies on Oracle SOA Suite 11g (11.1.1.6.0) and Oracle Applications Adapter (also called Oracle E-Business Suite Adapter) 11g (11.1.1.6.0), or Oracle SOA Suite 11g (11.1.1.7.0) and Oracle Applications Adapter 11g (11.1.1.7.0). You can use either Oracle SOA Suite 11g Release 1 (11.1.1.6.0) or Oracle SOA Suite 11g (11.1.1.7.0) with Oracle E-Business Suite Integrated SOA Gateway Release 12.2.

### **Oracle XML Gateway:**

In Release 12.2, Oracle XML Gateway Web services are enabled through the Oracle E-Business Suite Integrated SOA Gateway Service Provider and can be viewed from the Integration Repository. If an earlier release of the Oracle XML Gateway Web service feature or Oracle E-Business Suite Integrated SOA Gateway has been leveraged, then install Oracle SOA Suite 11g first, before the upgrade to Release 12.2.

**Note:** The Oracle XML Gateway Web service feature depends on Oracle E-Business Suite Integrated SOA Gateway. Oracle E-Business Suite Integrated SOA Gateway Release 12.2 has product dependencies on Oracle SOA Suite 11g and Oracle Adapter for Oracle Applications (informally known as Oracle E-Business Suite Adapter).

### **Oracle Application Object Library:**

Ensure that the GUEST account is valid and active and that the `fnr_user USER_ID` for the GUEST account is set to a value of '6'.

## **Customer Relationship Management Tasks**

Complete these tasks only if you are using Customer Relationship Management products.

### **Channel Revenue Management:**

Perform these tasks if you are using Channel Revenue Management.

1. Process all General Ledger Interface data from ChRM tables.

Applies to: Release 12.0.4, 12.0.6, 12.1.1 and 12.1.2

Run concurrent program 'Transfer to General Ledger' to transfer all accruals and claims interface data from ChRM interface tables to General Ledger. After the



Release 12.2 upgrade, these interface tables will be obsolete and replaced by Subledger Architecture migration-related interface tables.

## Financials and Procurement Tasks

Complete this task only for the Financials and Procurement products that are active in your system.

### Advanced Collections:

Perform this task only if you are using Oracle Advanced Collections with Strategies.

#### 1. Strategy Workflow checks

Applies to 12.0 and 12.1 release levels.

Apply the diagnostic scripts patch 13027498:R12.IEX.A when upgrading from R12.0.X and apply 13027498:R12.IEX.B when upgrading from 12.1.X. This patch contains scripts for Collection Strategy Workflow.

From the Collections Agent responsibility using the user name 'SYSADMIN', stop any scheduled Workflow Background Process concurrent program request for the following Item Types:

- IEXSTRY - IEX: Collection Strategy Work Flow
- IEXSTFFM - IEX: Strategy Fulfilment Mailer
- IEXSTRCM - IEX: Strategy Custom Work Flow

Run the script `$IEX_TOP/patch/115/sql/iexswowf.sql` to check and clean the strategies running without workflow. This script requires two parameters: FND username and Responsibility for audit table and logs. For Example, you can run the script using the following:

- username: SYSADMIN
- responsibility: Collections Agent

Run the script `$IEX_TOP/patch/115/sql/iexstorg.sql` to update Org\_ID column in IEX\_STRATEGIES table to operate Strategy by Operating unit. There are no parameters to run this script.

### Subledger Accounting:

Perform this task if you are using Oracle Subledger Accounting.

1. **Clean up Advance Queues from prior Create Accounting processes before enabling EBR.**

Applies to 12.0 and 12.1 release levels.

Apply patch 13420532:R12.XLA.A when upgrading from Release 12.0.x and apply Patch 13420532:R12.XLA.B when upgrading from Release 12.1.x to clean up temporary advance queues that were created by prior Create Accounting program processes. Pending Advance Queues of completed Create Accounting processes do not create upgrade issues, but must be cleaned up for EBR.

**Note:** You can perform this pre-upgrade step while the pre-upgrade system is online.

## Human Resource Management (HRMS)

All custom database objects that are mapped to seeded APIs/Row Handlers must be changed from LONG/LONG RAW to CLOB.

The LONG and LONG RAW data type was obsoleted by the database group in release 8*i* and was replaced by the CLOB data type. LONG and LONG RAW remain a valid data type only for backward compatibility and have numerous restrictions. Many database features after release 8*i* do not support the LONG and LONG RAW data type, and interferes with upgrading to new technologies. Specifically, for Online Patching, LONG and LONG RAW columns cannot be referenced in a database trigger. This means that LONG and LONG RAW columns cannot be patched using Online Patching as the solution uses Cross Edition Triggers to upgrade data. Changes to seed data in the RUN edition cannot be propagated to the PATCH edition as Cross Edition Triggers are used to synchronize the changes. Due to this, all database objects/Oracle Forms/JAVA pages/PRO C/API programs have been changed to use CLOB data type that were previously using LONG and LONG RAW data types.

However, Oracle provides implicit conversion between LONG/LONG RAW data types and LOB data types, with one limitation in this conversion. The maximum size of a LOB is 128 terabytes depending on database block size, and the maximum size of a LONG is two gigabytes. If more than two gigabytes of data is assigned to LONG/LONG RAW data types from the CLOB data type, then a VALUE\_ERROR exception will be raised. All of the seed Database Objects/Oracle Forms/JAVA Pages/PRO C code/APIs have been modified to use the CLOB data type and provides more storage. If these new large values are passed to old custom programs that continue to use old LONG/LONG RAW data type and have less storage, then the exception error will be raised.

This enhancement will affect the functionality of User Hook pre-processors, Business Event pre-processors, and Data Pump pre-processors. Oracle suggests that you use the following script to identify procedure/UDF containing LONG parameters, and mapped with seeded APIs/Row Handlers:

```

SELECT
    package_name
    , object_name
    , argument_name
    , data_type
FROM    all_arguments
WHERE   (package_name, object_name) IN
        (
        SELECT
            call_package
            , call_procedure
        FROM    hr_api_hook_calls
        )
AND     data_type = 'LONG';

```

When all database objects have been identified, change the datatype to CLOB (Refer to the *Oracle E-Business Suite Developer's Guide*).

## Supply Chain Management Tasks

The tasks in this section are required only if you are using Oracle Supply Chain Management products.

### Order Management:

Perform these tasks if you are using Oracle Order Management.

#### 1. Check for the Nullable Hold Entity ID.

Applies to: Release 12.1

If you are upgrading from release 12.1, then you should check for the Nullable Hold Entity ID and fix it to NOT NULL. Carefully follow the instructions in the readme of Patch 14191792:R12.ONT.B.

### Product Hub:

Perform these tasks if you are using Oracle Product Hub.

#### 1. Using the Packing Hierarchy Structure Type

Applies to: Release 12.0

If you are upgrading from 12.0 and have used Packaging Hierarchy structure type, then note that only the preferred packaging structure from this structure type is migrated over in the upgrade process. If you have defined multiple packaging structures and want to migrate all of them, then consider bringing them into the system by transferring them into other structure types, at which time they will be treated as regular structure types and not Packs.

#### 2. Backing Up User Defined Attributes Data for Items

Applies to: Release 12.0

Considerable changes have been made to the data model that stores Item user defined attributes in Release 12.2. Upgrade scripts are available to automatically manage these changes. However, if these scripts fail during upgrade, there can be potential loss of data. Oracle recommends that you back up the following tables before you proceed with the upgrade.

- EGO\_MTL\_SY\_ITEMS\_EXT\_B
- EGO\_MTL\_SY\_ITEMS\_EXT\_TL

You can discard the backups when the upgrade is completed and the pre-upgrade UDA data for items have been functionally verified. This is required only if you are upgrading from Release 12.0 to Release 12.2.

### 3. Checking for Duplicate Records

Applies to: Release 12.0 and 12.1

Run the following query and verify the output:

```
SELECT COUNT(1)
FROM SYS.ALL_IND_COLUMNS
WHERE INDEX_NAME = 'EGO_MTL_SY_ITEMS_EXT_B_U2'
AND COLUMN_NAME = 'UNIQUE_VALUE'
AND INDEX_OWNER = 'EGO';
```

If the above query returns '0' as the output, then perform the following steps:

1. Take backup of ego\_mtl\_sy\_items\_ext\_b table
2. Refer to Note ID: 953449.1 and run the script provided in the 'Identification Script' column within the 'Solution - Datafix' section to identify duplicate records.

If there are duplicate records, then run the scripts provided in the 'Fix' column within the 'Solution - Datafix' section for the appropriate base version to delete duplicate records.

**Note:** You must eliminate duplicate records before upgrading to Release 12.2. If you require help eliminating duplicate records, then contact Oracle Support.

### 4. Managing Open New Item Requests

Applies to: Release 12.0

Because there are significant changes to New Item Requests (NIR) between Releases 12.0 and 12.2, all existing NIRs should be closed before the upgrade. For example, close NIRs by changing to either Implemented or Rejected. This is required only if you are upgrading from Release 12.0 to Release 12.2.

## Prepare for the Upgrade

### 1. Gather schema statistics (required)

Applies to: Release 12.0 and 12.1

Schema statistics are gathered by the FND\_STATS process, which you can execute by running the Gather Schema Statistics concurrent program.

**Note:** During normal operation, you should gather schema statistics on a regular basis to ensure that the cost-based optimizer can generate optimal SQL execution plans. In preparation for an upgrade, gathering statistics should be one of the final tasks you perform before starting the upgrade downtime: this will ensure that the statistics are current.

From your Release 12 APPL\_TOP, perform the following steps:

1. Log in to Oracle E-Business Suite as the System Administrator.
2. Navigate to the Submit Request window (Requests > Run).
3. Submit the Gather Schema Statistics program.

Alternatively, run the following procedure manually:

```
FND_STATS.GATHER_SCHEMA_STATISTICS('ALL', 10, :parallel_degree,  
'NOBACKUP', NULL, 'LASTRUN', 'GATHER AUTO', 10, 'N');
```

Where: parallel\_degree is set to the value of the database initialization (init.ora) parameter parallel\_max\_servers for your instance.

The parameters for FND\_STATS.GATHER\_SCHEMA\_STATISTICS are as follows:

```
FND_STATS.GATHER_SCHEMA_STATISTICS (<schema name>, <estimate  
percent>, <degree of parallelism>, <backup flag>, <restart request  
ID, if applicable>, <history mode>, <gather options>, <modifications  
threshold>, <invalidate dependent cursors>);
```

Refer to the *Oracle E-Business Suite Maintenance Guide* for more information on the Gather Schema Statistics concurrent program and the FND\_STATS.GATHER\_SCHEMA\_STATISTICS procedure.

Set the schema name to ALL to gather statistics for all Oracle E-Business Suite schemas (those with an entry in the FND\_PRODUCT\_INSTALLATIONS table). In addition to gathering index and table-level statistics, the program gathers column-level histogram statistics for all columns listed in the FND\_HISTOGRAM\_COLS table.

**Note:** Oracle recommends that you use the 'GATHER AUTO'

option, which gathers statistics for objects that have not been previously had statistics collected, or whose rows have changed significantly since the last run. The default is 10%.

Depending on the size and number of changes to your database, gathering schema statistics may take a long time. Using the 'GATHER AUTO' option can reduce the overall time, as it uses an incremental approach.

Customers who gather schema statistics at 10% for all schemas and then again at a higher percentage for specific schemas or tables should initially continue this approach to avoid performance degradation. Review this process during the performance test phase.

Once the pre-upgrade steps have been completed, consider using the 'GATHER\_AUTO' option and the DBMS\_STATS.AUTO\_SAMPLE\_SIZE feature (available in Oracle Database 11gR1 and later). The AUTO sample size feature takes data skew into account, and may avoid the need to gather schema statistics at a higher percentage: in addition, it is likely to take the same time as using a manual approach with a percentage between 10-20 percent. When invoking the Gather Statistics concurrent program, Oracle recommends leaving the estimate\_percent parameter blank. The program automatically selects the default value for the estimate\_percent parameter. If you provide a value, then statistics will be gathered at the specified percentage. If the database version is 11g or higher, then the default value for this parameter is dbms\_stats.auto\_sample\_size. (For previous releases it was set to 10%.)

**Note:** See *Query Optimization in Oracle E-Business Suite Concepts* for more information.

## 2. Install JRE on the database tier (conditional)

If you are planning to run Rapid Install in Upgrade Mode by using the Use Existing ORACLE\_HOME option, then you must install JRE in the Database ORACLE\_HOME as follows:

Download the latest JRE 6.0 Update. For optimum stability, performance, scalability, and OS vendor support, use the latest available update of JRE for the Oracle E-Business Suite database tier.

The JRE download location is:

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

**Note:** Do not download the Java SE Development Kit (JDK). To download platform specific JRE and additional information on installation, refer to *Using Latest Java 6.0 Update With Oracle E-Business Suite Release 12* (Doc ID 455492.1).

### 3. Reset init.ora parameters (required)

Follow the instructions in *Database Initialization Parameters for Oracle E-Business Suite Release 12.2* and reset the init.ora parameters as needed.

### 4. Run Rapid Install (required)

Applies to: All 12.0 and 12.1 releases

Use the Rapid Install wizard to lay down the file system and install the new technology stack for your Release 12.2 Oracle E-Business Suite system. The wizard collects configuration parameters and stores them in a configuration file (config.txt) in the Applications file system. When you run Rapid Install, it uses these values to lay down the file system structure and technology stack components for your configuration. As it runs, it creates a context file (<CONTEXT\_NAME>.xml) that contains all the parameters that describe your system. This context file is created and managed by AutoConfig. AutoConfig is a tool that simplifies and standardizes configuration management tasks in an Oracle E-Business Suite environment. A fresh install of Release 12.2 includes AutoConfig as a standard (and required) configuration management tool.

**Note:** Refer to *Oracle E-Business Suite Setup Guide* for more information about AutoConfig, and complete any applicable steps required by AutoConfig.

Follow the instructions in Chapter 1 of *Oracle E-Business Suite Installation Guide: Using Rapid Install* to prepare your environment for the new system. You will be prompted for information about your system such as port specifications, existing and new database node descriptions (including mount points), user names and passwords, product license types, internationalization and language settings, and mount points for other nodes in your system.

1. Start Rapid Install by typing rapidwiz on the command line. The Welcome screen lists the components that are included in, or supported by, this release of Oracle E-Business Suite. Click Next.
2. On the Wizard Operation screen, select Upgrade to Oracle E-Business Suite Release 12.2. Click Next.
3. On the Select Upgrade Action screen, select Create Upgrade File System.
4. In the associated screen flow, enter the parameters required to set up your new environment. Then, run Rapid Install.

**Note:** *Oracle E-Business Suite Installation Guide: Using Rapid Install* contains complete instructions for running Rapid Install for both new installations and upgrades. Chapter 3 contains the

information specific to running an upgrade.

Run Rapid Install with the Configuration option to complete the configuration after the R12.2 upgrade patch application.

**Important:** After completing Rapid Install in Upgrade Mode, in DB Tier's <CONTEXT\_FILE>, ensure that values of context variables - s\_dbhome1, s\_dbhome2, s\_dbhome3, s\_dbhome4, s\_archive\_dest points to proper data file location where the DBFs are located, and also s\_base points to proper location. If not, update the DB Tier <CONTEXT\_FILE>.

**Important:** If the APPS user password is not the default, then the rapidwiz cannot be used in silent mode for laying down the Upgrade File System. If there are multiple middle tiers, then Oracle recommends that you set APPS user password to the default, and use Rapid Install in silent mode for laying down the Upgrade File System on all mid tiers. If not, then you must use Rapid Install in interactive fashion.

**5. Synchronize values of APPLPTMP with UTL\_FILE\_DIR for PL/SQL based Concurrent Requests (required)**

Concurrent processing (CP) may run PL/SQL (inside of the database) that creates output and log files using the utl\_file package. On all CP nodes, ensure that the \$APPLPTMP environment variable is set to the first directory listed in the UTL\_FILE\_DIR parameter from the database init.ora. If you use a RAC database, then \$APPLPTMP should point to a directory on a shared file system visible to all the RAC nodes. This ensures that CP can locate the output and log files created from PL/SQL.

**6. Perform a system backup**

Applies to: All 12.0 and 12.1 releases

Make a cold backup of the Oracle E-Business Suite database. If you encounter problems during the upgrade process, you can use this backup to restore your system to the same state as before you began the upgrade.

**Note:** Shut down with the NORMAL option. You may not be able to restore the database from the backup if you use the IMMEDIATE or ABORT option.

**7. Migrate or Upgrade Your Database to Oracle 11g Release 2 (required)**



Applies to : All 12.0 and 12.1 releases

If you have not already done so, you can upgrade your production database to 11g Release 2 now, before the upgrade downtime.

Follow the instructions in *Database Preparation Guidelines for an Oracle E-Business Suite Release 12.2 Upgrade* (Doc ID: 1349240.1).

**Note:** If you are upgrading to 11gR2 from 10g or 9i, then you **MUST** set the parameter `sec_case_sensitive_logon = False` in your `init.ora` file to avoid login issues with `sqlplus`.



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## Upgrading to Release 12.2

This chapter covers the following topics:

- Perform the Upgrade
- Finish the Upgrade

### Perform the Upgrade

This section describes the tasks required to initiate the upgrade process. All the tasks must be performed during the upgrade downtime. The following table provides a checklist of the tasks required in this chapter.

**Important:** After laying down the File System using Rapid Install, do not change the password for any products. Doing so may result in the following error: 'ORA-01017: invalid username/password; logon denied occurred while executing the SQL statement: CONNECT JTF/\*\*\*\*\*'

If the password for a product is changed, then FNDCPASS should be run to revert the password to the default value. Adpatch can be resumed after the password is restored to the original value.

These tasks...	are located here...
Disable AOL Audit Trail (conditional)	, page 3-2
Shut down application tier listeners and concurrent managers (required)	, page 3-3
Migrate database to at least Oracle11g Release 2 (required)	, page 3-3

<b>These tasks...</b>	<b>are located here...</b>
Update init.ora with upgrade parameters (required)	, page 3-3
Disable custom triggers, constraints, and indexes (conditional)	, page 3-3
Back up the database (recommended)	, page 3-4
Ensure that Maintenance Mode is enabled (required)	, page 3-4
Apply AD 12.2 upgrade driver (required)	, page 3-4
Apply all Consolidated Upgrade Patches (CUPs) (required)	, page 3-4
Run the American English upgrade patch driver (required)	, page 3-4
Disable Maintenance Mode (required)	, page 3-5
Reset init.ora parameters (required)	, page 2-11
Back up Oracle Applications (recommended)	, page 3-5
Review Security Practices (recommended)	, page 3-5

**Important:** You must turn off the Database Vault before upgrading to 12.2.0. After enabling EBR+upgrade to 12.2.x, re-enable the Database Vault.

#### 1. **Disable AOL Audit Trail (conditional)**

If you use the Oracle Applications Object Library Audit Trail feature, then you must disable it before the upgrade.

From the System Administrator responsibility under the R12.0 or 12.1 APPL\_TOP, navigate to Security > Audit Trail > Groups. In the Audit Groups window, set the Group State field to Disable - Prepare for Archive for each audit group defined. Run the Audit Trail Update Tables report from the Submit Requests window (Requests > Run).

If you plan to re-enable auditing after the upgrade, then archive and purge the shadow tables now. Data changes made after implementing this step are not audited.

**Note:** See *Audit Trail* in *Oracle E-Business Suite Security Guide*.

**2. Shut down application tier listeners and concurrent managers (required)**

Navigate to Concurrent > Requests. In the Find Requests window, select All my requests. Click Find, and click Cancel Pending requests as necessary. Then, as System Administrator, choose Administer Concurrent Managers. Navigate to the Control field and select Deactivate.

Shut down all application tier services including Concurrent Managers using the adstpall script. Do this from your existing Release 12 E-Business Suite instance.

**3. Migrate database to Oracle11g Release 2 (required)**

The upgrade requires at least version Oracle 11g Release 2 (11.2.0.3) database. If you have not done so already, then upgrade or migrate your database now. Follow the instructions in *Database Preparation Guidelines for an Oracle E-Business Suite Release 12.2 Upgrade* (Doc ID: 1349240.1).

**Note:** If you are upgrading to 11gR2 from 10g or 9i, then you MUST set the parameter `sec_case_sensitive_logon = False` in your `init.ora` file to avoid login issues with `sqlplus`.

**4. Update init.ora with upgrade parameters (required)**

Initialization parameters required at each stage of an upgrade may vary depending on when you upgrade your database. Set the appropriate parameters now. If your processes and sessions values in the `init.ora` file is the default values provided by the E-Business installation of 300 and 600, then you should consider doubling these during the upgrade process to avoid connection issues.

**Note:** See Database Initialization Parameters in Chapter 1, "Planning for an Upgrade" for specific parameters. See also *Database Initialization Parameters for Oracle Applications Release 12.2*.

**5. Disable custom triggers, constraints, and indexes (conditional)**

Disable custom triggers or constraints on Oracle E-Business Suite tables. Re-enable these triggers after the upgrade. If you have custom indexes on Applications tables, then determine whether they can affect performance during the upgrade, and drop them if necessary. If you are not sure, then it is best to drop the indexes and add them after the upgrade, if the new release has not created a similar index.

**6. Back up the database (recommended)**

Make a cold backup of the Oracle E-Business Suite database. If you encounter problems during the upgrade process, you can use this backup to restore your system to the same state as before you began the upgrade.

**Note:** Shut down with the NORMAL option. You may not be able to restore the database from the backup if you use the IMMEDIATE or ABORT option.

**7. Ensure that Maintenance Mode is enabled (required)**

Maintenance Mode restricts logins and the type of operations that the system can perform. Maintenance Mode is enabled in Release 12.2.

1. Source the applications run file system environment file as found in the fs1 file system appl\_top.
2. From the AD Administration Main Menu, choose the Change Maintenance Mode option.
3. The Change Maintenance Mode menu displays the current Maintenance Mode status at the top of the page. The status should be Disabled at this point.
4. Select Option 1, Enable Maintenance Mode.

**Note:** See *Oracle E-Business Suite Maintenance Guide* for information on Maintenance Mode.

**8. Apply AD 12.2 upgrade driver (required)**

Download and unzip the AD Upgrade Driver for 12.2 (patch 10117518). Use AutoPatch to run it on all application tier server nodes on your Release 12.2 APPL\_TOP, following the instructions in the patch readme.

**Caution:** Ensure that the environment file from the 12.2 RUN File System is sourced prior to applying this patch.

**9. Apply all Consolidated Upgrade Patches (CUPs) (required)**

Apply all Consolidated Upgrade Patches (CUPs) listed in the Oracle *E-Business Suite-wide Release Notes, Release 12.2*. Search for the Consolidated Upgrade Patches (CUPs) section and follow the instructions on how to apply them.

**10. Run the American English upgrade patch driver (required)**

To bring your database to the full Oracle E-Business Suite Release 12.2 level, use

AutoPatch to run the (American English) unified driver (u10124646.drv). It is located in \$AU\_TOP/patch/115/driver.

**Caution:** Ensure tablespace APPS\_TS\_TX\_DATA has enough space (below the threshold) and resize the data file if necessary.

Source the environment file from the RUN file system and run the driver on the administration server node on your Release 12.2 APPL\_TOP using the following commands:

```
$ adpatch options=nocopyportion,nogenerateportion
```

**Note:** Apply u10124646.drv with adpatch options=nocopyportion,nogenerateportion using RUN File System.

#### 11. Disable Maintenance Mode (required)

Maintenance mode controls the system downtime period by managing user logins. To disable maintenance mode, use the Change Maintenance Mode menu in AD Administration.

**Note:** Once the system is enabled for online patching, the Maintenance Mode option is not available.

1. From the AD Administration Main Menu, choose the Change Maintenance Mode option.
2. The Change Maintenance Mode menu displays the current Maintenance Mode status at the top of the screen. It should be Enabled.
3. Select Option 2, Disable Maintenance Mode.

**Note:** See *Oracle E-Business Suite Maintenance Guide* for information on the "hotpatch" method of applying patches when Maintenance Mode is disabled.

#### 12. Back up Oracle E-Business Suite (recommended)

Perform a full Oracle E-Business Suite backup of the application and database.

#### 13. Review Security Practices (recommended)

Review the recommended security processes documented in *Secure Configuration Guide for Oracle E-Business Suite Release 12* (Doc ID: 403537.1). In particular, if you have any computers requiring direct access to the database that are not registered nodes in AutoConfig (such as OAM clients), you must explicitly grant access.

Oracle strongly recommends that you apply the latest available Critical Patch Update after you upgrade to Release 12.2.0.

## Finish the Upgrade

You must complete all the tasks in this section to finish the upgrade. All the tasks must be completed during system downtime on the Release 12.2 E-Business Suite instance.

<b>These tasks...</b>	<b>are located here...</b>
Configure Release 12.2 E-Business Suite instance (required)	, page 3-6
Configure applications client software for forms applet (required)	, page 3-9
Upgrade considerations for Add-on Localization products (conditional)	, page 3-9
Reapply customizations (conditional)	, page 3-9
Integrate custom objects and schemas (conditional)	, page 3-10
Re-enable custom triggers, constraints, and indexes (conditional)	, page 3-10

### 1. Configure Release 12.2 E-Business Suite instance (required)

When you ran Rapid Install in the Prepare for the Upgrade section of Chapter 2, it created and stored an instance-specific context by replacing system variables you entered on the wizard screens with the specific values you saved in the configuration file (config.txt). At this point in the upgrade, point Rapid Install to the Application Tier context file. Rapid Install (using AutoConfig) updates your system configuration using the values it finds in the context file.

#### 1. Update the RDBMS ORACLE\_HOME file system with AutoConfig and Clone files.

On the application tier (as the APPLMGR user), log on to the APPL\_TOP environment (source the environment file) and run this perl script to create appsutil.zip in <INST\_TOP>/admin/out. Source the applications run file system environment file as found in the fs1 file system appl\_top.

```
perl <AD_TOP>/bin/admkappsutil.pl
```

On the database tier (as the ORACLE user), copy or FTP the appsutil.zip file to the <RDBMS ORACLE\_HOME> and unzip the file. Change directory to RDBMS



Oracle Home as follows:

```
cd <RDBMS_ORACLE_HOME>
```

Unzip the file with the following command:

```
unzip -o appsutil.zip
```

**2. Install JRE on the database tier to ensure that the application tier and the database tier match (Conditional).**

If you have installed JRE on Database Tier (see below) before running Rapid Install in Upgrade mode by using 'Use Existing ORACLE\_HOME' as described in *Preparing for the Upgrade*, then install JRE on the database tier. If you have used ORACLE HOME installed by Rapid Install, then skip this step.

Download the latest JRE 6.0 Update. For optimum stability, performance, scalability, and OS vendor support, use the latest available update of JRE for the Oracle E-Business Suite database tier.

The JRE download location is:

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

**Note:** Do not download the Java SE Development Kit (JDK). To download platform specific JRE and additional information on installation, refer to *Using Latest Java 6.0 Update With Oracle E-Business Suite Release 12* (Doc ID 455492.1).

**3. Create the Context Name directory in the RDBMS oracle home.**

Copy listener.ora and tnsnames.ora from the \$ORACLE\_HOME/network/admin directory to the \$ORACLE\_HOME/network/admin/<CONTEXT\_NAME> directory.

**Note:** Verify that these files were correctly generated through autoconfig by checking the timestamp from the last autoconfig run, ensuring that they were properly instantiated. For example, for the listener.ora, check that there are correct SID references that came from the %s\_db\_listener% value in the \$CONTEXT\_FILE.

**4. Set and export the following environment variables.**

- ORACLE\_HOME=<RDBMS\_ORACLE\_HOME>
- LD\_LIBRARY\_PATH = \$ORACLE\_HOME/lib:\$ORACLE\_HOME/ctx/lib
- ORACLE\_SID = <instance name for current database node>

- PATH =  
\$ORACLE\_HOME/bin:/usr/bin:/usr/sbin:\$ORACLE\_HOME/appsutil/jre/bin:/bin:/usr/bin/X11:/usr/local/bin:\$PATH
- TNS\_ADMIN = \$ORACLE\_HOME/network/admin/<CONTEXT\_NAME>

**5. Generate a new database context file as follows:**

**Note:** This step applies only to customers using their existing RDBMS home during the upgrade.

**UNIX:**

```
cd <RDBMS ORACLE_HOME>/appsutil/bin
perl adblxml.pl
```

**Windows:**

```
cd <RDBMS ORACLE_HOME>\appsutil\bin
perl adblxml.pl
```

**6. Run AutoConfig on the database tier nodes.**

**UNIX:**

```
<RDBMS ORACLE_HOME>/appsutil/bin/adconfig.sh contextfile=<context file
created in step 5>
```

**Windows:**

```
<RDBMS ORACLE_HOME>\appsutil\bin\adconfig.cmd contextfile=<context
file created in step 5>
```

**7. Source the Run filesystem environment file.**

**8. Run AutoConfig on the Apps Tier.**

- Prior to running AutoConfig check if table - ADX\_PRE\_AUTOCONFIG is existing in APPS schema:

```
select object_name, object_type, owner, status from dba_objects where
upper(object_name)='ADX_PRE_AUTOCONFIG' and object_type='TABLE'
and upper(owner)='APPS';
```

**To drop table ADX\_PRE\_AUTOCONFIG from APPS schema and recreate in APPLSYS schema, execute the following commands:**

```
cd <AD_TOP>/patch/115/sql sqlplus APPS/<APPS Schema password>
@txkDropAdxPreAutoConfig.sql
```

- Run AutoConfig on all the Application Tier nodes using the following commands:

**UNIX:**

`$ADMIN_SCRIPTS_HOME/adautocfg.sh`

**Windows:**

`$ADMIN_SCRIPTS_HOME/adautocfg.sh`

**9. Run Rapid Install to configure Release 12.2 E-Business Suite instance.**

You must run Rapid Install a second time to complete the configuration using Run File System context file.

In the Rapid Install wizard, select *Upgrade to Oracle E-Business Suite Release 12.2.0* and then select the option *Configure Upgraded Release 12.2.0 Instance*.

**Note:** For configuration, refer to *Oracle E-Business Installation Guide: Using Rapid Install, Release 12.2*.

**2. Configure applications client software for forms applet (required).**

The connection between the client and the applications forms is provided through an applet in the client web browser. Instead of using the browser's own JVM, Oracle E-Business Suite uses the Sun Java (J2SE) native plug-in. You can find download instructions in *Upgrading Sun J2SE (Native Plug-in) with Oracle Applications 12.2 Windows Clients*.

**3. Upgrade considerations for Add-on Localization products (conditional).**

If you have been using Add-on Localizations products (CLE, CLL, CLA, or CLJ), then you must review the Add-on Localizations - Upgrade Consideration documents on My Oracle Support for upgrade steps and tasks to be completed before EBR enablement. See *Add-on Localizations - Upgrade Consideration* (Doc ID: 1491965.1)

**4. Reapply customizations (conditional).**

If you customized application environment files (APPLSYS.env or devenv), then reintegrate them in devenv.env, or in the adovars.env file (\$APPL\_TOP/admin for UNIX or %APPL\_TOP%\admin for Windows). Restart the application server processes so changes take effect.

**Note:** See *Managing Application Tier Services in the Oracle E-Business Suite Maintenance Guide*.

If your system includes customized forms, reports, programs, libraries, or other

application files, then reapply all changes that you need for this release.

**5. Integrate custom objects and schemas (conditional).**

If you previously created custom objects or have custom schemas that must be tightly integrated with Oracle E-Business Suite, then follow the steps in *Oracle E-Business Suite Developer's Guide* to reintegrate these customizations with the APPS schema.

This release uses Invoker Rights for most PL/SQL packages. Executing these packages from custom schemas may require additional grants from, and synonyms to, APPS schema objects. Oracle recommends that you explicitly declare Invoker Rights or Definer Rights for custom PL/SQL packages. See the *PL/SQL User's Guide and Reference* for more information.

Custom database objects must follow the naming standards for custom object names to avoid conflict with Oracle E-Business Suite.

**Caution:** When naming database objects, use XX as a part of the short name. For example, you might define the custom application to use the short name XXGL, and database objects to begin with an XXGL\_ prefix.

**Note:** See *Defining your Custom Applications* in the *Oracle E-Business Suite Developer's Guide*.

**6. Re-enable custom triggers, constraints, and indexes (conditional).**

During the upgrade, custom triggers or constraints may have been modified. If you disabled these triggers and constraints, then identify any data updates that must be made before you re-enable them.

If you dropped any custom indexes, then review the new data model to determine if the index is necessary before you redefine it.

---

# Oracle E-Business Suite Online Patching

This chapter covers the following topics:

- Overview
- Enabling Online Patching
- Database Initialization Parameters

## Overview

Oracle E-Business Suite Release 12.2 introduces Online Patching (OP), a new feature that greatly reduces the downtime that was needed in previous releases for application of Release Update Packs (RUPs), Critical Patch Updates (CPUs), and other patches and bug fixes of various kinds.

### Key Features

- In Release 12.2, *all* patching operations are carried out while the applications are in use and users are online.
- Patching is performed using the new *adop* (AD Online Patching) utility.
- A short period of downtime is required, but this amounts to little more than a restart of the services: the time the applications are unavailable is measured in minutes rather than hours, and this can be specified to be at the most convenient time.

**Note:** The classic patching model is designed to minimize downtime by running as fast as possible, using whatever resources are needed. In contrast, the online patching model is designed to minimize downtime by allowing patching operations to be performed while users remain on the system.

## Principles

In essence, online patching is performed as follows:

1. A copy is made of the running system.
2. Patches are applied to the copy while users continue to access the running system.
3. Transparently to users, the copy becomes the new running system.
4. What was the original running system (now obsolete) is deleted.

This introduces the concept of a *patching cycle* that consists of several phases, in contrast to the model used in previous releases. These phases are denoted prepare, apply, finalize, cutover, and cleanup.

**Note:** For more information about online patching principles, see *Oracle E-Business Suite Concepts*.

### Implementation

Any mechanism that uses a copy of the running application must take into account that an Oracle E-Business Suite application comprises both code and data, stored in the file system and database.

The file system is the easier of the two to cater for, simply requiring an additional copy to be created and maintained. The resulting *dual file system* consists of one file system that is used by the running system and another one that is either currently being patched, or (as will be the case for most of the time) standing ready to be patched. The two file systems swap roles at the end of each *patching cycle*, with the transition between them being managed by AutoConfig.

Creating a copy of the database portion of the running applications system is more complex. It has been accomplished by taking advantage of the Oracle Database 11g R2 *Edition-Based Redefinition* (EBR) feature. This allows an application to efficiently store multiple copies (*editions*) of its application definition in the same database, and thereby enables online upgrade of the database tier.

The database patch edition only comes into existence during a patching cycle, and becomes the new run edition at end of the cycle. The former database run edition (the old edition) and the obsolete objects it contains are discarded at the end of a patching cycle, and the space reclaimed during the cleanup phase.

### Tools

Patching is performed by running the new *adop* (AD online patching) tool. This tool invokes the *adpatch* utility that was run directly in previous releases of Oracle E-Business Suite.

**Warning:** Running *adpatch* directly is **not supported** in an online patching environment, except under explicit instruction from Oracle.

The adop tool orchestrates the entire patching cycle, and can be used to run individual phases as required.

**Note:** For full details of adop features and options, refer to the Patching section of *Oracle E-Business Suite Maintenance Guide*.

## Enabling Online Patching

Complete the following steps to enable online patching after the upgrade has finished:

### 1. Verify the database version

Oracle E-Business Suite Release 12.2 Online Patching requires the database to be upgraded to a minimum of version 11.2.0.3. Ensure that the database upgrade was completed properly and without errors.

### 2. Ensure the required 11.2.0.3 patches for Release 12.2 have been applied

Review the Database Preparation Guidelines for Release 12.2 and ensure that all patches listed are installed in your database. Do not proceed with the enabling online patching process if all patches have not been installed. Refer to *Database Preparation Guidelines for an E-Business Suite Release 12.2 Upgrade* (Doc ID: 1349240.1).

### 3. Run the Online Patching Enablement - Readiness Reports

Refer to *Using the Online Patching Readiness Report in Oracle E-Business Suite Release 12.2* (Doc ID 1531121.1) for instructions on how to download these utilities.

You must run the following utility from the application tier APPL\_TOP. It reports EBR violations that include objects not complying with the EBR rule about Non-Editted Objects (data storage objects such as Tables and Materialized Views), and referencing edited objects (code objects such as: Packages, Triggers, Object Types, and so on). This report also lists several naming standard violations that must be fixed prior to applying the online patching enablement patch.

#### 1. Initialize the Run File System environment:

```
source <RUN APPL_TOP>/<Instance SID>_<hostname>.env
```

**Note:** The subsequent steps assume that you are running in the same session which was initialized with this environment file. If you need additional operating system level sessions, remember to initialize the environment with this same environment file.

#### 2. Create the online patching log file location and set it as the current directory:

```
mkdir $LOG_HOME/appl/op
cd $LOG_HOME/appl/op
```

### 3. Run the following Readiness reports:

- ADZDPSUM.sql - Provides a summary of the schemas that will be editioned and also schemas with objects that depend on E-Business Suite code that is recommended to be editioned. You can register these schemas with the application by running the commands that will be listed in the last section of this report. Oracle recommends that you run this report again after the custom schemas are registered with the application. You should run ADZDPSUM.sql repeatedly to handle dependent schemas until no further EBR violations are reported.

**Note:** Enter the system password when prompted. You can ignore APPS\_NE, and ODM schemas which may appear in section 2 of the report.

```
sqlplus system @$AD_TOP/sql/ADZDPSUM.sql
mv adzdpsum.txt adzdpsum_pre_dbprep.txt
```

- ADZDPMAN.sql - Lists objects with different categories of violations to EBR rules that must be fixed prior to running the enablement process to avoid errors during this process. Oracle recommends that you run this report after all custom schemas are registered with the application according to instructions in the above report ADZDPSUM.sql.

**Note:** Enter the system password when prompted.

```
sqlplus system @$AD_TOP/sql/ADZDPMAN.sql
mv adzdpman.txt adzdpman_pre_dbprep.txt
```

- ADZDPAUT.sql - This report lists all the objects with violations to the EBR rules that will be fixed automatically from the enablement process. This report is provided for information purposes and no action should be taken from this report.

**Note:** Enter the system password when prompted.

```
sqlplus system @$AD_TOP/sql/ADZDPAUT.sql
mv adzdpaut.txt adzdpaut_pre_dbprep.txt
```

### 4. Fix Violations Listed in the Online Patching Readiness Report that Require Manual Intervention

The Online Patching Readiness Report contains sections with different violation



types.

1. Review all sections listed from the ADZDPMAN.sql report. Follow instructions in each section to fix violations.

**Note:** Many violations in the Readiness report can be automatically fixed by registering your custom schemas. Review the last section of the Summary Readiness Report (ADZDPSUM.sql) for sample commands on how to register your custom schemas.

The following schema should NOT be registered:

- SYS
- SYSTEM
- CTXSYS

Any dependency between these schemas and Editioned Objects is a coding standards violation and must be fixed manually.

2. Oracle recommends that you perform the chosen fix by customizing template file \$AD\_TOP/sql/ADZDPCUST.sql
3. Repeat the *Run the Online Patching Enablement - Readiness Report* step above until all violations have been addressed.

## 5. Verify database tablespace free space

The Edition-Based Redefinition feature of Oracle Database 11gR2 requires additional space for the dictionary tables that are used to manage editioned objects.

1. Initialize the Run File System environment:

```
source <RUN APPL_TOP>/<Instance ID>_<hostname>.env
```

2. Set the HOSTNAME environment variable before executing the online patching tool adop.

- Check to ensure the environment variable HOSTNAME is set by running the following:

```
$ echo $HOSTNAME
```

- If the HOSTNAME environment variable is not set, then run the following:

```
export HOSTNAME=<your-hostname-without-domain>
```

**Note:** Repeat the first step to ensure the environment variable is set to the correct hostname.

- If the hostname is set but has the domain, then reset it without the domain.

For example:

```
echo $HOSTNAME
apcappsx2.au.oracle.com
export HOSTNAME=apcappsx2
```

3. Run the following report to retrieve the current tablespace free space:

```
perl $AD_TOP/bin/adzdreport.pl apps
```

1. Select option 3 - 'Other Generic Reports'
2. Select the next option - 'Free Space in Important Tablespaces'

Enter the password when prompted.

4. Ensure the following:

- SYSTEM Tablespace: has a minimum of 25 GB of free space
- APPS\_TS\_SEED Tablespace: has a minimum of 5 GB of free space  
APPS\_TS\_SEED is used to host all tables that have been registered as seed tables and that require seed data storage infrastructure.
- Add necessary space to the tablespaces if they do not contain the required free space. Refer to *Altering and Maintaining Tablespaces in Oracle Database Administrator's Guide* for details.

## 6. Run the Online Patching Enablement - Status Report

This report provides an overall status of the enabling online patching process. You can run it before, during, and after the enablement patch is applied. At this stage, you will receive report results before you enable online patching.

1. Set the current directory to \$LOG\_HOME/appl/op:

```
cd $LOG_HOME/appl/op
```

2. Run the report using the following command. Ensure that you verify any invalid objects at this stage. Take special note to ensure that all online patching objects (objects that match the pattern 'AD\_ZD%') are valid:

```
sqlplus <apps username> @$AD_TOP/sql/ADZDEXRPT.sql
```

**Note:** Enter the apps password when prompted.

3. Save the output as pre\_dbprep for future reference, such as:

```
mv adzdexrpt.txt adzdexrpt_pre_dbprep.txt
```

7. **Ensure that all middle-tier E-Business Suite services are shut down**

Verify that all middle-tier E-Business Suite services are shut down prior to applying the Online Patching Enablement patch.

8. **Download and apply the Online Patching Enablement patch**

Download and apply the Online Patching Enablement patch: 13543062:R12.AD.C. Use Autopatch in hotpatch mode to apply the patch.

**Important:** While applying the Online Enablement patch, you may receive the following error: 'Attention: Adpatch should no longer be used to apply patches. Please use ADOP tool for applying patches.' If you receive this error, then you must use adop in hotpatch mode to apply the enablement patch.

**Monitor the Online Patching Enablement patch application.**

The enablement patch application may take several hours to finish. You can monitor its progress at any time by running the DDL Status Report (ADZDSHOWDDL.sql) as follows:

```
sqlplus <apps Username> @$AD_TOP/sql/ADZDSHOWDDL.sql
```

This report lists a count of the DDL statements that are required to EBR enable your environment. The report is organized by outcome of execution: 'Successfully Executed', 'Not Executed', and 'Failed Execution'. At the end of the patch application the report should have a zero count in the sections: 'Not Executed' and 'Failed Execution'. If the report contains 'Not Executed' and 'Failed Execution' items, then report these failures to Oracle Support. You will be asked to provide the output from the report, the patch log and all worker logs, and the online patching enablement status report output. If there is any worker failure during the Online Enablement patch, you should not ignore or skip the failed error. The issue should be addressed before restarting the worker. Ignoring or skipping the error can cause database corruption.

**Note:** In addition to the above outcomes, some DDL statements may complete with a 'Warning' status.

9. **Compile Invalid Objects (if any)**

Connect to sqlplus as 'apps' and run the following:

```
exec sys.utl_recomp.recomp_parallel
```

#### 10. Run the Online Patching Enablement Status Report after the Online Patching Enablement patch has been applied

1. Set the current directory to \$LOG\_HOME/appl/op:

```
cd $LOG_HOME/appl/op
```

2. Run the Status Report immediately after the enablement patch completes:

```
sqlplus <Apps Username> @$AD_TOP/sql/ADZDEXRPT.sql
```

**Note:** You must provide the APPS schema password when prompted.

The purpose of running this report at this stage is to identify and fix any errors that occurred during the enablement process.

#### 11. Re-run the Online Patching Enablement Readiness Report after the Online Patching Enablement patch has been applied

1. Set the current directory to \$LOG\_HOME/appl/op:

```
cd $LOG_HOME/appl/op
```

2. Run the Readiness Report after the enablement patch completes:

```
sqlplus system @$AD_TOP/sql/ADZDPSUM.sql
```

**Note:** You must provide the SYSTEM schema password when prompted.

```
mv adzdpsum.txt adzdpsum_post_dbprep.txt
sqlplus system @$AD_TOP/sql/ADZDPMAN.sql
mv adzdpman.txt adzdpman_post_dbprep.txt
sqlplus system @$AD_TOP/sql/ADZDPAUT.sql
mv adzdpaut.txt adzdpaut_post_dbprep.txt
```

The purpose of running this report at this stage is to ensure that all EBR violations that could have appeared before enabling the online patching feature are fixed.

#### 12. Run the Online Patching Database Compliance Checker report to check for coding standards violations

1. Set the current directory to \$LOG\_HOME/appl/op:

```
cd $LOG_HOME/appl/op
```

2. Run the Online Patching Database Compliance Checker report to check for

online patching database objects standards violations:

```
sqlplus <Apps Username> @$AD_TOP/sql/ADZDDBCC.sql
```

This utility reports all violations to the Online Patching Development Standards. Refer to *Database Object Development Standards for Online Patching in Oracle E-Business Suite Developer's Guide*. All Oracle E-Business Suite violations are fixed by the 12.2 upgrade. You must fix any object listed in this report that is part of your custom code. If you do not fix the violation, then you cannot leverage the online patching infrastructure to patch the objects listed in this report.

## Database Initialization Parameters

Oracle E-Business Suite Release 12.2 introduces a new database service called `ebs_patch` that supports online patching. The 'service\_names' parameter specifies one or more names by which users can connect to an environment. The environment registers its service names with the listener. When a user requests a service, the listener determines which environments offer the requested service, and then routes the user to the most appropriate environment.

For example:

```
service_names=%s_dbSid%,ebs_patch
```

The 'recyclebin' parameter must be turned off to allow the cleanup phase of the online patching cycle to be performed without having to connect as SYS. This feature may still be used at other times.

For example:

```
recyclebin=off
```

**Note:** The parameters described in this section apply to Oracle E-Business Suite Release 12.2 on Oracle Database 11g Release 2 (11.2.0.3). For details, refer to *Database Initialization Parameters for Oracle E-Business Suite Release 12* (Doc ID: 396009.1).



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## Post Upgrade Tasks

This chapter covers the following topics:

- Review Post-upgrade Tasks
- Apply latest AD and TXK for Release 12.2
- Mandatory Steps for Custom Schema Upgrade for 11i / 12.0 / 12.1
- Applications Technology Tasks
- Financials and Procurement Tasks
- Channel Revenue Management Tasks
- Human Resources Tasks
- Projects Tasks
- Supply Chain Management Tasks
- System Administration
- System Maintenance Tasks
- Oracle XML Publisher
- Additional Tasks

### Review Post-upgrade Tasks

This section provides a general checklist of tasks that are required to finish the upgrade.

---

<b>These tasks...</b>	<b>are located here...</b>
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---

<b>These tasks...</b>	<b>are located here...</b>
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## Apply latest AD and TXK for Release 12.2

### 1. Start up only the Weblogic Admin Server (required)

On Run File System, start up only the Weblogic Admin Server service using `adadminsvctrl` script as follows:

UNIX:

```
sh <ADMIN_SCRIPTS_HOME>/adadminsvctrl.sh start
```

Windows:

```
<ADMIN_SCRIPTS_HOME>\adadminsvctrl.cmd start
```

### 2. Apply latest AD and TXK patchsets (required)

Post upgrade steps use AD Online Patching (adop). Therefore, you must apply the latest AD and TXK patchsets before proceeding with the remaining post-upgrade tasks. Refer to *E-Business Suite-wide RUP, AD and TXK RUP Information, Release 12.2* (Doc ID 1583092.1) on My Oracle Support.

### 3. Synchronize values of APPLPTMP with UTL\_FILE\_DIR for PL/SQL based Concurrent Requests (required)

Concurrent processing (CP) may run PL/SQL (inside of the database) that creates output and log files using the `utl_file` package. On all CP nodes, ensure that the

\$APPLPTMP environment variable on both the File Systems is set to the first directory listed in the UTL\_FILE\_DIR parameter from the database's init.ora. If you use a RAC database, then \$APPLPTMP should point to a directory on a shared file system visible to all the RAC nodes. This ensures that CP can locate the output and log files created from PL/SQL.

**Note:** It is important to synchronize both File Systems as the cutover process in the following step starts the Application Tier Services including concurrent managers.

## Mandatory Steps for Custom Schema Upgrade for 11i / 12.0 / 12.1

**Note:** You must upgrade to release 12.2.2 before performing the following steps. Do not run adsplce when you are in release 12.2.0.

Custom product top and custom context variables are not synchronized and retained during cloning because entry for the product in FND\_OAM\_CONTEXT\_CUSTOM and clone entry is missing for the upgraded custom products. In addition, <oa\_customized> block in the context file is not updated.

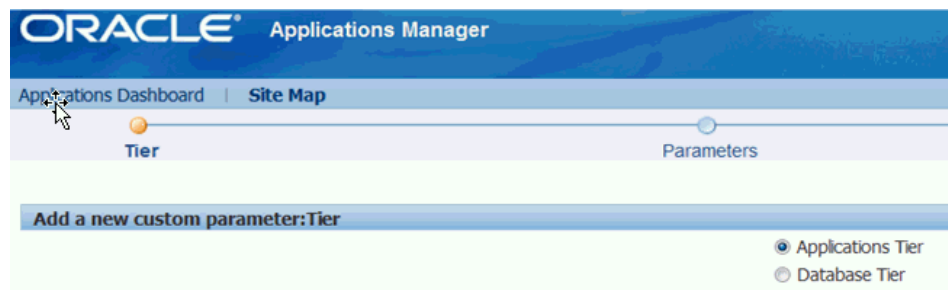
### 1. Updating the CONTEXT\_FILE from the OAM window.

**Note:** You must follow the below steps to retain all custom products.

Update the custom application from EBS OAM (Oracle Application Manager).

#### 1. From the Oracle Applications Manager ssa page, navigate to:

System Administrator > Oracle Application Manager > License Manager > SiteMap > AutoConfig > Manage Custom Parameters > ADD



2. Select Application Tier after clicking ADD.
3. Click Next. The Parameters window appears.

- For a custom product, such as 'xxco', enter the parameters as shown below.  
**Note:** the Product Type is PROD\_TOP and OA\_VAR has the prefix c\_.

- Select Next.
- Verify that all values are correctly shown in the Confirmation window.
- Select Finish in the Summary window.
- After adding the custom product 'xxco', there will be an entry for the custom product at the end of the \$CONTEXT\_FILE similar to the following:

```
<oa_customized>

<c_xxco oa_var="c_xxco"
scope="CUSTOM"oa_type="PROD_TOP"oa_enabled="FALSE"><APPL_TOP>/xxc
o/12.0.0</c_xxco>

</oa_customized>
```

**Note:** You must perform the above steps for each of the custom products to be added.

## 2. Running adsplice.

For the custom products that already exist, in order to lay down the file system, you must run adsplice on the Run File system. Refer to *Creating a Custom Application in Oracle E-Business Suite Release 12.2* (Doc ID: 1577707.1) for running adsplice.

## 3. Running Fs\_clone.

After splicing all custom products on the Run File System, you must run `adop phase=fs_clone`. This ensures that all custom products are synchronized to the other file system.

## Applications Technology Tasks

Complete the tasks in this section before completing product-specific tasks.

### System Administration:

These tasks must be carried out regardless of the products that are active in your system.

#### 1. Reset ORACLE schema passwords (recommended)

During the upgrade, Rapid Install preserves the passwords that you set previously for existing products. However, as it creates a schema for each new product installed, it sets up a default password derived from the product abbreviation (short name). To maintain product security, reset these default passwords now.

**Note:** See *Oracle E-Business Suite Password Management* in the *Oracle E-Business Suite Maintenance Guide*.

#### 2. Verify completion of concurrent programs (recommended)

The upgrade process creates numerous concurrent program requests. Once you bring up the application tier, these programs run automatically to complete tasks such as data cleanup and upgrades to historical data, among others.

**Note:** Before you continue, ensure that all concurrent programs generated by the upgrade have run successfully.

#### 3. Drop Obsolete Product Schema (optional)

**Note:** This step should be executed only after completing the *Verify completion of concurrent programs* post-upgrade task.

1. Ensure no objects exist in the product schema to be obsoleted. If objects exist in the schema, then they should be removed before dropping the schema.
2. After determining the schema is empty and no customizations or dependencies exist, the schema can be dropped using `addropschema.sql`.

Usage: `sqlplus apps/<apps password>`

`@<AD_TOP>/patch/115/sql/addropschema.sql <SYSTEM_Password>`

<APPLSYS\_Schema> <Obsoleted\_Product\_Schema\_Name>

**Example:** sqlplus apps/apps @<AD\_TOP>/patch/115/sql/addropschema.sql  
manager applsys bsc

3. Obsolete Product Schemas that can be considered for dropping include:

- ABM, AHM, AMF, AMW, BIL, BIV, BIX, BSC, CSS, CUE, CUF, CUI, CUN, CUP, CUS, DDD, EAA, EVM, FEM, FII, FPT, FTP, GCS, HCC, IBA, IBP, IGF, IGS, IGW, IMT, IPD, ISC, ITA, JTS, ME, MST, OKB, OKI, OKO, OKR, OZP, OZS, PFT, POA, PSB, RCM, RHX, RLA, VEH, XNC, XNI, XNM, XNS, ZFA, ZPB, ZSA.

- The following schemas must be retained to support technical dependencies from other products:

HRI, BIM, OPI, PMI, ENI, PJI, FTE, EGO

**Note:** Some schemas may be active for other licensed products although these products are listed as obsolete in *Planning for an Upgrade*. In these cases, the functionality is removed.

4. **Drop dangling synonyms (optional)**

After dropping obsoleted product schema, you must run the following script to drop dangling synonyms:

```
sqlplus APPS/****@DB @$AD_TOP/sql/adzd_drop_synonyms.sql
```

5. **Install online help (recommended)**

Applies to 11i release level: All

TUMS step key: N/A

To install the American English online help, run the database portion of the online help patch (u10201000.drv). It is located in \$AU\_TOP/patch/115/driver directory. You must apply the American English online help patch driver (\$AU\_TOP/patch/115/driver/u10201000.drv) using AD Online Patching (adop) with phase=apply hotpatch=yes and options=nocopyportion,nogenerateportion,forceapply.

6. **Apply latest product patches (required)**

Applies to 11i release level: All

TUMS step key: N/A

Determine the latest product-specific patches. Then, download the American English patches. You must apply the patches using AD Online Patching (adop).

**Note:** See Patch Wizard Main Page in *Oracle E-Business Suite Maintenance Procedures Guide*.

If you have languages other than American English registered in your system, then follow instructions in the following step.

## 7. Installing NLS upgrade patch driver and NLS Online Help (conditional)

Applies to 11*i* release level: All

TUMS step key: N/A

**Note:** If American English is the only language that is active in your system, then you can omit this step. For additional NLS languages active in the system, you can follow the steps below to install NLS language software. Or alternatively skip this section, and complete the American English Upgrade up to the recommended Release Update Pack level, and then upgrade your NLS software for existing languages using the Translation Synchronization Patch followed by the NLS Online Help patch.

The NLS upgrade patch driver and the NLS Online Help patch must be called through AD Online Patching (adop).

1. After you have successfully applied the American English unified driver, download the NLS Release 12.2 software for each active language in your system, and run each driver (u10124646.drv) on your Release 12.2 APPL\_TOP. Note that the NLS patch driver has the same name as the American English patch driver. If you have applied any latest product patches in the previous step, then download and apply the NLS equivalents of each American English product-specific patch. As an alternative, you can upgrade your NLS software, including the NLS versions of the latest product patches applied, by using the Translation Synchronization Patch.
2. Follow instructions in the 'Post-Installation Tasks' section of the *Oracle E-Business Suite NLS Release Notes* for your release level.
3. If you have installed American English Online Help in your system, then refer to the 'Install Online Help' section of the *Oracle E-Business Suite NLS Release Notes* for your release level.

**Note:** See *Oracle E-Business Suite NLS Release Notes* for your release level for more information. See also *Oracle E-Business Suite Maintenance Guide* for information about applying patches using ADOP. See *Requesting Translation Synchronization Patches* (Doc ID:

252422.1) for more information.

**8. Update and verify custom responsibilities (conditional)**

Verify that all custom responsibilities use the correct menu. From the System Administrator responsibility, navigate to Security > Responsibilities. Query each custom responsibility and update as necessary.

**9. Migrate the CUSTOM library (conditional)**

Before you copy custom code in the CUSTOM library to the new directory structure, refer to the backup you previously created and verify that the customizations are valid for the new version of Oracle Applications.

For valid customizations, place a copy of the new CUSTOM library (CUSTOM.pll) in a safe place. It is located in the \$AU\_TOP/resource directory (UNIX), or the %AU\_TOP%\resource directory (Windows). Then, make a copy of the old Oracle Forms CUSTOM library and place it in the new directory. Upgrade to Oracle Forms Developer 10g by regenerating the library. Or, you can cut and paste the existing custom code into the new library, and then regenerate it.

**Note:** See *Using the CUSTOM Library* in the *Oracle E-Business Suite Developer's Guide*.

**10. Copy and re-customize modified scripts or reports (conditional)**

Copy custom shell scripts or reports to the custom application directories and re-customize the copy as necessary.

**Note:** See *Product Customization Standards* in *Oracle E-Business Suite Developer's Guide*.

**11. Copy existing custom start scripts (conditional)**

If you have customized the concurrent manager startup script (\$FND\_TOP/bin/startmgr.sh on UNIX), then you must copy the customized script from the old environment to the new environment. You should then verify that your customizations are valid for the new environment.

**Warning:** Oracle does not recommend customizing this script. If you perceive a need to change this script, then contact Oracle Support before making changes. For more information, see the *Oracle E-Business Suite Setup Guide*.

**Note:** The default location in UNIX for the startmgr script is \$FND\_TOP/bin. For more information, see the *Oracle E-Business Suite Setup Guide*.

## 12. Review user responsibility assignments (recommended)

Although user/responsibility assignments are preserved during the upgrade, the effective permissions granted by the seeded responsibilities, menus, functions, and report security groups may have changed. Use the information on the Forms or Security reports in the System Administrator responsibility to confirm that permissions granted by responsibilities continue to meet the requirements of the job roles (without granting more privileges than are necessary).

**Note:** See *Organizing Programs into Request Groups* in the *Oracle E-Business Suite Setup Guide* for more information.

### Alerts:

These tasks apply to Oracle Alerts.

#### 1. Associate organization names with custom Alert definitions (conditional)

Manually update custom alerts that you want to assign to a particular organization:

1. As the Alerts Manager, navigate to the Alerts form (Alert > Define) and query the definition.
2. Choose Alert Details, then display the Installations tabbed region in the Alert Details window.
3. Enter the ORACLE ID and organization name that you want to run this alert against.
4. Make sure you check Enabled before saving the changes.

### Oracle E-Business Suite Integrated SOA Gateway:

Oracle E-Business Suite Integrated SOA Gateway requires manual post-installation steps. If you want to use the Oracle E-Business Suite Integrated SOA Gateway feature for Web service generation, deployment, and invocation, then perform the steps documented in *Installing Oracle E-Business Suite Integrated SOA Gateway, Release 12.2* (Doc ID: 1311068.1).

**Note:** After the upgrade, the deployed WSDL URL information has already been changed. Therefore, you may have to replace it with the



new WSDL URL and service location or address accordingly in Web service clients while invoking the deployed Oracle E-Business Suite service. To ensure the backward compatibility, the previous 12.1.X service endpoint (services deployed in Oracle E-Business Suite) will continue to work at run time after the upgrade. New service endpoint from Oracle SOA Suite server will be shown in the interface detail page and should be used for client programs.

### **Oracle XML Gateway:**

Complete the installation and setup tasks described in *Installing Oracle E-Business Suite Integrated SOA Gateway, Release 12.2* for enabling Oracle E-Business Suite Integrated SOA Gateway and generic XML Gateway services.

**Note:** After the upgrade, the deployed WSDL URL for a generic XML Gateway service will be changed. You may have to replace it with the new WSDL URL and service location or address accordingly in Web service clients while invoking the generic XML Gateway service. For more information about XML Gateway Web services, see the *Oracle XML Gateway User's Guide*.

## **Financials and Procurement Tasks**

Complete the tasks in this section before you allow users to log on to Oracle Financials and Procurement products.

Oracle Purchasing (available as part of Oracle Procurement) is integrated with Oracle Transportation Management. If you have licensed both Oracle Transportation Management and Oracle Purchasing and will use Oracle Transportation Management with Oracle Purchasing, then perform the post-update steps outlined in *Oracle Transportation Management Integration with Oracle E-Business Suite Post-Update Steps, Release 12.2.0* (Doc ID: 1362803.1).

### **Post Migration Verification Steps:**

1. From the Collections Administrator responsibility, confirm the Collections Business Level in the Setup Checklist.
2. From the System Administrator responsibility, start the concurrent program Workflow Background Process for the following item types:
  - IEXSTRY - IEX: Collection Strategy Work Flow
  - IEXSTFFM - IEX: Strategy Fulfilment Mailer

- IEXSTRCM - IEX: Strategy Custom Work Flow
3. Run the script \$IEX\_TOP/patch/115/sql/iexumchk.sql to set the profile option Unit of Measure (UOM) to 'time'.

## Channel Revenue Management Tasks

In Release 12.2, only Fusion Middleware 11g is supported with Oracle Price Protection. If you are using Fusion Middleware 10g with Oracle Price Protection, then you must upgrade to Fusion Middleware 11g. See Oracle Support Document (Doc ID: 1096437.1) for details.

## Human Resources Tasks

Complete the task in this section before you allow users to log on to Human Resources Management products.

### Human Resources:

#### 1. Apply latest HRMS Legislative Updates (required)

To maintain required legislative compliance, you must apply all legislative data updates. The updates are maintained regularly to be in line with government and country-specific legal requirements. See the latest HRMS (HR Global) Legislative Data Patch (Doc ID: 1469456.1) for information and instructions on how to ensure that your system is up to date.

**Note:** If you are using only Oracle HR Shared for use with another Oracle E-Business Suite product, then DO NOT apply this legislative data.

### Payroll:

These tasks apply only to Oracle Payroll.

#### 1. Install or Update Vertex for Payroll (required)

Oracle Payroll uses the Vertex Quantum Payroll Tax Series in the United States and Canada. The HRMS data in this release contains version 3.1.0 of this third-party product. If you run Oracle Payroll in the United States or Canada, then refer to advanced configuration steps allowed by Payroll, and installing or updating the Vertex software in *Installing Quantum for Oracle Payroll* (Doc ID: 224273.1).

#### 2. Compile Japanese flexfields after generating messages (required)

Several of the Japanese Flexfields have value sets with translated prompts for some

of the Quickpick columns. These values must be seeded in the NLS language for the flexfield to compile cleanly. The seeding occurs when the messages are compiled. You may see some Japanese flexfields that appear as invalid. Resolve this issue by using AD Administration first to generate messages, and then to re-generate flexfields that failed to cleanly compile.

## Projects Tasks

Compile all Fast Formulas via FFXBCP (Refer Doc ID 167689.1). This step applies to all customers who are upgrading to Release 12.2 and want to use the HR Rate by Criteria for labor rates, to be used in forecast or labor cost distribution in the Projects application.

## Supply Chain Management Tasks

### **Oracle Manufacturing Operations Center:**

If you have licensed Oracle Manufacturing Operations Center, then perform the steps outlined in *Oracle Manufacturing Operations Center Installation Notes, Release 12.2* (Doc ID 1362948.1) for enabling this application.

### **Product Hub:**

These tasks apply only to Oracle Product Hub.

#### **1. Creating Versions of Item Catalog Categories**

Applies to: Release 12.0 and 12.1

In EBS release 12.1.2 and higher, you can choose to create a different version of an item catalog category (ICC) when you change a transaction attribute for structure component in the ICC if you set the profile option "Enable PIM for Telco Features" to Yes. When you enable the use of ICC versions, the system automatically creates a draft version for every new ICC created. You cannot choose to create versions for some ICCs, but not others. After upgrading from a release prior to 12.1.2 and after setting the profile option "Enable PIM for Telco Features" to Yes, you must create a released version for each existing ICC. Oracle provides an upgrade API that automatically performs this task. A database administrator can invoke the upgrade API from the back end after you set the profile option "Enable PIM for Telco Features" to Yes.

Upgrade API Sample Call

```

DECLARE
  uid NUMBER;
  rid NUMBER;
  rad NUMBER;
  sgid NUMBER;
BEGIN
SELECT
USER_ID,RESPONSIBILITY_ID,RESPONSIBILITY_APPLICATION_ID,SECURITY_GRO
UP_I
D
INTO
  uid, rid, rad, sgid
FROM
  FND_USER_RESP_GROUPS
WHERE
USER_ID = (SELECT USER_ID FROM FND_USER WHERE USER_NAME ='SYSADMIN')
AND RESPONSIBILITY_ID =
(SELECT RESPONSIBILITY_ID FROM FND_RESPONSIBILITY_VL WHERE
RESPONSIBILITY_KEY = 'SYSTEM_ADMINISTRATOR');
FND_GLOBAL.apps_initialize (uid, rid, rad, sgid);
ego_p4t_upgrade_pvt.upgrade_to_pim4telco(null);
END

```

## 2. Licensing Product Hub for Communications

Applies to: Release 12.0 and 12.1

If you license Product Hub for Communications, release 12.1.2 or later, Oracle Product Hub provides seeded libraries containing attribute groups, attributes, and value sets that are used primarily within the Telecommunications industry. These libraries are not automatically installed. The system administrator must run FND load commands to upload each library after installing the Oracle Product Hub for Communications patch. You can find these commands in the Seeded Item Metadata Libraries appendix, *Oracle Product Hub Implementation Guide*, or in the patch readme file.

## 3. Using the Packing Hierarchy Structure Type

Applies to: Release 12.0

If you have used the structure type Packaging Hierarchy in releases prior to 12.1, note that only the preferred packaging structure from this structure type is migrated over in the upgrade process. If you have defined multiple packaging structures and want to migrate all of them, consider bringing them into the system by transferring them into other structure types, at which time they will be treated as regular structure types and not Packs.

## 4. Defining Item Pages for Item Organization Attribute Groups

Applies to: Release 12.0 and 12.1

Prior to Release 12.1.1, users were unable to define item pages by business entity, so all item and item organization attribute groups appeared on item pages together. Any item organization attribute groups in existence prior to Release 12.1.1 must be added to item pages for the item organization business entity.

## 5. PIM publication web services require manual post installation steps

Applies to: Release 12.0 and 12.1

If you are using the Publication feature in Oracle Product Hub for Communications, then perform the steps outlined in the *Oracle Data Integrator Artifacts and Web Services for Oracle Product Hub Release 12.2* (Doc ID: 1336146.1).

## 6. Monitor Deferred Upgrade Tasks (Conditional)

Applies to: N/A

A Concurrent program Items Data Scripts Execution (short name INVIDSEP) was launched during the upgrade. To reduce downtime, the completion of this program was deferred until the system came back online. It is executed when the concurrent manager starts after the upgrade. You should monitor the completion of this program.

## 7. Gather Table Statistics (recommended)

Applies to: Release 12.0 and 12.1

Considerable changes have been made to the data model that stores Item user-defined attributes in Release 12.1.1. Oracle recommends gathering table statistics for the following EGO tables:

- EGO\_MTL\_SY\_ITEMS\_EXT\_B
- EGO\_MTL\_SY\_ITEMS\_EXT\_TL

## Oracle Shipping Execution:

Oracle Shipping Execution (available as part of Oracle Order Management) is integrated with Oracle Transportation Management. If you have licensed both Oracle Transportation Management and Oracle Order Management and will use Oracle Transportation Management with Oracle Shipping Execution, then perform the post-update steps outlined in *Oracle Transportation Management Integration with Oracle E-Business Suite Post-Update Steps, Release 12.2.0* (Doc ID: 1362803.1).

**Note:** The BPEL 10G integration is not supported in Release 12.2 (the jar files will be removed). Only the SOA 11g integration processes are supported from Release 12.2 forward. Therefore, customers upgrading to Release 12.2 from Release 12.1.x must migrate to SOA 11G integration and follow the documentation to deploy these processes. If you are already using the SOA 11G integration in R12.1.3, then it is not necessary to run the processes.

### **Oracle Value Chain Planning:**

Oracle Value Chain Planning includes Advanced Supply Chain Planning, Demand Planning, Inventory Optimization, Global Order Promising, Collaborative Planning, Production Scheduling, Strategic Network Optimization, Service Parts Planning, Advanced Planning Command Center, and Demand Signal Repository. If you have licensed any of these products, then perform the steps outlined in *Oracle Value Chain Planning Installation Notes Release 12.2.0* (Doc ID: 1361221.1) to enable these applications. If you are deploying Value Chain Planning Applications on a RAC RDBMS, then you must also refer to *RAC Configuration Setups For Running MRP Planning, APS Planning, and Data Collection Processes* (Doc ID: 279156.1) and *RAC for GOP - Setups for Global Order Promising (GOP) When Using a Real Application Clusters (RAC) Environment* (Doc ID: 266125.1) to understand restrictions and requirements for running application processes in a RAC environment.

### **Oracle Warehouse Management:**

Oracle Warehouse Management is integrated with Oracle Transportation Management. If you have licensed both Oracle Transportation Management and Oracle Warehouse Management, and you plan to use Oracle Transportation Management with Oracle Warehouse Management, then perform the post-update steps outlined in *Oracle Transportation Management Integration with Oracle E-Business Suite Post-Update Steps, Release 12.2.0* (Doc ID: 1362803.1).

**Note:** The BPEL 10G integration is not supported in Release 12.2 (the jar files will be removed). Only the SOA 11g integration processes are supported from R12.2 forward. Therefore, customers upgrading to R12.2 from R12.1.x must migrate to SOA 11G integration and follow the documentation to deploy these processes. If you are already using the SOA 11G integration in R12.1.3, then it is not necessary to run the processes.

### **Oracle Complex Maintenance Repair and Overhaul:**

Complete the installation, configuration, and deployment steps to use Oracle BPEL Process Manager 11g with Oracle E-Business Suite Release 12.2. See *Deployment Guide: Complex MRO BPEL Processes, R12.2* (Doc ID: 1366594.1).

## **System Administration**

This section applies to all users, regardless of which products are registered as active.

### **1. Configure SSL for Web Services (conditional)**

If you have implemented Secure Sockets Layer (SSL) and plan to use Web Services, then you must generate certificates using the Oracle Wallet Manager from your

Oracle E-Business Suite Server home (\$IAS\_ORACLE\_HOME). Set up a password to protect your certificates.

**Note:** See *Enabling SSL in Oracle E-Business Suite Release 12.2* (Doc ID: 1367293.1) for more information.

Use the Oracle Wallet Manager to generate the Wallet file. Then, follow these steps to complete the configuration:

1. Set the `s_websrv_wallet_file` parameter in the Applications context file to the location of the Web Services Wallet file. Note that the value is a file location, not a URL.

**UNIX:**

```
/etc/ORACLE/Wallets/system1/exported_wallet
```

**Windows:**

```
d:\oracle\system1\exported_wallet
```

2. Place the exported file in this location.
3. Provide the password for the exported Wallet file by running the following script:

```
$FND_TOP/patch/115/sql/txkSetWalletPass.sql
```

## System Maintenance Tasks

After you have verified that the system and the product upgrades are complete, perform the "clean-up" tasks described in this section.

### System Maintenance:

1. **Delete obsolete product files (recommended)**

Delete the product files for the previous release (if you have not done so already). You may want to retain report output files or customized programs. Output files are stored in the old log and output subdirectories under each product's top directory, under the log and output directories you created, or under a common directory.

To remove obsolete files for an old release, change to the top directory of that release and enter the following command:

**UNIX:**

```
$ rm -rf <old APPL_TOP>
```

**Here is an example:**

```
$ rm -rf /d01/appl/r10
```

**Windows:**

```
C:\> rd /s /q <old APPL_TOP>
```

**Here is an example:**

```
C:\> rd /s /q \APPL110
```

**2. Register new products (conditional)**

New products added since Release 12 are not automatically registered in the database. If you intend to use new products, then register them using License Manager. See *Oracle E-Business Suite Maintenance Guide* for instructions.

**3. Update Java Color Scheme profile option for selected users (conditional)**

By default, the Java Color Scheme profile option should be set to "standard" for all sessions for optimal system response time. The upgrade process sets this default value for all instances. However, setting this profile option to a different value may work better for some systems. See *Oracle E-Business Suite Setup Guide* and *Oracle E-Business Suite User's Guide* for more information.

**4. Complete Transport Agent setup (conditional)**

If you are using a proxy server to handle your outbound Oracle Transport Agent requests, then set following OXTA parameters in the container configuration:

- OXTAOutUseProxy=True
- OXTAOutProxyHost=<Your proxy server name>
- OXTAOutProxyPort=<Your proxy server port>

To set the parameters, go to the Oracle Applications Manager Site Map and choose AutoConfig > Applications Node > Edit Parameters. Then, use the Search field to find OXTA. After you set the parameters, run AutoConfig to regenerate the wls.properties file (FMW\_Home/Oracle\_EBS-app1/applications/oafm/APP-INF/wls.properties).

**Note:** See *Oracle XML Gateway User's Guide* for more information.

**5. Complete Setup for Oracle XML Gateway (required)**

The Oracle XML Gateway engine uses style sheets from an operating system directory you specify in the UTL\_FILE\_DIR database initialization parameter for your Applications instance. You must also specify the same directory in the ECX: XSLT File Path profile option. The value you specify for both the parameter and the profile option must be an absolute path and cannot contain a symbolic link or other operating system-specific parameters.

Also, ensure that the following profile options are set at site level for Oracle XML



Gateway. If you have previously set these profile options, then no action is necessary, as the upgrade preserves these values.

Profile Option	Description
ECX: XSLT File Path	Path to the directory specified as the location for style sheets to be used for XSLT transformations. It must be one of the valid values specified in the UTL_FILE_DIR database initialization parameter. Ensure that there is no slash at the end of the directory name.
ECX: System Administrator Email Address	Address to which Oracle XML Gateway error notifications should be sent.
ECX: Server Time Zone	Time zone the database server is running in.

**Note:** See *Oracle XML Gateway User's Guide* for more information.

## Oracle XML Publisher

These tasks apply to all users, regardless of which products are registered as active.

### 1. Enable PDF printing (required)

The PDF Publisher print style and PASTA\_PDF printer driver provide the capability to print PDF files using a third-party utility. You can use this style and driver to print a generated PDF. The Pasta Universal Printer type has been associated with the style and driver for ease of use.

**Note:** See *Oracle XML Publisher Administration and Developer's Guide* for configuration steps.

### 2. Specify a temporary directory for XML Publisher (required)

Use the Oracle XML Publisher's Administration interface to assign a temporary directory for the site level. The temporary directory improves performance and allows unlimited XML file size.

**Note:** See *Oracle XML Publisher Administration and Developer's Guide* for more information about this directory.

## Additional Tasks

This section points to additional tasks that may be necessary, and suggests documentation that describes those tasks.

### Migrate Portlets Preferences Store

If you are using Oracle E-Business Suite portlets, then copy the Portlets Preference Store directory from your Oracle E-Business Suite Release 12

10\_1\_3\_Oracle\_Home/portal/portletdata directory to your new Oracle E-Business Suite Release 12.2 \$MW\_HOME/oracle\_common/portal/portletdata directory.

Refer to section 15.4.2.4.2 'Migrating Customizations from the Default Production Location' in the *Oracle Fusion Middleware Upgrade Guide for Oracle SOA Suite, WebCenter Portal, and ADF 11g Release 1 (11.1.1.7.0)* (Part Number E10127-07).

**Note:** This applies to all customers using Oracle E-Business Suite portlets with EBS 12.1.3, regardless of whether they integrate with Oracle Portal or Oracle WebCenter consumer.

#### For Portal 10g

Oracle E-Business Suite customers upgrading from 12.0 or 12.1 to 12.2 and already having Oracle Portal 10g configured:

1. Upgrade Oracle Portal 10g to Oracle Portal 11g as described in section 10 of the *Integrating Oracle Portal 11.1.1 with Oracle E-Business Suite Release 12* document on My Oracle Support (Document ID: 1074334.1).
2. Migrate Portlets Preferences Store.

#### For Portal 11g

Oracle E-Business Suite customers upgrading from 12.0 or 12.1 to 12.2 and already having Oracle Portal 11g configured:

1. Migrate Portlets Preferences Store.

### Regenerate Business Views (conditional)

If you are using Business Views, then regenerate your business views by running the *Generate Business Views by Application* concurrent program using the *Business View Setup* responsibility:

- Logon to Oracle E-Business Suite as SYSADMIN.

- Select the *Business Views Setup* responsibility.
- Navigate to Reports > Run > Pick Single Request > Generate ALL Business Views.

If you don't have the *Business Views Setup* responsibility assigned to the SYSADMIN user, then complete the following:

- Logon to Oracle E-Business Suite as SYSADMIN.
- Select the *System Administrator* responsibility.
- Navigate to Security > User > Define and add responsibility *Business Views Setup* to the SYSADMIN user.

## Review System Updates

Release update packs (RUPs) are released at regular intervals, generally quarterly or twice a year. Each RUP is cumulative - it delivers error corrections and system updates, not only for the most current release update pack, but also for all the RUPs that preceded it. You can apply the latest release update pack (RUP) to keep your system at the most current release level available.

**Note:** See *Oracle Applications Documentation Resources, Release 12.2*. This documentation road map contains links to the readmes that describe all release update packs made available since the initial release of Oracle Applications 12.2. See also *Oracle Applications Release Notes*.

## Understand Oracle E-Business Suite System Administration Tasks

Make sure you are completely familiar with the information in the *Oracle E-Business Suite System Administrator's Documentation Set*. In addition, you should understand the information in the *Oracle E-Business Suite Maintenance Guide, Release 12.2*. This document contains important details about AD utilities, as well as instructions on how to patch your system and perform manual maintenance tasks.

## Implement New Product and Country-specific Functionality

Refer to the implementation or setup guides (or implementation or setup section of the user's guides) associated with the Oracle E-Business Suite products in your system for instructions on implementing or setting up new products and features.

## Resize the Database

The size of the production database depends on the products that you have licensed and the additional features (such as multiple languages or multiple organizations) that you have configured in your system. Refer to the product-specific documentation.

## Back Up Oracle E-Business Suite

Perform a full system backup of your Oracle E-Business Suite environment including COMMON\_TOP, APPL\_TOP, the technology components, and the database.

## Log On to Oracle E-Business Suite

To start Oracle E-Business Suite and access all Oracle E-Business Suite products, go to the Oracle E-Business Suite Login page, located at the following URL:

`http://<host name>.<domain name>:<HTTP port>/OA_HTML/AppsLogin`

**For example:**

`http://oraapps1.example.com:8000/OA_HTML/AppsLogin`

The system administrator should log on the first time using the sysadmin logon account that is pre-configured in the Applications installation. Use the System Administrator responsibility to launch an Oracle E-Business Suite session where you can complete the required implementation steps.

**Note:** See the *Oracle E-Business Suite Setup Guide*. See also the *Oracle E-Business Suite User's Guide*.

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# Financials Upgrade Impact

This appendix covers the following topics:

- About Business Impact and Functional Changes
- Financials and Procurement Products

## About Business Impact and Functional Changes

An Applications upgrade alters both the technical and functional aspects of your Oracle E-Business Suite system. In addition to changes to the technology stack and file system, an upgrade also initiates specific changes that affect the way your existing products work after the upgrade and the way they look and feel. These functional changes have an impact on the way you use the products as you conduct your daily business.

**Note:** This appendix describes some of the ways the upgrade changes your existing products. We assume that you have read about the new features and products delivered in this release, which is included in the product-specific Release Content Documents (RCDs) and TOI, on *My Oracle Support*.

The discussions of the functional aspects of the upgrade in this appendix are arranged by products within the Financials and Procurement product family.

## Financials and Procurement Products

Changes to the products in this section affect Financials and Procurement products. Before you begin the upgrade, your Financials and Procurement application specialists should have made plans to accommodate the relevant changes.

## Advanced Collections

Changes to Oracle Advanced Collections in the upgrade are described in this section.

## Multiple Level Strategy Support

Advanced Collections allows you to define different strategy levels by Operating Unit separate from the System level. The strategy levels can also be overridden at Party level. Advanced Collections supports the setting for certain Operating Units by Dunning and certain Operating Units by Strategy.

## Stage Dunning Support

Advanced Collections supports the Staged Dunning method separate from the Days Overdue method. In addition, while creating Overdue Dunning Plans, you can specify the Include Current, Include Disputed Items, Include Unapplied Receipts, and Use Grace Days options.

## Collections Manager Functionality

Collections Manager Functionality has been rewritten using OA Framework which allows sorting and filtering for a particular account.

## New Scoring Engines

A new scoring engine is seeded with Pre-delinquency status at Invoice level. In addition, a Quick scoring engine has been added that only processes invoices closed in the last 60 days rather than all invoices. You can test the Scoring Engine for a particular account from the Collections Scoring Admin window instead of running the batch program to verify the score engine setup.

## Strategy Improvements

Advanced Collections allows editing of 'To be created' work items. The 'To be created' work items in the current strategy can be overwritten with new Pre-wait/Post-waits and Collector without creating new Work Items.

## Lease and Finance Management

### Improved Disbursements and Payables

**oklupdpasshrupaydate.sql:** This script updates the contracts having a NULL pass-through pay start date. It updates the pass-through pay start date with the Effective from date of Fee/Service.

**oklcrctptpaygroupmterm.sql:** This script identifies contracts having a NULL pay group or payment term for base and evergreen pass-through terms, and updates those values based on supplier and supplier site setup. If the supplier setup does not exist, then it defaults the pay group and payment term appropriately.

## Improved Customer Billing

**oklupdinvrmtid.sql** : This script upgrades the contract billing invoice format rules and replaces the invoice format information from name to id.

**oklvarast.sql**: This script upgrades interest billing streams with stream purposes VARIABLE\_INTEREST, INTEREST\_CATCHUP and VARIABLE\_LOAN\_PAYMENT. It historicizes the contract level streams and generates streams at the asset level by prorating the contract level streams. It also upgrades the calculated variable rate parameters to be at asset level by prorating the contract level calculated variable rate parameters.

## Improved Pricing

**oklupdincomefee.sql**: This script upgrades contracts that have Income Fees with a single payment. It updates the origination income on Income Fee lines with the fee line amount. Incomes fees with recurring payments continue to have origination income as NULL.

## Improved Contract Authoring

**oklreamg.sql**: This script upgrades contracts that have re-leased assets. It updates the re-leased asset indicator for assets based on the re-leased asset indicator on the contract header.

**okltxsalmg.sql**: This script upgrades contracts that have not yet been booked, including contracts undergoing revision that have not yet been completed. It updates the salvage value for tax books in the internal asset transaction tables based on salvage value rules applicable to the tax book.





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## Human Resource Management Upgrade Impact

This appendix describes the way the upgrade affects your existing Oracle Human Resource Management System (HRMS) products, and highlights the impact of these functional changes on your day-to-day business. This section contains products in the HRMS product family, arranged alphabetically.

This appendix covers the following topics:

- About Business Impact and Functional Changes
- Human Resource Management Systems (HRMS)
- Oracle Payroll
- Oracle iRecruitment
- Oracle Performance Management
- Oracle Succession Planning

### About Business Impact and Functional Changes

An Applications upgrade alters both the technical and functional aspects of your Oracle E-Business Suite system. In addition to changes to the technology stack and file system, an upgrade also initiates specific changes that affect the way your existing products work after the upgrade, and the way they look and feel. These functional changes have an impact on the way you use the products as you conduct your daily business.

**Note:** This appendix describes some of the ways the upgrade changes your existing products. Oracle assumes that you have read about the new features and products delivered in this release, which is included in the product-specific Release Content Documents (RCDs) and TOI on *My Oracle Support*.

The discussions of the functional aspects of the upgrade in this chapter are arranged by

products within the HRMS product family.

## Human Resource Management Systems (HRMS)

Your HRMS applications specialists should be completely familiar with the information in this section and should make appropriate plans to accommodate the associated changes before you begin your upgrade.

## Oracle Payroll

### Sparse Matrix

Sparse Matrix functionality is automatically enabled in release 12.2. This effectively prevents the creation of null run result values if all run result values are null for the given run result. There is no need to run the ENABLE\_SPARSE\_MATRIX upgrade program.

Review the *Sparse Matrix Null Result Values Upgrade* program.

It is enabled for each legislation and requires a row in the pay\_upgrade\_legislations table for the definition SPARSE\_MATRIX. The process purges old (null) run result values that would not have been created if the Sparse Matrix functionality had been used within the Payroll processes (such as Run, QuickPay, and so on.)

## Oracle iRecruitment

### Improved Performance of the Recruitment Summary Report

To improve performance and display recruitment summary details faster when handling huge volumes of recruitment data, iRecruitment now summarizes the recruitment data into summary tables. You must run the new iRecruitment Recruitment Summary program to populate the recruitment summary data in summary tables.

## Oracle Performance Management

This section outlines changes made to Oracle Performance Management.

### Reference to Talent Management Replaced with Performance Management

Oracle Performance Management is licensed as a separate product as of June 18th, 2007. If you purchased a Self-Service HR license before June 18th, 2007 and have an Oracle Human Resources (HR) license, then you can use Oracle Performance Management. The purchase of a Self-Service HR license on or after June 18th, 2007 does not permit the use of Performance Management. You must purchase a separate Performance

Management license in addition to an Oracle Self-Service HR license to use the Appraisals, Questionnaire Administration, and Objectives Management self-service functions. With this change, all references to Talent Management are replaced with Performance Management.

## Oracle Succession Planning

### UI for Succession Planning

Oracle Succession Planning is a newly licensable product that is available for Oracle E-Business Suite 12.1.1 customers. Oracle Succession Planning includes the following three functions:

1. Succession Plans
2. Suitability Matching
3. Talent Profile

**Note:** For details, see *Introducing Oracle Succession Planning Release 12.1.1* (Doc ID: 870119.1). See also *Talent Profile and Succession Planning in Oracle Self-Service HR and Oracle Succession Planning – A Comparative Note*. Note ID: 861499.1



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# Supply Chain Management Upgrade Impact

This appendix covers the following topics:

- About Business Impact and Functional Changes
- Oracle Product Hub

## About Business Impact and Functional Changes

An Applications upgrade alters both the technical and functional aspects of your Oracle E-Business Suite system. In addition to changes to the technology stack and file system, an upgrade also initiates specific changes that affect the way your existing products work after the upgrade and the way they look and feel. These functional changes have an impact on the way you use the products as you conduct your daily business.

**Note:** This appendix describes some of the ways the upgrade changes your existing products. We assume that you have read about the new features and products delivered in this release, which is included in the product-specific Release Content Documents (RCDs) and TOI on *My Oracle Support*.

The discussions of the functional aspects of the upgrade in this chapter are arranged by products within the Supply Chain Management product family.

## Oracle Product Hub

Changes for Oracle Product Hub (previously known as Oracle Product Information Management or PIM) are described in this section.

## Versioning of Item Catalog Categories and Value Sets

You can now create versions for item catalog categories and certain types of value sets. Versioning is possible only if the profile option *Enable PIM for Telco Features* is set to Yes.

For versioning pre-upgrade item catalog categories, see the post-upgrade tasks section. For versioned item catalog categories, only transaction attributes and structures can be maintained within versions.

## **Related Documents**

Because Oracle Document Management and Collaboration (DOM ) product is obsoleted in Release 12.2, the Related Documents feature is not available for Items and Change Orders.

## **Attachments Framework**

Release 12.2 supports only WebDAV (Web-based Distributed Authoring and Versioning) integration mode to content management repositories. Webservice integration mode is not supported. Therefore, on the Repositories Setup page, only the WebDAV protocol option is available under Integration mode. Existing Repositories with Webservice integration mode does not display.

## **Global Data Synchronization Network (GDSN)**

Both Demand-Side Product Data Synchronization for GDSN and Supply-Side Product Data Synchronization for GDSN is obsolete. Functionality related to this is not be visible.

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## Product Documentation List

This appendix covers the following topics:

- Applications Technology
- Supply Chain Management

### Applications Technology

Best Practices for Securing Oracle Applications Release 12.2

*Oracle E-Business Suite Concepts*

*Oracle E-Business Suite Developer's Guide*

*Oracle Application Framework Developer's Guide* (Doc ID: 1315485.1)

*Oracle Application Framework Personalization Guide*

*Oracle E-Business Suite Installation Guide: Using Rapid Install*

*Oracle E-Business Suite Multiple Organizations Implementation Guide*

*Oracle E-Business Suite Setup Guide*

*Oracle E-Business Suite Maintenance Guide*

*Oracle E-Business Suite Security Guide*

*Oracle E-Business Suite User Interface Standards for Forms-based Products*

*Oracle E-Business Suite Integrated SOA Gateway Implementation Guide*

*Oracle XML Gateway User's Guide*

*Oracle XML Publisher Administration and Developer's Guide* (available within the Oracle E-Business Suite online help)

*User Preferred Time Zone Support in the Oracle Applications Release 12* (Doc ID: 402650.1)

*Using AutoConfig to Manage System Configurations with Oracle Applications 12* (Doc ID: 387859.1)

## Supply Chain Management

*OPM System Administration User's Guide*

*Oracle Advanced Supply Chain Planning Implementation and User's Guide*

*Oracle Bills of Material User's Guide*

*Oracle Cost Management User's Guide*

*Oracle Inventory Optimization Implementation and User's Guide*

*Oracle Inventory User's Guide*

*Oracle Manufacturing Operations Center Implementation Guide*

*Oracle Manufacturing Operations Center User's Guide*

*Oracle Mobile Field Service Post-upgrade Instructions for Oracle Applications Release 12*

*Oracle Order Management Implementation Manual*

*Oracle Order Management User's Guide*

*Oracle Product Hub Implementation Guide*

*Oracle Product Hub User's Guide*

*Oracle Service Contracts Implementation Guide*

*Oracle Service Contracts User's Guide*

*Oracle Shipping Execution User's Guide*

*Oracle Shop Floor Management User's Guide*

*Oracle Warehouse Management User's Guide*



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