

**Oracle® Application Management Pack for Oracle
E-Business Suite**

Guide

Release 12.1.0.2.0

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Oracle Application Management Pack for Oracle E-Business Suite Guide, Release 12.1.0.2.0

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Contents

Send Us Your Comments

Preface

1 Introduction to the Oracle Application Management Pack for Oracle E-Business Suite

Overview..... 1-1

2 Installing the Oracle Application Management Pack for Oracle E-Business Suite

Introduction to Installation..... 2-1

Installing the Oracle Application Management Pack for Oracle E-Business Suite..... 2-2

Upgrading the Oracle Application Management Pack for Oracle E-Business Suite 2-3

3 Getting Started with the Oracle Application Management Pack for Oracle E-Business Suite

Getting Started 3-1

System Management Page..... 3-2

4 Discovering Oracle E-Business Suite with Cloud Control

Preparatory Steps for Discovery..... 4-1

Discovery Wizard..... 4-2

Additional Features of Discovery..... 4-6

Command-Line Discovery for Oracle E-Business Suite Systems..... 4-10

Rediscovering an Oracle E-Business Suite instance..... 4-16

Deleting an Oracle E-Business Suite Instance..... 4-16

5 Credentials

Setting Named Credentials.....	5-1
Setting Oracle E-Business Suite Preferred Credentials.....	5-8
Setting Preferred Credentials for Change Management.....	5-11

6 Preferences

Setting Preferences.....	6-1
--------------------------	-----

7 Security

Privileges and Roles for Managing Oracle E-Business Suite.....	7-1
Change Management Privileges.....	7-5
Specific Privileges for Features.....	7-7

8 Monitoring Oracle E-Business Suite

Navigation and Overview.....	8-1
Home Page of the Oracle E-Business Suite System.....	8-5
Administration of Oracle E-Business Suite.....	8-14
Monitoring Current Activity.....	8-20
Monitoring User Sessions.....	8-21
Monitoring JVM Usage.....	8-24
Configuring Monitoring of HTTPS/SSL Targets.....	8-26
Drilling Down to Oracle Applications Manager.....	8-30
Concurrent Processing Dashboard.....	8-32

9 Monitoring Configuration

Configuring Monitoring of Oracle E-Business Suite.....	9-1
--	-----

10 Diagnosing Issues

Diagnosing Issues.....	10-1
Diagnostic Tests for Cloning.....	10-3
Diagnostic Tests for Patch Manager.....	10-10
Diagnostic Tests for Customization Manager.....	10-12
Diagnostic Tests for User Monitoring.....	10-15

11 Cloning an Oracle E-Business Suite System

Cloning an Oracle E-Business Suite System.....	11-1
Running a Single Node to Single Node or Multi Node to Single Node Cloning Procedure for Release 11i and 12.1.x.....	11-8

Running Scale-Up and Scale-Down Multi-Node Cloning Procedures.....	11-19
Running Smart Clone for Oracle E-Business Suite Release 12.2.....	11-31
Adding Custom Steps to a Smart Clone Deployment Procedure.....	11-38

12 Introduction to Change Management

Introduction.....	12-1
Change Management Dashboard.....	12-2
Change Approval Framework and Change Management Privileges.....	12-2
Preferred Credentials for Change Management.....	12-4
Notifications Setup	12-4
Diagnostic Tests.....	12-5

13 Patch Manager

Introduction.....	13-1
Patch Manager Home.....	13-2
Running a Patching Procedure (Release 12.1 and earlier).....	13-8
Creating Patch Deployment Procedures for Oracle E-Business Suite Release 12.2.....	13-20
Copying a Patch Run.....	13-28
Extending Patch Manager Deployment.....	13-29
Logging, Health Checks, and Troubleshooting.....	13-30

14 Customization Manager

Introduction.....	14-1
Major Features and Definitions.....	14-2
Applications Standards Validation.....	14-4
Uploading Existing Custom Patches.....	14-7
Automatic File Driver File Generation and Update.....	14-7
Customization Manager Main Page.....	14-9
File Source Mapping.....	14-11
Example of a File Source Mapping with Parameters.....	14-15
E-Business Suite Mapping.....	14-17
Creating a Package.....	14-19
Updating a Package.....	14-27
Saving a Package.....	14-29
Searching for a Package	14-29
Viewing Package Details.....	14-30
Package Reports.....	14-35
Creating a Report	14-36
Viewing a Report.....	14-39
Searching for a Report.....	14-41

Releasing and Sharing a Package.....	14-41
Maintaining the File Metadata Repository.....	14-42
Managing Custom Applications.....	14-44

A Target Types

Target Types.....	A-1
-------------------	-----

B Pre-validation for Discovery

Prevalidation Checks for Discovery.....	B-1
---	-----

C Supported File Types in Customization Manager

Supported File Types.....	C-1
Recommended Locations for Common File Types.....	C-12
Execution Sequence of SQL File Types.....	C-14

D Customization Manager Coding Standards

Customization Manager Coding Standards for Files.....	D-1
Customization Manager Coding Standards for Database Objects.....	D-10

E Validation of Custom Applications: Examples

Validation of Custom Applications: Examples.....	E-1
--	-----

F Known Product Limitations

Known Product Limitations.....	F-1
--------------------------------	-----

G Third-Party Product License Information

Third-Party Product License Information.....	G-1
Apache Software Foundation.....	G-1

Index

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Oracle Application Management Pack for Oracle E-Business Suite Guide, Release 12.1.0.2.0

Part No. E39873-01

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- 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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If you find any errors or have any other suggestions for improvement, then please tell us your name, the name of the company who has licensed our products, the title and part number of the documentation and the chapter, section, and page number (if available).

Note: Before sending us your comments, you might like to check that you have the latest version of the document and if any concerns are already addressed. To do this, access the new Oracle E-Business Suite Release Online Documentation CD available on My Oracle Support and www.oracle.com. It contains the most current Documentation Library plus all documents revised or released recently.

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Preface

Intended Audience

Welcome to Release 12.1.0.2.0 of the *Oracle Application Management Pack for Oracle E-Business Suite Guide*.

This book is intended for database administrators and system administrators who are responsible for performing the tasks associated with maintaining an Oracle E-Business Suite system using the Oracle Application Management Pack for 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>.

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Structure

- 1 Introduction to the Oracle Application Management Pack for Oracle E-Business Suite
- 2 Installing the Oracle Application Management Pack for Oracle E-Business Suite
- 3 Getting Started with the Oracle Application Management Pack for Oracle E-Business Suite
- 4 Discovering Oracle E-Business Suite with Cloud Control

5	Credentials
6	Preferences
7	Security
8	Monitoring Oracle E-Business Suite
9	Monitoring Configuration
10	Diagnosing Issues
11	Cloning an Oracle E-Business Suite System
12	Introduction to Change Management
13	Patch Manager
14	Customization Manager
A	Target Types
B	Pre-validation for Discovery
C	Supported File Types in Customization Manager
D	Customization Manager Coding Standards
E	Validation of Custom Applications: Examples
F	Known Product Limitations
G	Third-Party Product License Information

Related Information Sources

Oracle E-Business Suite System Administrator's Guide Documentation Set

For Oracle E-Business Suite Releases 11*i* and 12, this documentation set provides planning and reference information for the Oracle E-Business Suite System Administrator. *Oracle E-Business Suite System Administrator's Guide - Configuration* contains information on system configuration steps, including defining concurrent programs and managers, enabling Oracle Applications Manager features, and setting up printers and online help. *Oracle E-Business Suite System Administrator's Guide - Maintenance* provides information for frequent tasks such as monitoring your system with Oracle Applications Manager, managing concurrent managers and reports, using diagnostic utilities, managing profile options, and using alerts. *Oracle E-Business Suite System Administrator's Guide - Security* describes User Management, data security, function security, auditing, and security configurations.

For Oracle E-Business Suite Release 12.2, refer to the *Oracle E-Business Suite Setup Guide*, *Oracle E-Business Suite Maintenance Guide*, and *Oracle E-Business Suite Security Guide*.

Oracle Enterprise Manager Cloud Control Introduction

This manual introduces Oracle Enterprise Manager. It provides a brief overview of the system architecture and describes the key features of the product. The manual also details new features in this release.

Oracle Enterprise Manager Cloud Control Basic Installation Guide

This guide enables you to begin the installation of a new Enterprise Manager system.

Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide

Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide is an extension to *Oracle Enterprise Manager Cloud Control Basic Installation Guide*. While the

Oracle Enterprise Manager Cloud Control Basic Installation Guide covers basic installation procedures that help you get started with Enterprise Manager Cloud Control, the *Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide* covers advanced installation procedures that help you install and configure the Enterprise Manager Cloud Control components in more complex environments.

Oracle Enterprise Manager Cloud Control Upgrade Guide

This guide describes how you can upgrade an existing Enterprise Manager 10g Grid Control Release 5 (10.2.0.5.0) or Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0) to Enterprise Manager Cloud Control.

Oracle Enterprise Manager Cloud Control Administrator's Guide

This guide describes how to set up a Private Cloud, manage and deploy virtualization targets with Oracle Enterprise Manager 12c.

Oracle Enterprise Manager Cloud Administration Guide

This guide describes how to set up a Private Cloud, manage and deploy virtualization targets with Oracle Enterprise Manager 12c.

Oracle Enterprise Manager Lifecycle Management Administrator's Guide

The Lifecycle Management Guide introduces you to the lifecycle management solutions offered by Oracle Enterprise Manager Cloud Control (Cloud Control), and describes in detail how you can use the discovery, provisioning, patching, and configuration and compliance management features to manage your data center.

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.

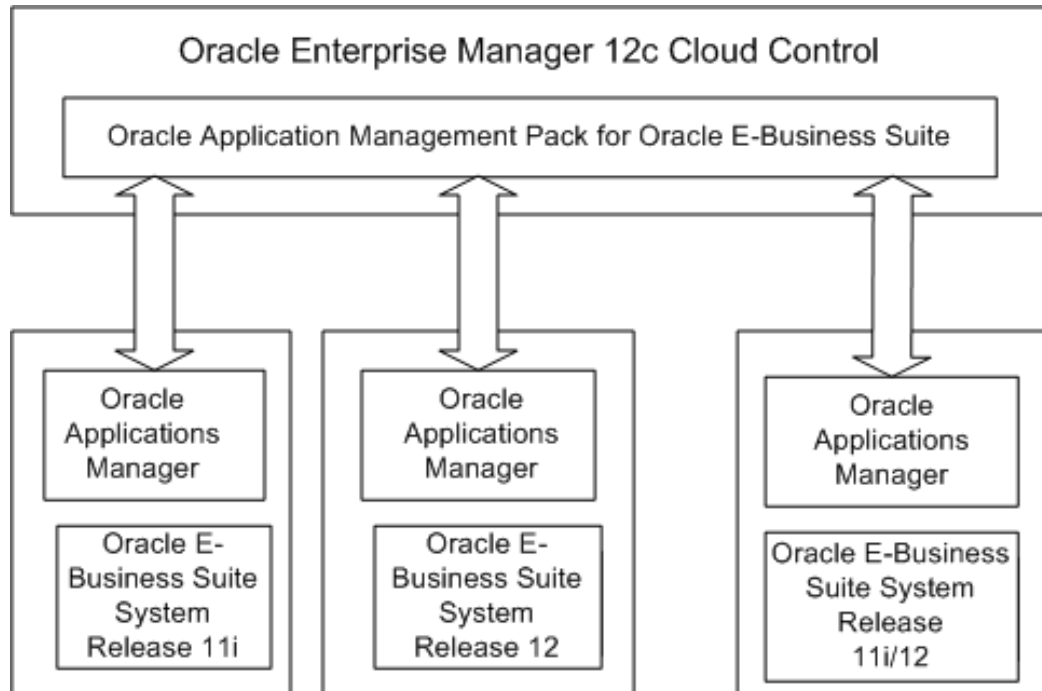
Introduction to the Oracle Application Management Pack for Oracle E-Business Suite

Overview

The Oracle Application Management Pack for Oracle E-Business Suite extends Oracle Enterprise Manager 12c Cloud Control to help monitor and manage Oracle E-Business Suite systems more effectively. The pack integrates Oracle Applications Manager with Cloud Control to provide a consolidated, end-to-end Oracle E-Business Suite management solution. The pack can be used to manage both Oracle E-Business Suite Release 11i systems and Release 12 systems.

This document describes the features and usage of this new pack for Cloud Control.

Oracle Enterprise Manager Cloud Control provides a complete view of your enterprise so that you can manage all of your Oracle E-Business Suite systems from a single console. This pack provides new pages within Cloud Control that help you to monitor the performance, availability and configuration changes of your Oracle E-Business Suite system and also help you to provision your Oracle E-Business Suite applications. You can take advantage of advanced Cloud Control features such as the provisioning framework.



Enterprise Manager itself allows you to monitor multiple Oracle E-Business systems (both Release 11*i* and Release 12) from the outside.

The Oracle Application Management Pack for Oracle E-Business Suite provides advanced features to monitor and manage Oracle E-Business Suite Release 12 systems as well as Release 11*i* systems that meet a standard interoperability patch level. These advanced features include Oracle E-Business Suite provisioning, Application Service Level Management, extended performance metrics, and links from Cloud Control to Oracle Applications Manager.

Note: Please refer to My Oracle Support Knowledge Document 1532970.1 for additional patches required for your system.

Information about the Oracle Application Management Pack for Oracle E-Business Suite Deployment

To find out information about the deployment of Oracle Application Management Pack for Oracle E-Business Suite on your system, navigate to Setup menu > Extensibility > Plug-ins. Under the Applications section, click on the Oracle E-Business Suite plug-in.

Note: The "About Oracle E-Business Suite Management Pack" feature in Release 4.0 of this pack has been replaced by the above native Enterprise Manager functionality.

Installing the Oracle Application Management Pack for Oracle E-Business Suite

Introduction to Installation

Oracle Application Management Pack for Oracle E-Business Suite (AMP) extends Enterprise Manager (EM) 12c Cloud Control to help monitor and manage an Oracle E-Business Suite system more effectively.

This pack can be used to manage both Oracle E-Business Suite Release 12 and Release 11i systems.

This pack is available for fresh installations; that is, you do not need to have a version of the pack installed before installing this version.

For customers considering upgrades from versions of Oracle Application Management Pack for Oracle E-Business Suite already installed (possibly with Oracle Change Application Management Pack for Oracle E-Business Suite, or ACP), upgrade paths are provided from the following:

- Enterprise Manager Grid Control 10.2.0.5 with AMP-ACP 3.1 installed
- Enterprise Manager Grid Control 11gR1 with AMP-ACP 4.0 installed
- Enterprise Manager Cloud Control 12c with AMP 12.1.0.1.0 installed

This release of Oracle Application Management Pack for Oracle E-Business Suite requires Oracle Enterprise Manager Cloud Control Release 12c 12.1.0.3 (also known as PS2).

This chapter describes the system requirements and installation of this new pack for Cloud Control.

Important: Uninstalling Oracle Application Management Pack for Oracle E-Business Suite is not supported. Please back up the Enterprise Manager repository before applying this management pack. Please contact Enterprise Manager Support if you need more clarification on the backup procedure.

System Requirements

Ensure that the following requirement has been met:

- **OS/User Group Requirement:** It is recommended that the Oracle E-Business Suite OS user and the Enterprise Manager Agent OS user is the same. If they are different, then they must belong to the same OS group.

Before continuing with the installation as outlined below, please read and become familiar with the known limitations as described later in this manual. These limitations are typically minor to most Oracle E-Business Suite Release 12 and Release 11i administrators; however, they might be of concern to longtime users of Oracle Enterprise Manager who are new to using the Oracle Application Management Pack for Oracle E-Business Suite.

Installing the Oracle Application Management Pack for Oracle E-Business Suite

The following are prerequisites for installation:

1. Install Enterprise Manager Cloud Control.
2. Discover the Oracle E-Business Suite host.
3. Set up Software Library in Enterprise Manager. For more information on configuring Software Library, refer to: *Oracle Enterprise Manager Cloud Control Administrator's Guide*.
4. Apply any additional prerequisite patches as described in "Getting Started with Oracle Application Management Pack for Oracle E-Business Suite, Release 12.1.0.2.0", My Oracle Support Knowledge Document 1532970.1.

Important: The database plug-in must be deployed on the application nodes that have been configured to run the Applications listener so that metric collection can occur. The Applications listener target type is part of the database plug-in, so the database plug-in must be deployed on the same node(s).

Note: Unlike in a previous release, you do not need to install the Fusion Middleware plug-in on the agent. Installation will occur in the background during discovery.

Installing and Deploying the Oracle Application Management Pack for Oracle E-Business Suite

For details on deploying the Oracle Application Management Pack for Oracle E-Business Suite on the Oracle Management Server (OMS) and the platform agents, see *Oracle Enterprise Manager Cloud Control Administrator's Guide*.

Note: Enterprise Manager 12c introduces a new tool and methodology to deliver and install plug-ins, called the Enterprise Manager Store (EM Store). Updated plug-ins are made available through the Enterprise Manager Store, an external site that is periodically checked by Enterprise Manager Cloud Control to obtain information about updates ready for download. The Self Update feature allows customers to expand Enterprise Manager's capabilities by updating Enterprise Manager components whenever new or updated features become available. For more details on the EM Store, and the Self Update feature, see *Oracle Enterprise Manager Cloud Control Administrator's Guide*,

Unlike in a previous release, you do not need to install the Oracle E-Business Suite plug-in on the agent. Installation will occur in the background during discovery. However, you must manually deploy the Oracle E-Business Suite plug-in on the agent that is used to check out files for Customization Manager.

Upgrading the Oracle Application Management Pack for Oracle E-Business Suite

To upgrade the Oracle Application Management Pack for Oracle E-Business Suite, use the generic procedure described in *Oracle Enterprise Manager Cloud Control Upgrade Guide*. This procedure applies to upgrading from Release 3.1, 4.0, or 12.1.0.1.0.

The software is available from Oracle Technology Network at <http://www.oracle.com/technetwork/oem/grid-control/downloads/oem-upgrade-console-502238.html> under the section "Download Plug-ins".

Note: Please ensure that in the upgrade process you change the software file type to ".opar" if it is ".zip".

Note that if you had installed the plug-in on an agent without a discovered Oracle

E-Business Suite target, the plug-in will not be upgraded on that agent. For example, say in Release 3.1 you had installed the plug-in on an agent exclusively for performing check-in and check-out from source control for Customization Manager. There is no Oracle E-Business Suite target that is being monitored by this agent. During an upgrade to Release 12.1.0.2.0, this agent will not be upgraded to this latest release. You will have to upgrade this agent manually from the Oracle Management Service user interface.

Considerations for Cloning and Upgrades

Only Smart Clone procedures are supported in this release. As a prerequisite to running a Smart Clone procedure, the target Oracle E-Business Suite database must be cloned and discovered in the Enterprise Manager.

Clone transaction data created in previous releases will not be usable in this release. After you upgrade from an earlier release, the old cloning transactions will not be available.

Considerations for Patch Manager and Upgrades

Before upgrading from a prior release, you should ensure that all patching runs have completed or are in a state in which they are no longer being used. After the upgrade to Release 12.1.0.2.0, these old patch runs will no longer be visible in Patch Manager. For example, say you have a patch run in a "Pending Approval" or "Approved" state in Release 4.0. After you upgrade, you will not be able to use this patch run.

Considerations for Upgrading from Release 3.1 or 4.0

Note the following considerations and limitations for upgrades.

Deleting an Instance

If you are deleting an Oracle E-Business Suite instance after an upgrade, Oracle recommends you delete the retired targets associated with the instance. Delete these retired targets manually from the All Targets page before running discovery again later. The target types are:

- Oracle E-Business Suite System
- Oracle Applications Infrastructure Service

Note: You must delete these manually in the current release. In a future release this deletion will be handled automatically.

Oracle also recommends that you delete the report associated with Oracle Applications Infrastructure Service. To do this, perform the following steps:

1. From the Enterprise menu, select Reports/Information Publisher Reports.

2. Search using the search term Target Type "Oracle Applications Infrastructure Service".
3. From under Oracle Applications Dashboards/Oracle Applications Service Dashboards, select <Oracle E-Business Suite instance name>-Oracle Applications Infrastructure Service Dashboard and click the **Delete** button.

Properties in amp.properties file replaced by Preferences

The amp.properties file is obsolete with this release of the Oracle Application Management Pack for Oracle E-Business Suite.

The following properties are obsolete:

- ebs_acp_packAccessEnabled
- enableRoleBasedSecurity
- enableApproval_CM
- enableApproval_AZ
- enableApproval_PM
- targetLevelPrivilegeForApproval

The following properties must be set manually in the Preferences page after the upgrade:

- stageDir (Stage Directory) - This property/preference is used by Customization Manager and specifies the OMS stage directory for package creation.
- ampCloneApplTopParallelThreads (Number of threads to be used while zipping, transferring, and unzipping the files under APPL_TOP of Apps Tier. Max value 16)
- ampCloneToolsParallelThreads (Number of threads to be used while zipping, transferring, and unzipping the files under Tools home of Apps Tier. Max value 8)
- ampCloneWebParallelThreads (Number of threads to be used while zipping, transferring, and unzipping the files under Web home of Apps Tier. Max value 4)
- ampCloneCommonTopParallelThreads (Number of threads to be used while zipping, transferring, and unzipping the files under COMMON_TOP of Apps Tier. Max value 4)
- um_dashboard_no_of_rows (Number of Rows in tables of User Monitoring)
- um_session_sampling_interval (Sampling Interval for User Monitoring)

- omsPatchStageDir (OMS Stage Directory Location)
- MOSEnabled/metalinkEnabled (Connect to My Oracle Support for Patches)

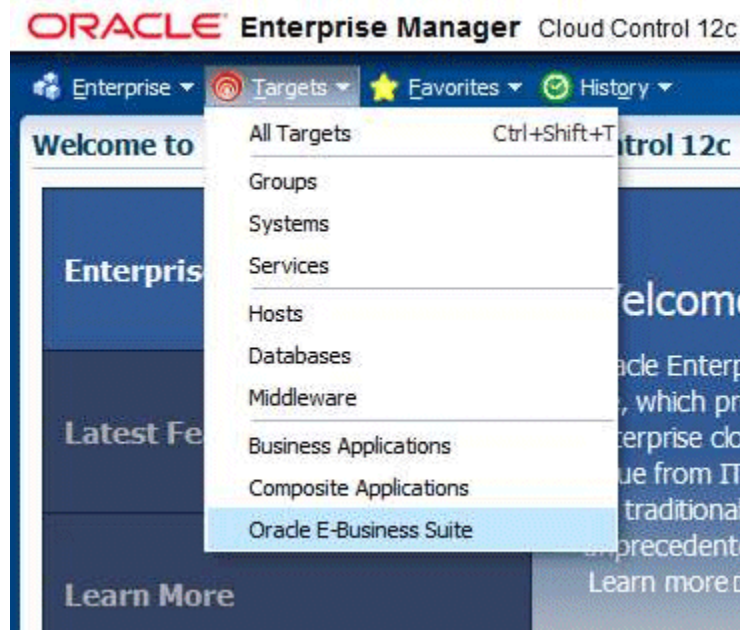
Security using Enterprise Manager Privileges and Roles

Oracle Application Management Pack for Oracle E-Business Suite now uses the native Enterprise Manager privileges and roles. As noted above, the amp.properties file is obsolete, so its security-related properties are no longer used. See Privileges and Roles for Managing Oracle E-Business Suite, page 7-1 for more information on managing security.

Getting Started with the Oracle Application Management Pack for Oracle E-Business Suite

Getting Started

Once the management pack, or plug-in, has successfully deployed on the OMS, you can go to the landing page (called as System Management Page henceforth) of the plug-in by selecting Oracle E-Business Suite from the Targets menu.



System Management Page

The System Management page gives you a bird's eye view of all the Oracle E-Business Suite instances that are being monitored. This view includes status, incidents, compliance, and so on. The page has the following sections:

Status of Oracle E-Business Suite Targets

This section shows the status summary of Oracle E-Business Suite targets being monitored. The pie charts show how many are up, down, or in unknown status.

Incidents and Problems

This section has the summary of incidents reported from all the Oracle E-Business Suite targets being monitored. The incidents are grouped based on category and severity.

Oracle E-Business Suite Instances

This section lists the Oracle E-Business Suite instances that are already discovered. The status column tells you if the instance is up, down or partially up. You can perform the following actions:

- Go to the home page of an Oracle E-Business Suite instance by clicking on the name of the instance.
- Discover a new Oracle E-Business Suite instance by clicking **Add**.
- Delete an Oracle E-Business Suite instance which is already discovered by clicking **Delete**.
- Configure how an Oracle E-Business Suite instance is being monitored by clicking **Configure**.

Compliance Summary

This sections list the compliance standards that are shipped by the Oracle E-Business Suite plug-in along with the evaluations performed and violations reported. The Average Compliance score is an indication on how much compliant all the Oracle E-Business Suite instances are to each specific standard. This score will be discussed in detail later.

Least Compliant Targets

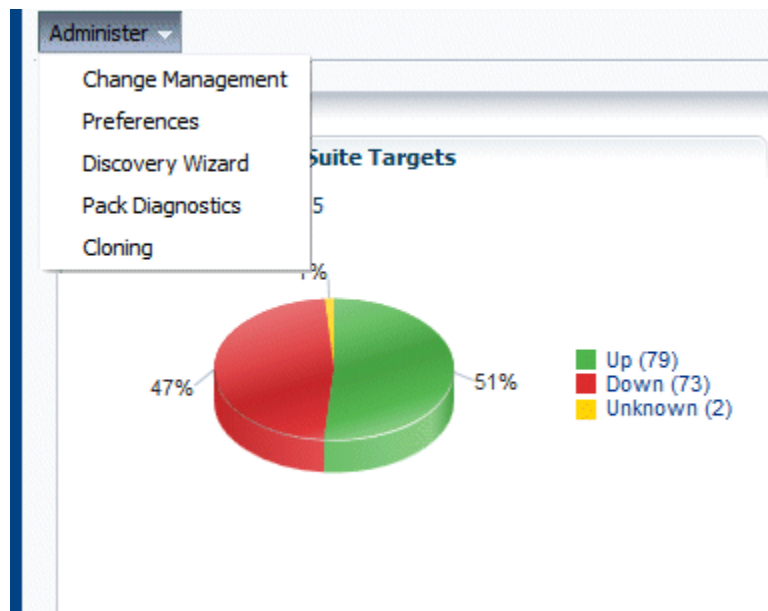
This section lists the Oracle E-Business Suite targets that are least compliant across all standards. The Average Compliance score is an indicator of how compliant the specific

Oracle E-Business Suite instances are to standards.

Navigating from System Management Page

You can navigate to the following pages from the system management page through the Administer menu.

- Change Management
- Preferences
- Discovery Wizard
- Pack Diagnostics
- Cloning



Discovering Oracle E-Business Suite with Cloud Control

Preparatory Steps for Discovery

Privileges needed to do discovery

To discover an Oracle E-Business Suite, users must have the **Add any Target** target type privilege.

Prerequisites to do discovery

- The Oracle E-Business Suite database must be discovered in Enterprise Manager Cloud Control.
- The hosts on which the Oracle E-Business Suite is deployed must be discovered in Enterprise Manager Cloud Control.
- AutoConfig must be enabled and updated on all nodes in order for Oracle E-Business Suite systems to be properly recognized by Oracle Application Management Pack for Oracle E-Business Suite. Refer to the applicable documentation:
 - My Oracle Support Knowledge Document 165195.1, "Using AutoConfig to Manage System Configurations with Oracle Applications 11i"
 - My Oracle Support Knowledge Document 387859.1, "Using AutoConfig to Manage System Configurations in Oracle E-Business Suite Release 12"
 - *Oracle E-Business Suite Setup Guide* for Release 12.2, Technical Configuration chapter

Note: For an AutoConfig-enabled Release 11i instance, running AutoConfig on the database tier adds the following lines to sqlnet.ora automatically:

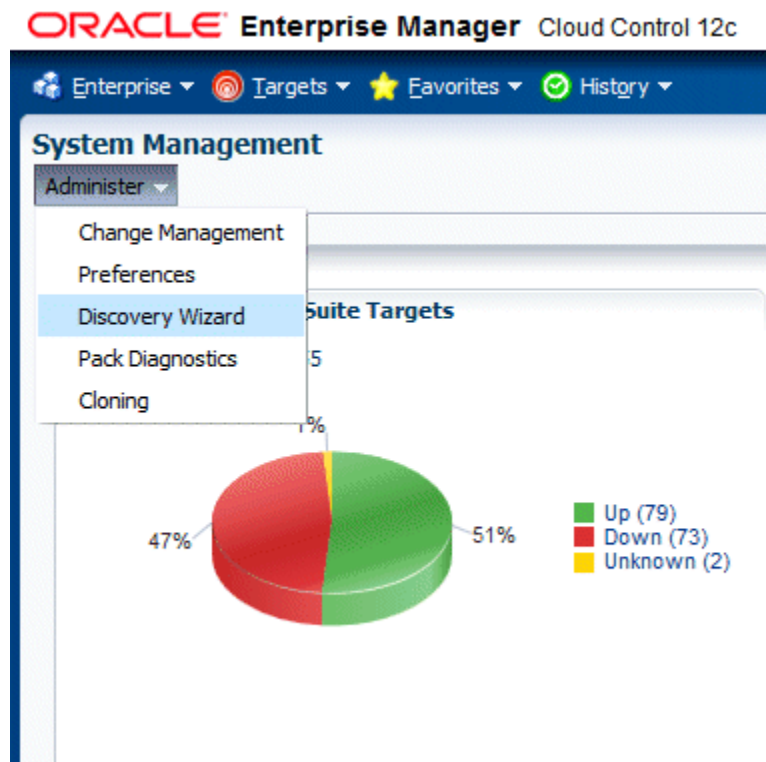
```
tcp.validnode_checking = yes
tcp.invited_nodes=(11i_HOST)
```

In this case, database discovery or application discovery through Oracle Enterprise Manager will fail because the Oracle E-Business Suite instance database tier listener will reject any connection requests other than from itself. To prevent this failure, add the Oracle Enterprise Manager Cloud Control server to sqlnet_ifile.ora as listed below and bounce the database listener before discovery via Oracle Enterprise Manager.

```
tcp.invited_nodes=(11i_HOST, EMGC_HOST)
```

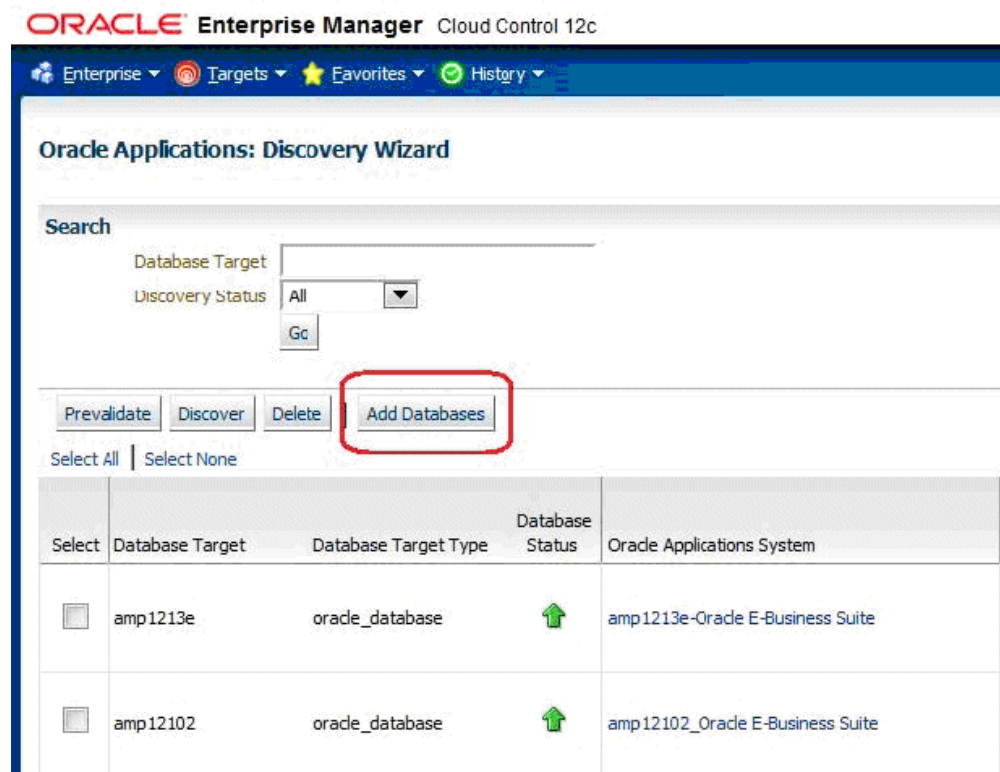
Discovery Wizard

An Oracle E-Business Suite instance is discovered using Discovery Wizard. It allows you to validate, track, plan, log, and customize Oracle E-Business Suite discovery processes. To access Discovery Wizard, select Discovery Wizard from the Administer menu in the System Management page.



Adding an Oracle E-Business Suite database:

1. Navigate to Discovery Wizard.
2. Click on the **Add Databases** button.



3. Select the Oracle E-Business Suite database target.
4. Once added, the database target shows up in the Discovery Wizard. You can now proceed to discover the Oracle E-Business Suite instance.

Prevalidating Discovery:

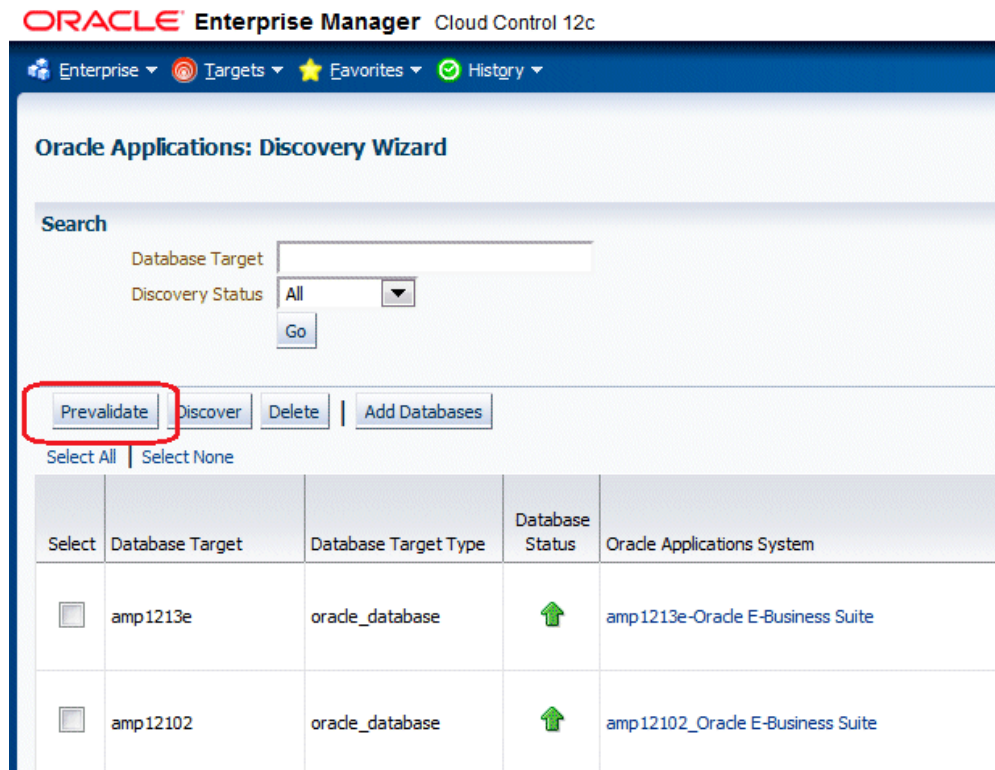
Prevalidation allows you to analyze the Oracle E-Business Suite instance and Enterprise Manager Cloud Control to ensure successful discovery. Validation checks include verifying the following:

- Context files
- Context variables
- Agent installation
- OS user privileges

- Versions of target metadata

For more information on these checks, see: Prevalidation Checks for Discovery, page B-1.

1. To prevalidate discovery, go to Discovery Wizard.
2. Select the Oracle E-Business Suite database target and click on **Prevalidate**.



3. Enter the monitoring schema credentials for the database.
4. Click **Prevalidate Discovery**.
5. A job will be submitted to prevalidate the discovery.

The Diagnostics Status column in the Discovery Wizard shows the status of prevalidation as a link. You can drill down to get the details. A detailed report will be generated that can be used to resolve any issues. Only one Oracle E-Business Suite instance can be prevalidated at a time.

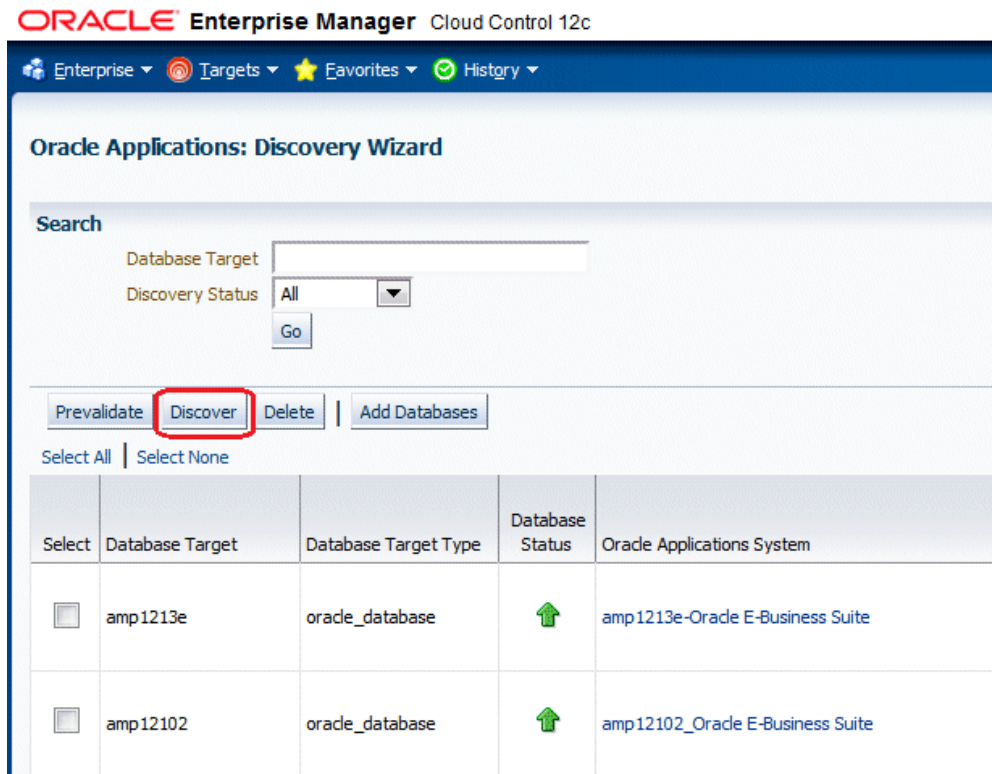
Discovering Oracle E-Business Suite Release 11i, 12.0, or 12.1:

1. Navigate to Discovery Wizard.

2. Select the Oracle E-Business Suite database target and click on **Discover**.
3. Enter the monitoring schema credentials for the database.
4. Click **Start Discovery**.
5. A job will be submitted to do the discovery. The Diagnostics Status column in the Discovery Wizard will show the status of discovery as a link. You can drill down to get the details.

Discovering Oracle E-Business Suite Release 12.2:

1. Set the Normal Host preferred credential where the WebLogic Administration Server is running. See: Setting Oracle E-Business Suite Preferred Credentials, page 5-8.
2. Navigate to Discovery Wizard.
3. Select the Oracle E-Business Suite database target and click on **Discover**.



4. Enter the monitoring schema credentials for the database.
5. Enter the username and password for the WebLogic Administration Server.
6. Click **Start Discovery**.
7. A job will be submitted to do the discovery. The Diagnostics Status column in the Discovery Wizard will show the status of discovery as a link. You can drill down to get the details.

Additional Features of Discovery

Discovering multiple Oracle E-Business Suite targets

Discovery Wizard allows you to discovery multiple Oracle E-Business Suite targets. Select all the needed Oracle E-Business Suite database instances and click on Discover. You must enter the Monitoring Schema username and password for all of them in the next page. For Release 12.2 targets, you must also enter the WebLogic Admin username and password.

Discovering Oracle E-Business Suite as EM_MONITOR user (Recommended)

Oracle E-Business Suite can be discovered and monitored using an EM_MONITOR user which has read-only access to Oracle E-Business Suite tables required for monitoring. By default the EM_MONITOR user is locked so a user would have to unlock it explicitly to use it.

Discovering Oracle E-Business Suite by assigning EM_OAM_MONITOR_ROLE to database user (such as DBSNMP)

Oracle E-Business Suite can be discovered and monitored using any database user; for example, the provided DBSNMP user has been granted EM_OAM_MONITOR_ROLE. This role is been provided with read-only access to Oracle E-Business Suite tables required for monitoring.

Troubleshooting discovery

In case if anything goes wrong with the discovery, you must check the discovery log to troubleshoot. It is available at:

```
$<MIDDLEWARE_HOME>/oms/sysman/log/ebsDiscovery_<DBSID>_oracle_database.log
```

Restrictions for discovery

- If you are using Oracle's E-Business Suite Online Patching feature and you have an active patching cycle in progress, you must wait until it completes before attempting to discover an Oracle E-Business Suite instance.
- You cannot discover two Oracle E-Business Suite instances with the same name.

Customizing discovery

It is possible to customize the discovery. You can exclude the discovery of certain targets and services. To customize the discovery of an Oracle E-Business Suite instance, click on the link available in the **Configure** column in Discovery Wizard. You will be prompted to enter the monitoring schema credentials for the database.

Customization at instance level

The following table explains the different options available for you.

Options for Customizing Discovery

Parameter	Description	Applicable Oracle E-Business Suite Releases
Customer Group Name	All targets discovered for this instance will be grouped under this group. This group will be added to Group: Customer Group Name.	All Releases
Customer Instance Group Name	If the Customer Instance Group Name is provided, then all the targets discovered for this instance and the Customer Instance Group Name will be added to this group.	All Releases
Discover Discoverer	Disable/Enable discovery of the Discoverer component.	Release 11i only
Discover Workflow	Disable/Enable discovery of the Oracle Workflow components.	All Releases
Discover Workflow Service	Disable/Enable creation of the Oracle Workflow service. If you do not discover workflow targets, then the workflow service will not be discovered.	Release 12 and Above
Discover Forms Service	Disable/Enable creation of the Oracle Forms service.	Release 12 and above
Discover SSA Service	Disable/Enable creation of the Self-Service Applications (SSA) Service.	Release 12 and above
Discover Patching Information	Disable/Enable discovery of the Patching Information Object. This target is essential for any Oracle E-Business Suite patching application and should be enabled if any patching applications are used with this instance.	Release 12 and above
Discover Custom Objects	Disable/Enable discovery of custom objects configuration.	Release 12 and above

Parameter	Description	Applicable Oracle E-Business Suite Releases
Delete Removed Targets	<p>Whether to delete an Oracle E-Business Suite member target from OMS which was originally discovered and later detached from the Oracle E-Business Suite target hierarchy with a rediscovery.</p> <p>For example, say you have discovered an Oracle E-Business Suite instance with five nodes. Later you customize the discovery and exclude two nodes. When you perform rediscovery, the two excluded nodes become orphan nodes. If this option is set to Yes, then the orphan targets will be deleted during rediscovery.</p>	All Releases

Excluding nodes from getting discovered

The Configure Discovery page lists all the nodes. You can exclude a node from being discovered. Uncheck the check box corresponding to the node in the Enable column. At least one applications node must be selected for successful discovery. Discovery can happen even if you do not select any database node.

For Oracle E-Business Suite Release 12.2, you cannot exclude a node if the WebLogic Administration Server is running on that node.

Customization at the node level

You can also configure the targets that get discovered in each node. Click on the

Configure column corresponding to each node.

Customization at apps node level

You can exclude Forms and the Apps JVM from being discovered in Release 12.

Mapping Aliased Host

A host which is uniquely identified by an IP Address can have different alias names in the network. It is possible that the Oracle E-Business Suite context file has one host name while it has been discovered in Cloud Control with a different alias name. In such case you must map the host name available in the context file to the corresponding host name with which it has been discovered. This can be done by configuring the discovery for each node. The section **Map Aliased Host** serves this purpose. Select the radio button **Select overriding hostname**. A list of values is shown from which you can select the appropriate host which can be mapped to the host in which this node is running.



Resetting the customization

From the Configure Discovery page you can reset your customization to default or you can reset it to the last configuration with which discovery was done successfully.

Command-Line Discovery for Oracle E-Business Suite Systems

The Oracle Application Management Pack for Oracle E-Business Suite provides a command-line interface for the batch discovery of multiple Oracle E-Business Suite systems. Command-line discovery is executed using the script `ebsdiscovery.sh` which is located under `$PLUGIN_HOME/scripts/cli`.

Prerequisites

The operating system user who runs command-line discovery must have the full permissions on the OMS ORACLE_HOME. Before running command-line discovery, set the following environment variables:

- ORACLE_HOME: This environment variable must be set to OMS Home.
- JAVA_HOME: This environment variable must be set to a valid JDK directory. The OMS ORACLE_HOME ships with one under \$ORACLE_HOME/jdk. Once the OMS ORACLE_HOME is set, JAVA_HOME may be set simply by reference to the ORACLE_HOME variable:

```
export JAVA_HOME=$ORACLE_HOME/jdk
```
- PLUGIN_HOME: This environment variable must point to the folder returned by the query "select plugin_home from GC\$CURRENT_DEPLOYED_PLUGIN where plugin_id='oracle.apps.ebs' and destination_type='OMS'".

Before running discovery for multiple instances, it is highly recommended that you first try discovering a single Oracle E-Business Suite system.

Discovery

The ebsdiscovery.sh script can be run with the following parameters:

- `inputfile=<ebslist>`

This option, when passed to the ebsdiscovery.sh script, will allow for the use of an input file which may contain details for the discovery of several Release 11i or Release 12 Oracle E-Business Suite systems (Oracle Applications environments). See: The ebsList.txt file, page 4-12 for more information.

How this option works: Information will be taken from the file specified as <ebslist> and submitted as separate Enterprise Manager jobs for discovering each Oracle E-Business Suite system described in the file. If this "inputfile" option is not provided, then the default value is ebsList.txt. Please see ebsList.txt under \$OMS_HOME/sysman/admin/scripts/ebs/cli/amp/disc/ for a sample input file.

- `omscred=<oms credentials file>`

OMS Credentials will be taken from this file. This file is machine-generated and should not be edited. If this file does not exist, the ebsdiscovery.sh script will create it after prompting for the necessary input values. If this "omscred" option is not provided, then the default value is omscred.conf.

- `logdir=<log directory>`

This option determines the location where the log files will be written.

An example of running the command is:

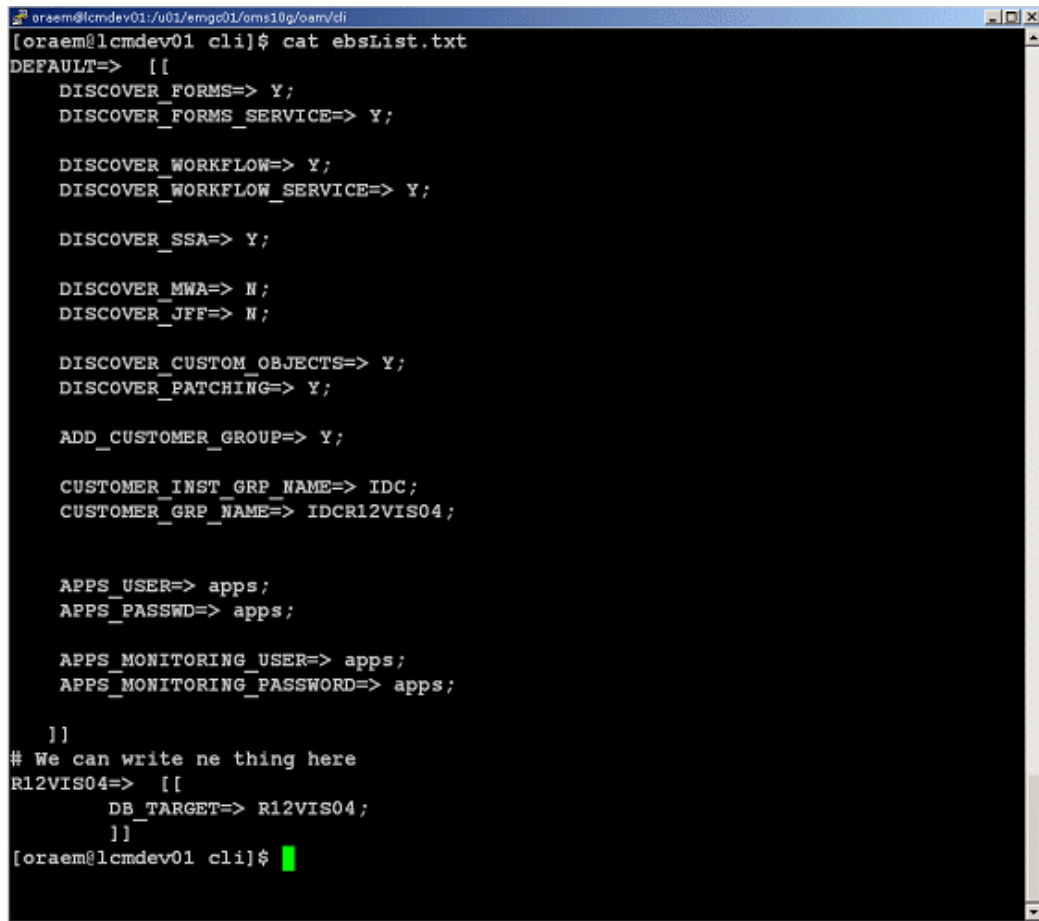
```
./ebsdiscovery.sh inputfile=ebsList.txt omscred=omscred.conf logdir=/tmp
```

After the discovery job is started, you can view its status on the Oracle Management Server. From the Oracle Enterprise Manager console, navigate to Enterprise (menu) > Job > Activity. The status of the job is shown in the Status field. Click on the job name link to drill down to details on the discovered Oracle E-Business Suite instance.

The ebsList.txt file

The ebsList.txt file contains parameters and values for the discovery process.

The ebsList.txt file

A screenshot of a terminal window with a black background and white text. The window title is 'oraem@lcmdev01:/u01/emgc01/oms10g/oms/di'. The user has entered the command 'cat ebsList.txt'. The output shows a configuration file with various parameters and values, including discovery settings for Forms, Workflow, SSA, MWA, JFF, Custom Objects, Patching, Customer Group, and Apps monitoring. A comment line says '# We can write ne thing here'. The terminal ends with a green cursor on a new line.

```
oraem@lcmdev01:/u01/emgc01/oms10g/oms/di
[oraem@lcmdev01 cli]$ cat ebsList.txt
DEFAULT=> [[
    DISCOVER_FORMS=> Y;
    DISCOVER_FORMS_SERVICE=> Y;

    DISCOVER_WORKFLOW=> Y;
    DISCOVER_WORKFLOW_SERVICE=> Y;

    DISCOVER_SSA=> Y;

    DISCOVER_MWA=> N;
    DISCOVER_JFF=> N;

    DISCOVER_CUSTOM_OBJECTS=> Y;
    DISCOVER_PATCHING=> Y;

    ADD_CUSTOMER_GROUP=> Y;

    CUSTOMER_INST_GRP_NAME=> IDC;
    CUSTOMER_GRP_NAME=> IDCRI2VIS04;

    APPS_USER=> apps;
    APPS_PASSWD=> apps;

    APPS_MONITORING_USER=> apps;
    APPS_MONITORING_PASSWORD=> apps;

]]
# We can write ne thing here
R12VIS04=> [[
    DB_TARGET=> R12VIS04;
]]
[oraem@lcmdev01 cli]$
```

The format for the ebsList.txt file is:

```
DBTARGET=> [ [
    DBTARGET=><DBTARGET>;
    DBTYPE=><oracle_database | rac_database>;
    APPS_USER=><apps db user>;
    APPS_PASSWORD=><apps password>;
]]
```

Extra parameters can be provided as <key>=><value> pairs delimited by a semi-colon

(;).

For ENCRYPTED_PASSWORD=><encrypted apps password>, the encrypted password will be used to decrypt the password on successive usage of the ebsList.txt file. To override the old password, change the input and add APPS_PASSWORD key value pair again with the new, changed password.

ebsList.txt Parameters

The following table describes the ebsList.txt parameters and their valid values.

Key	Supported Release	Valid Values	Description	Default
DB_TARGET	All	DB Target Name	Database Target name of the Apps you want to discover	N/A
DB_TYPE	All	oracle_database or rac_database	Database type	oracle_database
APPS_USER	All	Apps username		apps
APPS_PASSWD	All	Apps password	This will be replaced by ENCRYPTED_APPS_PASSWD	apps
APPS_MONITORING_USER	12.0 or higher	Apps Monitoring username	This is used for out-of-box service monitoring	
APPS_MONITORING_PASSWORD	12.0 or higher	Apps Monitoring password	This will be replaced by ENCRYPTED_APPS_MONITORING_PASSWORD	
DISCOVER_WORKFLOW	All	Y or N	Whether to Discover Workflow targets	Y

Key	Supported Release	Valid Values	Description	Default
DISCOVER_WORKFLOW_SERVICE	12.0 or higher	Y or N	Whether to Discover Workflow Service if DISCOVER_WORKFLOW is Y	Y
DISCOVER_FORMS	12.0 or higher	Y or N	Whether to Discover Forms or not	Y
DISCOVER_FORMS_SERVICE	12.0 or higher	Y or N	Whether to Discover Forms Service if DISCOVER_FORMS is Y	Y
DISCOVER_SSA	12.0 or higher	Y or N	Whether to discover SSA Service or not	Y
DISCOVER_CUSTOM_OBJECTS	12.0 or higher	Y or N	Whether to Discover Custom Objects or not	Y
DISCOVER_PATCHING	12.0 or higher	Y or N	Whether to discover Patching Configuration target	Y
PROTOCOL	11i	http or https	Whether to have http or https	http

Key	Supported Release	Valid Values	Description	Default
SRVLT_URL_FORM_CTXFILE	11i	Y or N	Whether to take Servlet URL from Context file or Not. If this value is N, Value for Servlet url will be "/servlet/oracle.forms.servlet.ListenerServlet"	Y
ADD_CUSTOMER_GROUP	12.0 or higher	Y or N	Shall Add Customer Group	N
CUSTOMER_INSTANCE_GRP_NAME	12.0 or higher	Text	Customer Instance Group Name	N/A
CUSTOMER_GROUP_NAME	12.0 or higher	Text	Customer Group Name	N/A
DELETE_REMOVED_TARGETS	All	Y or N	Whether or not to delete removed targets. Default is N	N
DISCOVER_DISCOVERER	11i	Y or N	Whether or not discover discoverer	Y
FORMS_SRVLT_PROTOCOL	11i	http or https	Whether to have http or https for forms servlet mode	http
DISCOVER_JVM_USAGE	12.0 or higher	Y or N	Whether or not to discover JVM usage target	A
WLS_ADMIN_USERNAME	12.2 or higher		Username of the WLS admin	N/A

Key	Supported Release	Valid Values	Description	Default
WLS_ADMIN_PWD	12.2 or higher		Password for the WLS admin user	N/A

Customer Groups Created by Discovery

Groups are an optional feature in Enterprise Manager that allows the logical organization of targets in accordance to user preference. Command line discovery allows the definition of target groups and placement of Oracle E-Business Suite systems in these groups at time of discovery. Groups can also be created using the normal discovery process available in the management console, as well as after discovery.

To view these groups, navigate within the Enterprise Manager console to Targets (menu) > Groups.

Rediscovering an Oracle E-Business Suite instance

If the Oracle E-Business Suite configuration has changed after discovery, then you must rediscover the Oracle E-Business Suite instance so that such changes are reflected in Enterprise Manager. Examples of changes to the configuration are:

- A new node has been added
- A service, such as a concurrent processing service, has been enabled in a node

The steps for rediscovery are the same:

1. Navigate to Discovery Wizard.
2. Select the Oracle E-Business Suite database.
3. Click **Discover**.

Deleting an Oracle E-Business Suite Instance

If you no longer want to monitor and manage a Oracle E-Business Suite instance, you can delete it. The steps are:

1. Go to the System Management page.
2. Select the Oracle E-Business Suite instance from the section Oracle E-Business Suite instances.

3. Click **Delete.**

By default, the system deletes application server targets (like the HTTP server, OC4J, and so on) when deleting the parent Oracle E-Business Suite target. If you do not want all the application server targets deleted, change the preference. For information on updating preferences, see: *Setting Preferences*, page 6-1.

Credentials

Setting Named Credentials

In Enterprise Manager, as part of the target type definition, you can define the types of credentials specific to the plug-in target type. Examples could be the user name and password required by the plug-in to connect to a target instance to collect metric data, or to invoke a specific Enterprise Manager job.

A named credential is a users' authentication information on a system. A named credential can be a user name/password, a public key-private key pair, or an X509v3 certificate. An Enterprise Manager administrator can store these credentials as named entities in Enterprise Manager to use when performing operations like running jobs, patching, and other system management tasks. For example, you can store the user name and password that you want to use for patching as MyPatchingCreds. You can then later submit a patching job that uses MyPatchingCreds to patch the production databases. Named credentials ensure an additional layer of security passwords because an operator would use the selected named credential, which is saved and stored by an administrator, and not know the actual user name and password associated with it.

To define Named Credentials, navigate to: Setup menu > Security > Named Credentials. For details on Named Credentials, see the *Oracle Enterprise Manager Cloud Control Administrator's Guide*.

For the Oracle Application Management Pack for Oracle E-Business Suite, you must create named credentials for the Oracle E-Business Suite or Oracle E-Business Suite Node based on the management activity you are performing. Create all of the named credentials listed below if you plan on using all of the features of the management pack:

- A credential to access the Oracle E-Business Suite (applications login)
- Credentials to access the Oracle E-Business Suite Database
- A credential to monitor the Oracle E-Business Suite Database

Creating a Named Credential for Oracle E-Business Suite Applications Login

Follow these steps in defining this credential:

1. Specify a name and description for your credential.
2. Select 'Oracle E-Business Suite' as the Authenticating Target Type.
3. Select 'E-Business Suite Application Login Credentials' as the Credential Type.
4. The parameter Scope determines if this named credential is applicable for all instances of Oracle E-Business Suite or to a specific instance. So if you choose Target for the scope, you need to select Oracle E-Business Suite as target type and provide the name of the Oracle E-Business Suite for which this named credential is applicable.
5. If necessary based on the previous step, select 'Oracle E-Business Suite' as the Target Type and choose your Target Name.
6. Define your Credential Properties.

ORACLE Enterprise Manager Cloud Control 12c

Enterprise ▾ Targets ▾ Favorites ▾ History ▾

Security

Named Credentials > Create Credential

Create Credential

▼ **General Properties**

* Credential name: EBSAPPSLOGIN

Credential description:

* Authenticating Target Type: Oracle E-Business Suite ▾

* Credential type: E-Business Suite Applications Login Credentials ▾

Scope: ☒ Target ☐ Global

* Target type: Oracle E-Business Suite ▾

* Target Name: R11I-Oracle E-Business Suite 🔍

▼ **Credential Properties**

* E-Business Suite Applications Login Username:

* E-Business Suite Applications Login Password:

* Confirm E-Business Suite Applications Login Password:

Creating Named Credentials to Access the Database

Follow these steps to create a named credential to access the Oracle E-Business Suite database:

1. Specify a name and description for your credential.
2. Select 'Oracle E-Business Suite' as the Authenticating Target Type.
3. Select 'E-Business Suite Database Credentials' as the Credential Type.
4. The parameter Scope determines if this named credential is applicable for all instances of Oracle E-Business Suite or to a specific instance. So if you choose Target for the scope, you need to select Oracle E-Business Suite as target type and provide the name of the Oracle E-Business Suite for which this named credential is applicable.
5. Define your Credential Properties.

ORACLE Enterprise Manager Cloud Control 12c

Enterprise ▾ Targets ▾ Favorites ▾ History ▾

Security

Named Credentials > Create Credential

Create Credential

General Properties

* Credential name: EBSDBLOGIN

Credential description:

* Authenticating Target Type: Oracle E-Business Suite ▾

* Credential type: E-Business Suite Database Credentials ▾

Scope: ☒ Target ☐ Global

* Target type: Oracle E-Business Suite ▾

* Target Name: R11I-Oracle E-Business Suite 🔍

Credential Properties

* E-Business Suite Database Username:

* E-Business Suite Database Password:

* Confirm E-Business Suite Database Password:

The following examples illustrate creating named credentials for database access.

Example: Creating a Named Credential for the Oracle E-Business Suite Database APPS Schema

1. Specify a name and description for your credential.
2. Select 'Oracle E-Business Suite' as the Authenticating Target Type.
3. Select 'E-Business Suite Database Credentials' as the Credential Type.
4. The parameter Scope determines if this named credential is applicable for all instances of Oracle E-Business Suite or to a specific instance. So if you choose Target for the scope, you need to select Oracle E-Business Suite as target type and provide the name of the Oracle E-Business Suite for which this named credential is applicable.
5. Define your Credential Properties. Specify the username and password for your APPS schema.

ORACLE Enterprise Manager Cloud Control 12c Setup Help SYSMAN

Enterprise Targets Favorites History

Security Page Refreshed Aug 28, 2012 3:59:33 PM PDT

Named Credentials > Create Credential

Create Credential

Save Cancel

General Properties

* Credential name: APPS_SCHEMA_CRED

Credential description:

* Authenticating Target Type: Oracle E-Business Suite

* Credential type: E-Business Suite Database Credentials

Scope: ☒ Target ☐ Global

* Target type: Oracle E-Business Suite

* Target Name: AMPDemo Oracle E-Business Suite

Credential Properties

* E-Business Suite Database Username: apps

* E-Business Suite Database Password:

* Confirm E-Business Suite Database Password:

Access control

View + Add Grant X Revoke Grant Change Privilege

Grantee	Privilege
No data to display	

Example: Creating a Named Credential for the Oracle E-Business Suite Database APPLSYS Schema

Use the following steps to create a credential to access the APPLSYS schema:

1. Specify a name and description for your credential.
2. Select 'Oracle E-Business Suite' as the Authenticating Target Type.
3. Select 'E-Business Suite Database Credentials' as the Credential Type.
4. The parameter Scope determines if this named credential is applicable for all instances of Oracle E-Business Suite or to a specific instance. So if you choose Target for the scope, you need to select Oracle E-Business Suite Node as the target type and provide the name of the Oracle E-Business Suite target for which this named credential is applicable.

5. Define your Credential Properties. Specify the username and password for your APPLSYS schema.

ORACLE Enterprise Manager Cloud Control 12c Setup Help SYSMAN

Enterprise Targets Favorites History

Security Page Refreshed Aug 28, 2012 3:59:33 PM PDT

Named Credentials > Create Credential

Create Credential Save Cancel

General Properties

- * Credential name: APPLSYS_SCHEMA_CRED
- Credential description:
- * Authenticating Target Type: Oracle E-Business Suite
- * Credential type: E-Business Suite Database Credentials
- Scope: ☒ Target ☐ Global
- * Target type: Oracle E-Business Suite
- * Target Name: AMPDemo Oracle E-Business Suite

Credential Properties

- * E-Business Suite Database Username: applsys
- * E-Business Suite Database Password:
- * Confirm E-Business Suite Database Password:

Access control

View Add Grant Revoke Grant Change Privilege

Grantee	Privilege
No data to display	

Example: Creating a Named Credential for the Oracle E-Business Suite Database System Schema

Use the following steps to create the Oracle E-Business Suite Database System Schema credential:

1. Specify a name and description for your credential.
2. Select 'Oracle E-Business Suite' as the Authenticating Target Type.
3. Select 'E-Business Suite Database Credentials' as the Credential Type.
4. The parameter Scope determines if this named credential is applicable for all

instances of Oracle E-Business Suite or to a specific instance. So if you choose Target for the scope, you need to select Oracle E-Business Suite Node as the target type and provide the name of the Oracle E-Business Suite target for which this named credential is applicable.

5. Define your Credential Properties. Specify the username and password for your SYSTEM schema.

ORACLE Enterprise Manager Cloud Control 12c Setup Help SYSMAN

Enterprise Targets Favorites History

Security Page Refreshed Aug 28, 2012 3:59:33 PM PDT

Named Credentials > Create Credential

Create Credential Save Cancel

General Properties

- * Credential name: SYSTEM_SCHEMA_CRED
- Credential description:
- * Authenticating Target Type: Oracle E-Business Suite
- * Credential type: E-Business Suite Database Credentials
- Scope: ☒ Target ☐ Global
- * Target type: Oracle E-Business Suite
- * Target Name: AMPDemo Oracle E-Business Suite

Credential Properties

- * E-Business Suite Database Username: system
- * E-Business Suite Database Password:
- * Confirm E-Business Suite Database Password:

Access control

View + Add Grant X Revoke Grant Change Privilege

Grantee	Privilege
No data to display	

Creating a Named Credential to Monitor the Oracle E-Business Suite Database

Create this credential using the following steps:

1. Specify a name and description for your credential.

2. Select 'Host' as the Authenticating Target Type.
3. Select 'Host Credentials' as the Credential Type.
4. The parameter Scope determines if this named credential is applicable for all instances of Oracle E-Business Suite or to a specific instance. So if you choose Target for the scope, you need to select Oracle E-Business Suite Node as the target type and provide the name of the Oracle E-Business Suite target for which this named credential is applicable.
5. Specify the APPL_TOP context.
6. Define your Credential Properties.

ORACLE Enterprise Manager Cloud Control 12c

Enterprise Targets Favorites History

Security

Named Credentials > Create Credential

Create Credential

General Properties

* Credential name: N2

Credential description:

* Authenticating Target Type: Host

* Credential type: Host Credentials

Scope: ☒ Target ☐ Global

* Target type: Oracle E-Business Suite Infrastructure

* Target Name: R11I-Infrastructure R11I_ap504ap

Credential Properties

* Username:

* Password:

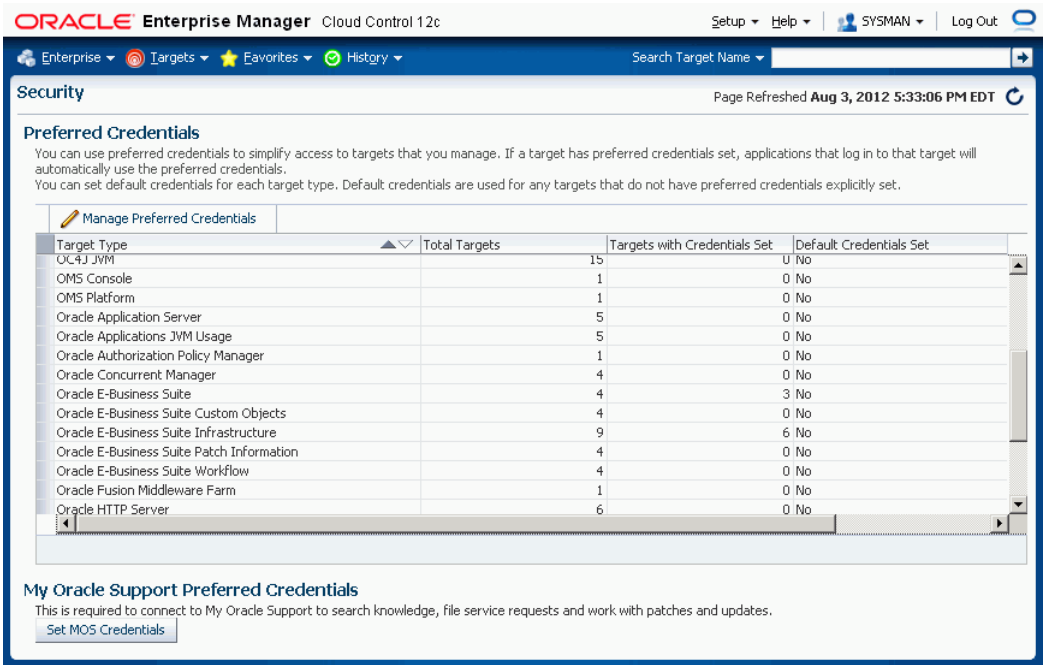
* Confirm Password:

Setting Oracle E-Business Suite Preferred Credentials

Oracle E-Business Suite administration uses Preferred Credentials for connecting to the system and executing various commands. Before managing an Oracle E-Business Suite instance from the Administration Dashboard, the preferred credentials must be set for the specific Oracle E-Business Suite target and Oracle E-Business Suite Node target of the specific node. Applications Schema Credentials need to be set for only those targets whose administration requires Applications Schema Credentials. You can set default preferred credentials, which are applicable for all instances, or preferred credentials for

just a particular instance.

To set these credentials, navigate to Setup (menu) > Security > Preferred Credentials in Enterprise Manager.



Note: If you wish to perform bulk setup of preferred credentials refer to the section "Setting Preferred Credentials Using EMCLI" in the *Oracle Enterprise Manager Cloud Control Upgrade Guide*.

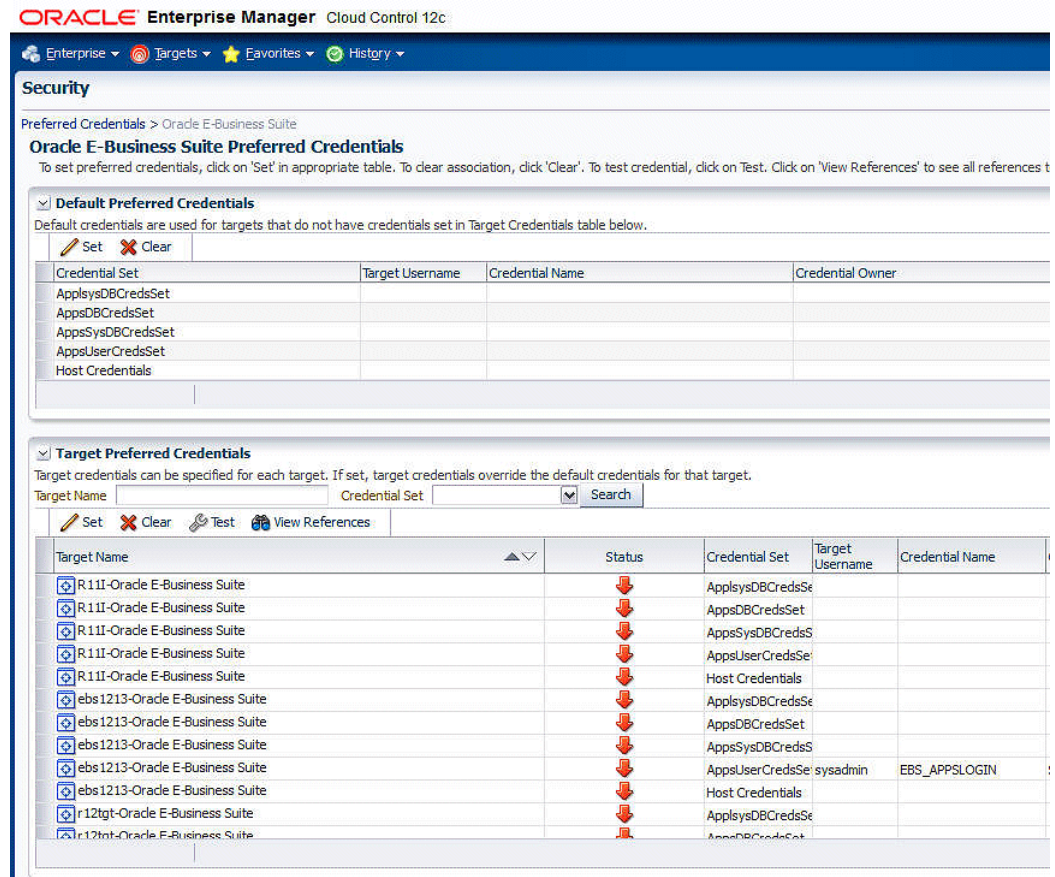
Setting the Preferred Credentials for the Oracle E-Business Suite Target Type

The following table lists the credential sets that are used by the management pack. You must set all of these if you plan to use all the features of the management pack.

Name	Description
AppsDBCredsSet	To access the APPS schema
AppsSysDBCredsSet	To access the SYSTEM schema
ApplsSysDBCredsSet	To access the APPLSYS schema
AppsUserCredsSet	To log in to the application

To set these credentials, navigate to Setup (menu) > Security > Preferred Credentials in Enterprise Manager. Select Oracle E-Business Suite from the list of target types and click on Manage Preferred Credentials.

You either set the default preferred credentials or set them for a specific target instance. Select the appropriate credential set and click on Set. Here you can choose from an existing named credential or create a new credential and set it.



Oracle Enterprise Manager Cloud Control 12c

Enterprise > Targets > Favorites > History

Security

Preferred Credentials > Oracle E-Business Suite

Oracle E-Business Suite Preferred Credentials

To set preferred credentials, click on 'Set' in appropriate table. To clear association, click 'Clear'. To test credential, click on Test. Click on 'View References' to see all references to this credential.

Default Preferred Credentials

Default credentials are used for targets that do not have credentials set in Target Credentials table below.

Set Clear

Credential Set	Target Username	Credential Name	Credential Owner
ApplsSysDBCredsSet			
AppsDBCredsSet			
AppsSysDBCredsSet			
AppsUserCredsSet			
Host Credentials			

Target Preferred Credentials

Target credentials can be specified for each target. If set, target credentials override the default credentials for that target.

Target Name Credential Set Search

Set Clear Test View References

Target Name	Status	Credential Set	Target Username	Credential Name
R11I-Oracle E-Business Suite	↓	ApplsSysDBCredsSet		
R11I-Oracle E-Business Suite	↓	AppsDBCredsSet		
R11I-Oracle E-Business Suite	↓	AppsSysDBCredsSet		
R11I-Oracle E-Business Suite	↓	AppsUserCredsSet		
R11I-Oracle E-Business Suite	↓	Host Credentials		
ebs1213-Oracle E-Business Suite	↓	ApplsSysDBCredsSet		
ebs1213-Oracle E-Business Suite	↓	AppsDBCredsSet		
ebs1213-Oracle E-Business Suite	↓	AppsSysDBCredsSet		
ebs1213-Oracle E-Business Suite	↓	AppsUserCredsSet	sysadmin	EBS_APPSLOGIN
ebs1213-Oracle E-Business Suite	↓	Host Credentials		
r12tgt-Oracle E-Business Suite	↓	ApplsSysDBCredsSet		
r12tgt-Oracle E-Business Suite	↓	AppsDBCredsSet		

Set the preferred credentials for each of the credential sets in the table above.

Setting the Preferred Credential Set for Oracle E-Business Suite Node

To set this credential set, navigate to Setup (menu) > Security > Preferred Credentials in Enterprise Manager. Select Oracle E-Business Suite Node from the list of target types and click on Manage Preferred Credentials.

Select **OS Credentials** and click Set. Here you can choose from existing named credentials or create new credentials and set them.

If Named Credentials are not already set for Oracle E-Business Suite Node, you will get the message "Either there are no credential types or required configuration is missing."

Note: In Release 12.1.0.1.0, these credentials were named "Oracle E-Business Suite Infrastructure".

Setting Preferred Credentials for Change Management

When using Change Management features, you will need to access Oracle E-Business Suite instances. You can set up credentials for these instances for every user as a one-time setup step instead of entering them every time you need to access an instance.

Please note that preferred credentials are not shared across users.

To set up credentials:

1. Within Oracle Enterprise Manager, navigate to Setup > Security > Preferred Credentials.
2. Highlight the desired target type, then click **Manage Preferred Credentials**.
 - For Patch Manager, choose these target types:
 - Oracle E-Business Suite - Set the following credential sets: AppsDBCredsSet, AppsSysDBCredsSet, AppsUserCredsSet. Please refer to section Setting Oracle E-Business Suite Preferred Credentials, page 5-8 for more information on these credential sets.

Named Credentials must be created prior to setting up Preferred Credentials. Review the section Creating Named Credentials for Oracle E-Business Suite, page 5-1 for information on creating named credentials as well as reusing the same named credentials across the target instances and sharing them across administrators.
 - Oracle E-Business Suite Node - Set the "OS Credentials" credential set.

Please refer to section Setting the Preferred Credential Set for Oracle E-Business Suite Node, page 5-10 for information on this credential set.

Named Credentials must be created prior to setting up Preferred Credentials. Review the section Creating Named Credentials for Oracle E-Business Suite, page 5-1 for information on creating named credentials as well as reusing the same named credentials across the target instances and sharing them across administrators.

Set this credential for both APPL_TOP Context and Database Context.
- For Customization Manager, choose the following target types:
 - Host - You must set the "Normal Username" and "Normal Password" for the host from where files will be checked out. This host is referenced within

File Source Mapping.

- Oracle E-Business Suite Node - Set the "OS Credentials" credential set.

Please refer to section Setting the Preferred Credential Set for Oracle E-Business Suite Node, page 5-10 for information on this credential set.

Named Credentials must be created prior to setting up Preferred Credentials. Review the section Creating Named Credentials for Oracle E-Business Suite, page 5-1 for information on creating named credentials as well as reusing the same named credentials across the target instances and sharing them across administrators.

Set this credential for the APPL_TOP Context.

- Oracle E-Business Suite - Set the following credential set: AppsDBCredsSet.

You must set the credentials for Oracle E-Business Suite Node for every instance that is used for building Java patches or reports. Both the Applications and the Database context credentials for each Oracle E-Business instance must be set.

For Customization Manager, it is also required to set the APPLSYS schema credentials, APPS schema credentials and SYSTEM schema credentials for using the custom applications registration and validation functionality for the given Oracle E-Business Suite instance. You can do this by setting the following credential sets: AppsDBCredsSet, AppsSysDBCredsSet, ApplsysDBCredsSet. Please refer to section Setting Oracle E-Business Suite Preferred Credentials, page 5-8 for more information on these credential sets.

Named Credentials must be created prior to setting up Preferred Credentials. Review the section Creating Named Credentials for Oracle E-Business Suite, page 5-1 for information on creating named credentials as well as reusing the same named credentials across the target instances and sharing them across administrators.

Preferences

Setting Preferences

Use Preferences in Enterprise Manager to configure some of the features in the management pack.

Navigate to the Preferences page from the System Management page through the Administer menu.

Set the following:

- Maximum Number of Email Addresses for User (required)
- Stage Directory (required)
This preference, used by Customization Manager, specifies the OMS stage directory for package creation.
- OMS Stage Directory Location (required)
This preference, used by Patch Manager, specifies the patch stage directory location. This preference is used in conjunction with the preference "MOS Enabled". If "MOS Enabled" is unchecked, then Patch Manager will use the "OMS Stage Directory Location" in searching for patches.
- Delete Application Server targets while deleting EBS Target - By default, the system deletes application server targets (like the HTTP server, OC4J, and so on) when deleting the parent Oracle E-Business Suite target. If you do not want all the application server targets deleted, deselect this check box.

Set the following for the User Monitoring feature:

- Sampling Interval for User Monitoring (required)
- Number of Rows in Tables of User Monitoring (required)

Set the following for Patch Manager:

- Default Hotpatch in Patch Manager
- Default Blackout Minutes in Patch Manager
- Default Blackout Hours in Patch Manager
- Target Patch Directory Location
- Target Stage Directory Location.
- Connect to My Oracle Support for Patches

For Upgrades from Release 3.1 or 4.0: Properties in amp.properties file replaced by Preferences

The amp.properties file used in Release 3.1 and 4.0 is obsolete in this release of the Oracle Application Management Pack for Oracle E-Business Suite. Therefore, please note the following

The following properties are obsolete. They were used in the security model in the previous release; in the current release, the management pack uses the native Enterprise Manager Privileges feature.

- ebs_acp_packAccessEnabled
- enableRoleBasedSecurity
- enableApproval_CM
- enableApproval_AZ
- enableApproval_PM
- targetLevelPrivilegeForApproval

The following properties must be set manually in the Preferences page after the upgrade. The property name is given with the name under Preferences in parentheses ().

- stageDir (Stage Directory)
- ampCloneApplTopParallelThreads
- ampCloneToolsParallelThreads
- ampCloneWebParallelThreads

- ampCloneCommonTopParallelThreads
- um_dashboard_no_of_rows (Number of Rows in tables of User Monitoring)
- um_session_sampling_interval (Sampling Interval for User Monitoring)
- omsPatchStageDir (OMS Stage Directory Location)
- MOSEnabled/metalinkEnabled (Connect to My Oracle Support for Patches)

Security

Privileges and Roles for Managing Oracle E-Business Suite

Oracle Application Management Pack for Oracle E-Business Suite uses the native Enterprise Manager functionality of privileges and roles for security.

Note: In Releases 3.1 and 4.0, security was managed through the `amp.properties` file and disabled by default. In this release, the `amp.properties` file is no longer used, and security through privileges and roles is enabled by default.

User privileges provide a basic level of security in Enterprise Manager. They are designed to control user access to data and to limit the kinds of SQL statements that users can execute. When creating a user, you grant privileges to enable the user to connect to the database, to run queries and make updates, to create schema objects, and more.

A role is a collection of Enterprise Manager resource privileges, or target privileges, or both, which you can grant to administrators or to other roles. Resource privileges allow a user to perform operations against specific types of resources. Target privileges allow an administrator to perform operations on a target. This management pack includes target-instance level privileges, which are for a particular target instance, and target-type level privileges, which are for all target instances of that type. An example of a resource privilege is the "Edit Global Preferences" resource privilege, which enables a user to edit global preferences for Oracle Application Management Pack for Oracle E-Business Suite. An example of a target-instance level privilege is the "Start and Stop Services" which enables a user to start and stop services using the Administration Dashboard for a given instance.

Privileges and roles are managed through the functions available from Setup menu > Security in the Cloud Control console. For more information, see the *Oracle Enterprise Manager Cloud Control Administrator's Guide*.

Ready-to-use privileges shipped with the management pack are listed in the tables

below. Please note the following in regard to privileges:

- The user SYSMAN has all the listed privileges by default.
- The use of privileges on a system is enabled by default, which means that a user will not be able to perform an action unless the appropriate privilege(s) are granted to that user.
- All target privileges are given against the target "Oracle E-Business Suite".

For privileges used by the features in Change Management (Patch Manager and Customization Manager), see the section Change Management Approval Framework and Privileges, page 12-2.

The following table lists ready-to-use resource privileges in Oracle Application Management Pack for Oracle E-Business Suite:

Privileges applicable to all targets

Name	Included Privilege	Description
Create release package request	(none)	To create a request to release a package
Approve release package request	Create release package request	To approve the release of a package
Edit global preferences	(none)	To edit global preferences of the Oracle Application Management Pack for Oracle E-Business Suite

The following table lists ready-to-use target instance level privileges. With these privileges, a user can perform the specified action against only the given target.

Target Privileges

Name	Included Privileges	Description
Create splice request	(none)	<ul style="list-style-type: none">• To create a request to register a new custom application• To create a request to validate an existing custom application• To create a request to auto-correct an existing invalid custom application
Approve splice request	Create splice request	<ul style="list-style-type: none">• To approve a request to splice an application• To hide and unhide custom applications
Create Patch Manager request	(none)	To create a Patch Manager request
Approve Patch Manager request	Create Patch Manager request	To approve a Patch Manager request
Start and Stop Services	(none)	To start and stop services using the Administration Dashboard

The following table lists ready-to-use target type level privileges. With these privileges, a user can perform the described action against any eligible target.

Target Type Level Privileges

Name	Included Privileges	Description
Create splice request	(none)	<ul style="list-style-type: none"> To create a request to register a new custom application To create a request to validate an existing custom application To create a request to auto-correct an existing invalid custom application
Approve splice request	Create splice request	<ul style="list-style-type: none"> To approve a request to splice an application To hide and unhide custom applications
Create Patch Manager request	(none)	To create a Patch Manager request
Approve Patch Manager request	Create Patch Manager request	To approve a Patch Manager request
Start and Stop Services	(none)	To start and stop services using the Administration Dashboard

The following table lists ready-to-use roles:

Roles

Code	Name	Included Privileges	Description
EBS_SUPER_USER	Oracle E-Business Suite Super User	All target type privileges, all resource privileges, and CREATE_TARGET	Role with unrestricted access to all management activities for Oracle E-Business Suite

Code	Name	Included Privileges	Description
EBS_ACP_SUPER_USER	Change Management Super User	<ul style="list-style-type: none"> Resource privilege "Approve release package request" Target type level privilege "Approve splice request" Target type level privilege "Approve Patch Manager request" 	Role with privileges to create as well as approve all Change Management requests.

Recommendations

- Assign the database role "em_oam_monitor_role" for the database you would like to use, OR use the "em_monitor" database user for discovery and monitoring.
- Ready-to-use roles for Oracle Application Management Pack for Oracle E-Business Suite would need to be assigned to only trusted Enterprise Manager users.

Change Management Privileges

Change Management for Oracle E-Business Suite provides a centralized view to monitor and orchestrate changes (both functional and technical) across multiple Oracle E-Business Suite systems. Change Management offers the capabilities to manage changes introduced by customizations, patches and functional setups during implementation or maintenance activities. For more information, see: Introduction to Change Management, page 12-1.

The Change Approval Framework helps ensure that all changes done using any of the products in Change Management go through a change approval mechanism. This change control mechanism entails one level of approval for any change that results in a configuration or code change of an Oracle E-Business Suite instance. The Change Approval Framework uses privileges and roles to enforce the approval process.

Required Privileges and Roles

Specific privileges are required to access the relevant containers in the Change Management tab. These are:

For rendering this container...	Logged-in user must have these privileges
Patch Manager	Create Patch Manager request
Customization Manager	Create release package request

If the user has ANY of the above privileges, the Change Management home page will be rendered.

The seeded "Change Management Super User" role (code EBS_ACP_SUPER_USER) has privileges to submit and approve all Change Management requests.

For more information on these privileges, see: Privileges and Roles for Managing Oracle E-Business Suite, page 7-1.

A user must have the "Operator any Target" privilege in order to submit a patch run in Patch Manager or create a package in Customization Manager. This privilege is described as:

- Name - Operator any Target
- Description - Ability to perform administrative operations on all managed targets
- Included Privileges - View any Target
- Applicable Target Types - All Target Types

In addition to the above Target Type privilege, a user must have the "Job System" resource privilege, as described below:

- Name - Job System
- Description - Job is a schedulable unit of work that administrator defines to automate the commonly run tasks
- Privilege Grants Applicable to all Resources - Create

Note: You must also assign Resource Type Privilege of "Create" to the user using the "Manage Privilege Grants" feature, available from Setup menu > Security > Administrators. For more information on managing privilege grants, see the Enterprise Manager Cloud Control documentation.

Specific Privileges for Features

The default roles EBS_SUPER_USER, EBS_ACP_SUPER_USER provide privileges on all targets. If these roles are provided to a particular user, there is no need of providing any specific privileges to that user. If you want to provide specific privileges to a user, follow the instructions in this section, which describes specific privileges for Cloning, Patch Manager, and Customization Manager.

There are two types of required privileges: Target Privileges and Resource Privileges.

Target Privileges

1. Common Privileges
 - Module: Customization Manager/Patch Manager
 - View any Target
 - Execute Command Anywhere
 - Execute Command as any Agent
 - Module: Cloning
 - View any Target
 - Execute Command Anywhere
 - Execute Command as any Agent
 - Operator any Target
 - Add any Target
2. Application Change Management (ACMP) Specific Privileges
 - Module: Customization Manager
 - Requestor: Create splice request
 - Approver: Approve splice request
 - Super User: Both
 - Module: Patch Manager
 - Requestor: Create Patch Manager request

- Approver: Approve Patch Manager request
- Super User: Both

All above privileges can be provided either as "Common to All Targets" or "Specific to Target" by adding a target at the bottom of the Target Privilege screen and editing the target-specific privilege.

Note: The following privileges are not present as part of Target Specific Privileges but they are included under "Operator":

- View Any Target
- Execute Command Anywhere
- Execute Command as any Agent
- Operator any Target

Resource Privileges

To grant Resource Privileges, click Edit for each Resource Privilege and select the sub-privileges.

1. Common Privileges

- Module: ALL
 - Job System
 - Deployment Procedure
 - Oracle E-Business Suite Plug-in

2. ACMP-Specific Privileges

There is only one ACMP-specific privilege based on user role.

- Module: Customization Manager
 - Oracle E-Business Suite Plug-in
 - Requestor: Create release package request
 - Approver: Approve release package request
 - Super User: All

All above privileges can be provided either "Common to All Targets" or "Specific to Target" by adding a target in Resource Privilege page and selecting the applicable targets.

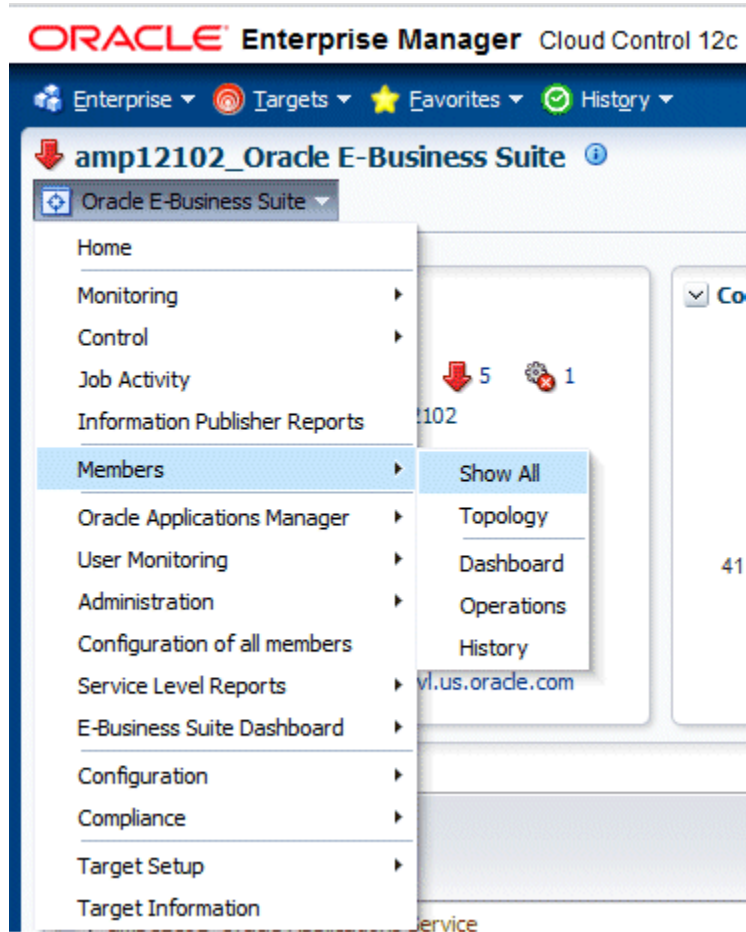
Monitoring Oracle E-Business Suite

Navigation and Overview

Once discovered, an Oracle E-Business Suite instance will appear in the Oracle E-Business Suite Instances section in the System Management page. You can click on the name of the instance to go to the home page of that instance.

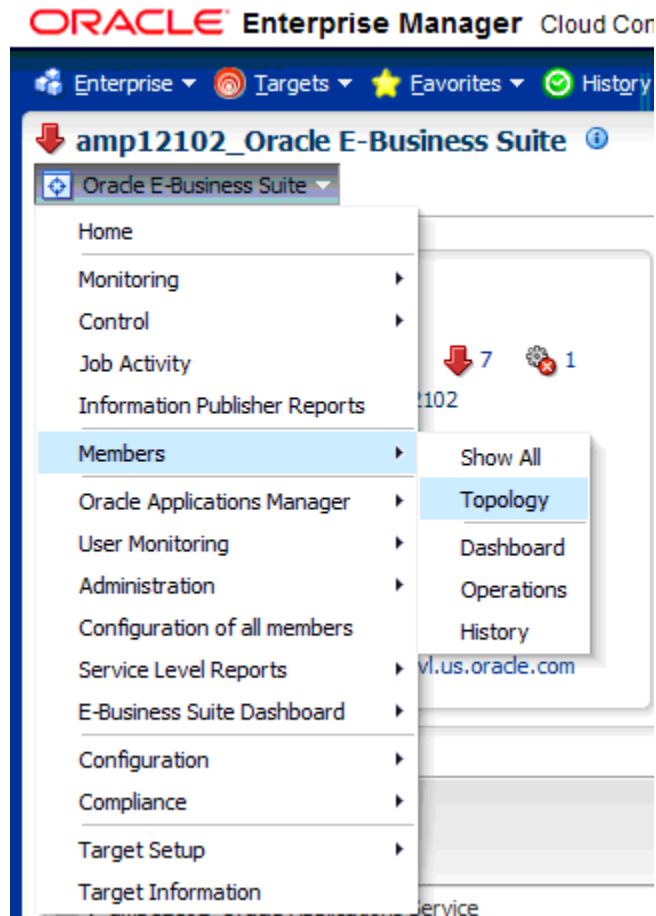
Oracle E-Business Suite System

Oracle E-Business Suite is discovered as a system. The members of the system include all the nodes and the targets that run on each node. To see the members select Members/Show All from the target menu.



Topology of the Oracle E-Business Suite

The Configuration Topology Viewer provides a visual layout of Oracle E-Business Suite with its child targets. To access the Configuration Topology Viewer, select Members/Topology from the target menu.



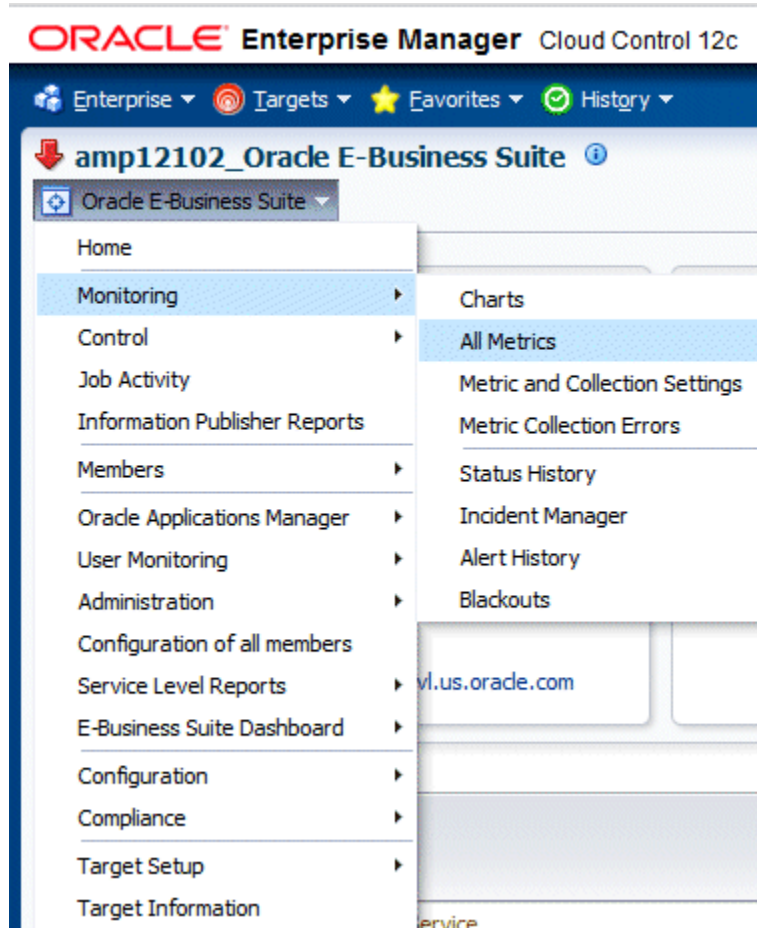
Upon service failure, the potential causes of failure, as identified by root cause analysis, are highlighted in the topology view. You can view dependent relationships between services and systems from the Topology tab.

Using the viewer, you can:

- Determine the source of a target's health problems
- Analyze the impact of a target on other targets
- Determine the system's structure by viewing the members of a system and their interrelationships

Metrics

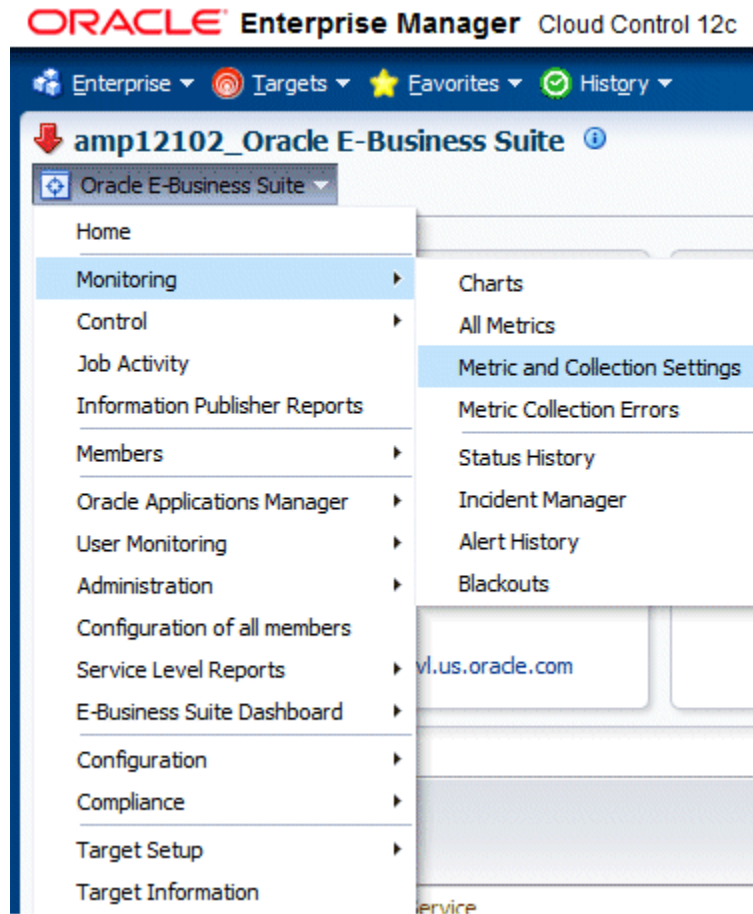
Once discovered, metrics are collected for Oracle E-Business Suite System as well as its individual members. To see the metrics collected for any target, select **Monitoring > All Metrics** from the Target menu.



Setting Thresholds for Metrics

Metrics collected can be compared to predefined values to check if they are exceeding a critical threshold or a warning threshold. Incidents are generated once the threshold is exceeded. To see the thresholds defined for metrics of any target, select **Monitoring/Metric and Collection Settings** from the Target menu. Here you can set the Critical/Warning thresholds used to generate incidents. You can also change the collection schedule of the metrics here.

For more information on incidents, see: *Incidents for an Oracle E-Business Suite Target*, page 8-18.



Home Page of the Oracle E-Business Suite System

General Section

The general section gives the following basic details of the Oracle E-Business Suite instance.

Status

The status of the Oracle E-Business Suite system, calculated based on the availability of its member targets that contribute to its availability computation. For more information, see: Changing the Availability Computation, page 9-2.

Configured Components

The count of member targets that fall into the status categories of Up, Down, or Other. You can drill down on a status category to view the targets that currently fall into that category.

System Name

The name of the Oracle E-Business Suite instance.

Version

The version of the Oracle E-Business Suite instance.

Products Installed

The number of products installed in the Oracle E-Business Suite system. You can drill down into Oracle Applications Manager to see the details.

New Internal System Alerts

The number of new System Alerts generated in the Oracle E-Business Suite instance. You can drill down on this number to view the details in Oracle Applications Manager. Note that these System Alerts originate from the alerting infrastructure of Oracle E-Business Suite. These are complementary to the Oracle Enterprise Manager incidents.

Patches Applied

The number of patches applied to the system in the last 24 hours. You can drill down to view the patches in Oracle Applications Manager.

Site Level Profile Options Changed

The number of site level profile options that have changed on the system in the last 24 hours. You can drill down to view the site level profile options in Oracle Applications Manager.

Context Files Edited

The number of AutoConfig context files that was changed on the system in the last 24 hours. You can drill down to view the context files in Oracle Applications Manager.

Monitoring Host

The host of the agent which is monitoring the Oracle E-Business Suite system. This will be the host where the database is running.

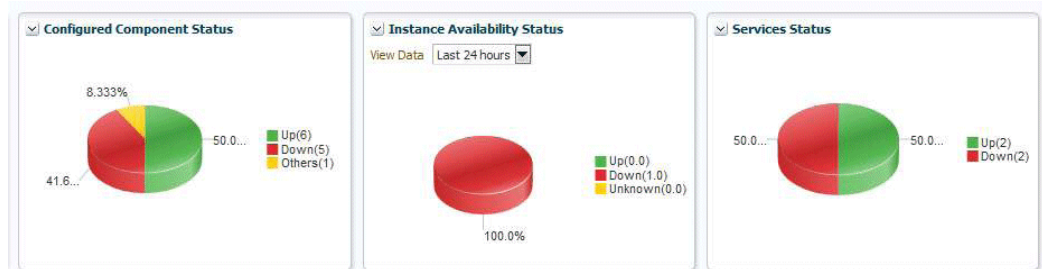
Note: The New Internal System Alerts, Patches Applied, Site Level Profile Options Changed, and Context Files Edited metrics are based on information periodically summarized in the Oracle E-Business Suite database by the Oracle Applications Manager Dashboard Collection concurrent program. This program is controlled through the Preferences global link in Oracle Applications Manager. If this program

has been disabled in the Oracle E-Business Suite system for any reason, then these metrics will not be updated.

Availability Status Charts

This section has three charts:

- Status of the Configured Components
- Historic information about the status of the Oracle E-Business Suite instance. You can choose day, week, or month.
- Status of the services.



Services

Oracle E-Business Suite and its member targets provide four major services to its customers. They are:

- Concurrent processing
- Forms
- Self-service pages
- Workflow

All these services are registered with Cloud Control once the successful discovery of the Oracle E-Business Suite target is completed. The services section in the home page of the Oracle E-Business Suite instance has the details of services. Each service has a set of critical components without which the service cannot be provided. The following table lists the critical component of each service.

Critical Components of Services

Service	Critical components
Concurrent Processing	<ul style="list-style-type: none">• Internal Concurrent Manager• Concurrent Manager• Database• Apps Listener
Workflow Service	<ul style="list-style-type: none">• Concurrent Processing Service• Oracle Workflow Background Engine• Oracle Workflow Agent Listener• Oracle Workflow Notification Mailer
Forms Applications Service	<ul style="list-style-type: none">• Forms server (OC4J/WLS)• HTTP Server• Database
Self Service Applications Service	<ul style="list-style-type: none">• OACORE Server (OC4J/WLS)• HTTP Server• Database

Performance of Services

The metrics collected from a service's critical components are used to evaluate the performance of each service. The following table lists the performance metrics for each service.

Performance Metrics for Services

Service	Metric	Description
Concurrent Processing Service	Concurrent Requests Success Rate	Successfully completed requests per hour
Concurrent Processing Service	Concurrent Requests Error Rate	Failed requests per hour
Forms Service	Forms Response Time	Average response time of forms in milliseconds
Forms Service	Forms Requests per Second	Average of number of requests processed by the Forms server per second
Forms Service	HTTP Server Request Throughput	Average of number of requests processed by the HTTP server per second
Workflow Service	Pending Agent Listener Events	Count of pending agent listener events
Workflow Service	Pending Mailer Notification Events	Count of pending mailer notification events
Workflow Service	Pending Mailer Notifications	Count of pending mailer notifications
Self Service Applications Service	OACore requests per second	Average of number of requests processed by the oacore server per second
Self Service Applications Service	HTTP Server Request Throughput	Average of number of requests processed by the HTTP server per second

Usage by Services

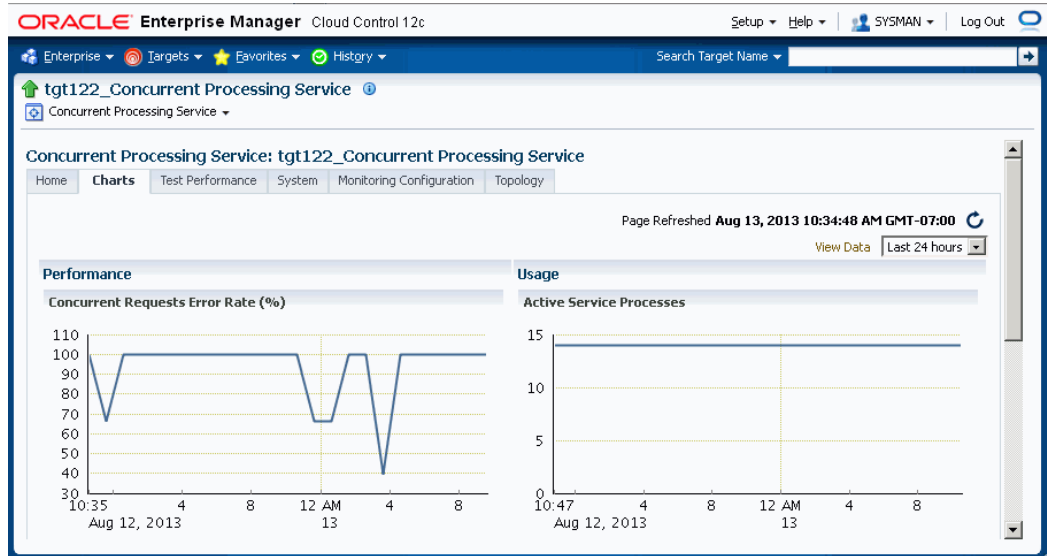
The metrics collected from a service's critical components are used to evaluate the resources used by each service. The following table lists the the usage metrics for each service.

Usage Metrics for Services

Service	Metric	Description
Concurrent Processing Service	Running Requests per Hour	Number of requests running per hour
Concurrent Processing Service	Active Service Processes	Number of active services running per hour
Forms Service	Forms server CPU usage	Percentage of CPU used by the Forms server
Forms Service	HTTP server CPU usage	Percentage of CPU used by the HTTP server
Forms Service (Socket Mode)	Total Memory Utilization	Percentage of the total memory used by the Forms process
Forms Service (Socket Mode)	Total CPU Utilization	Percentage of CPU used by the Forms process
Forms Service (Socket Mode)	Number of Forms Processes	Total number of Forms processes that are running
Workflow Service	Background Engine Deferred Items	Number of items deferred by the background engine yet to be processed
Self Service Applications Service	OACore CPU usage	Percentage of CPU used by the oacore server
Self Service Applications Service	HTTP server CPU usage	Percentage of CPU used by the HTTP server

Charts for services

You can see charts based on the above performance and usage metrics. Go to the home page of each service and click on the tab **Charts**.



Incidents for Services

You can set thresholds for tracking the performance and usage of services. Incidents are generated once the metrics exceeds the threshold. To set the threshold, go to the home page of the service and click on the tab **Monitoring Configuration**. Click on the link **Performance Metrics** or **Usage Metrics**. You can set the warning and critical threshold for performance and usage metrics in the respective pages.

The screenshot shows the 'Performance Metrics' configuration page in Oracle Enterprise Manager Cloud Control 12c. The page title is 'tgt122_Concurrent Processing Service > Performance Metrics'. It includes a table for defining metrics and thresholds. The table has columns for 'Select', 'Metric Name', 'Comparison Operator', 'Warning Threshold', and 'Critical Threshold'. Two metrics are listed: 'Concurrent Requests Success Rate (%)' and 'Concurrent Requests Error Rate (%)', both with a comparison operator of '>'. Below the table, there is a 'Chart on Home Page' dropdown menu set to 'Concurrent Requests Success Rate (%)'. The page includes 'Cancel' and 'OK' buttons.

Select	Metric Name	Comparison Operator	Warning Threshold	Critical Threshold
<input checked="" type="radio"/>	Concurrent Requests Success Rate (%)	>		
<input type="radio"/>	Concurrent Requests Error Rate (%)	>		

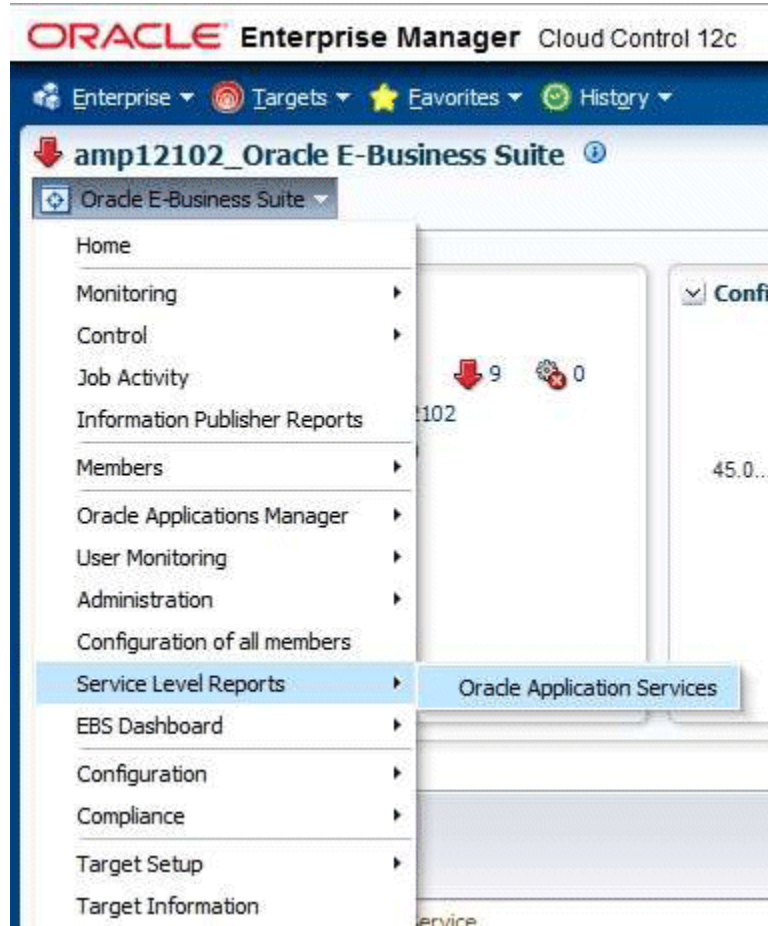
The services section in the Oracle E-Business Suite home page shows the details described in the following table:

Service Status Information on the Home Page

Status	Whether the status is up or down
System	The Oracle E-Business Suite system whose members are providing this service.
Performance Incidents	Number of performance incidents which are Critical or Warning. You can drill down from here to get the details of the incident.
Usage Incidents	Number of performance incidents which are Critical or Warning. You can drill down from here to get the details of the incident.
Key Components Status	The status of the key components. The service will be down if any of the key components is down. You can drill down from here.
Key Components Incidents	Incidents (Critical and Warning) raised against key components of the service. You can drill down from here.

Services Dashboard

Extending the service dashboard feature provided by Cloud Control, Oracle E-Business Suite also has a service dashboard which provides a brief summary of all service-related information. You can access it by selecting Service Level Reports > Oracle Application Services from the target menu.



Targets Running on Nodes

This section shows the targets running on each node in which the Oracle E-Business Suite is deployed. The data is shown in a hierarchical way with the host as the topmost parent. The nodes running on that host appear as the immediate children. The individual targets running on each node will appear as the child of each node. If the Oracle E-Business Suite instance features Online Patching, only run edition targets will be shown.

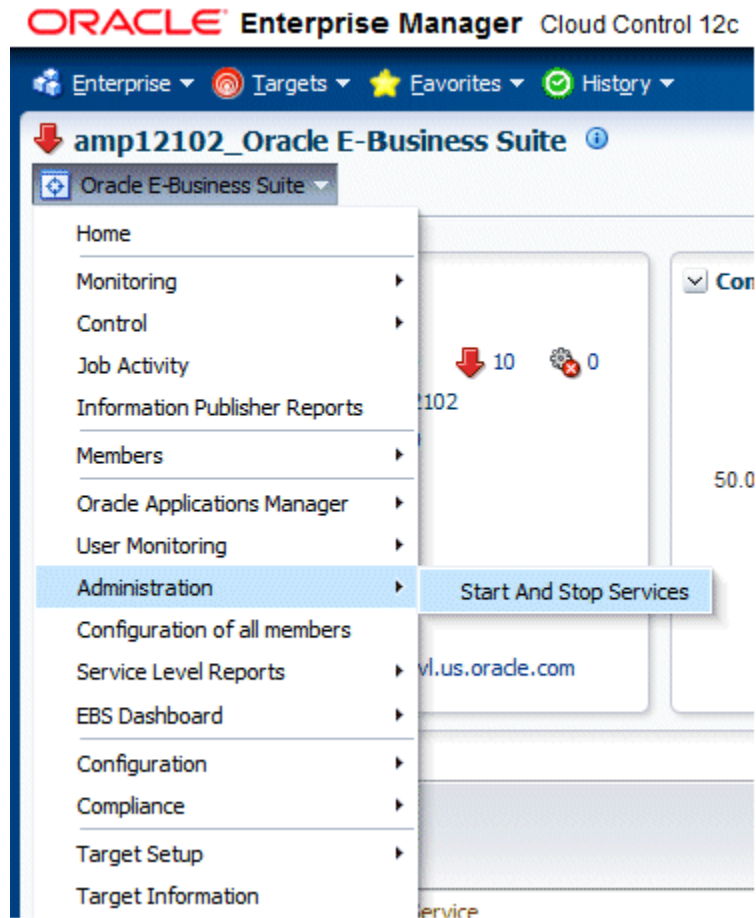
Targets Running On Nodes		
Node Name	Description	Status
▽ All Nodes		
▽ rws3210312.us.oracle.com	Host	↑
▽ tgt122_rws3210312_DB Node	Oracle E-Business Suite Node	↑
tgt122	Database Instance	↑
tgt122_Workflow Background Engine	Oracle Workflow Background Engine	↓
▽ tgt122_rws3210312_fs2_App Node	Oracle E-Business Suite Node	↑
tgt122_Internal Concurrent Manager	Internal Concurrent Manager	↑
tgt122_Oracle Workflow Agent Listener	Oracle Workflow Agent Listener	↓
tgt122_Oracle Workflow Notification Mailer	Oracle Workflow Notification Mailer	↓
tgt122_rws3210312_fs2_Appls Listener	Listener	↑

Administration of Oracle E-Business Suite

Starting and Stopping Services

You can start and stop the components running on each node using the Administration menu. Select Administration > Start and Stop Services from the target menu. All the application nodes will be shown with the targets running in them. You can select individual target or a node (which means you are selecting all targets running on that node) and start or stop it. ICM does not show up under a specific node because we can start and stop it from any node where it is enabled. If the Oracle E-Business Suite instance features Online Patching, only run editions targets will be shown.

Jobs will be submitted to start and stop services. The details and status of these jobs can be tracked through standard Enterprise Manager Job screens.



Privileges need to start and stop services

An administrator must have the EM_ALL_ADMINISTRATOR role to run the jobs to start and stop components. In addition, an administrator must have the "Start and Stop Services" privilege to start and stop services.

For more information on privileges and roles, see: link : Privileges and Roles for Managing Oracle E-Business Suite, page 7-1.

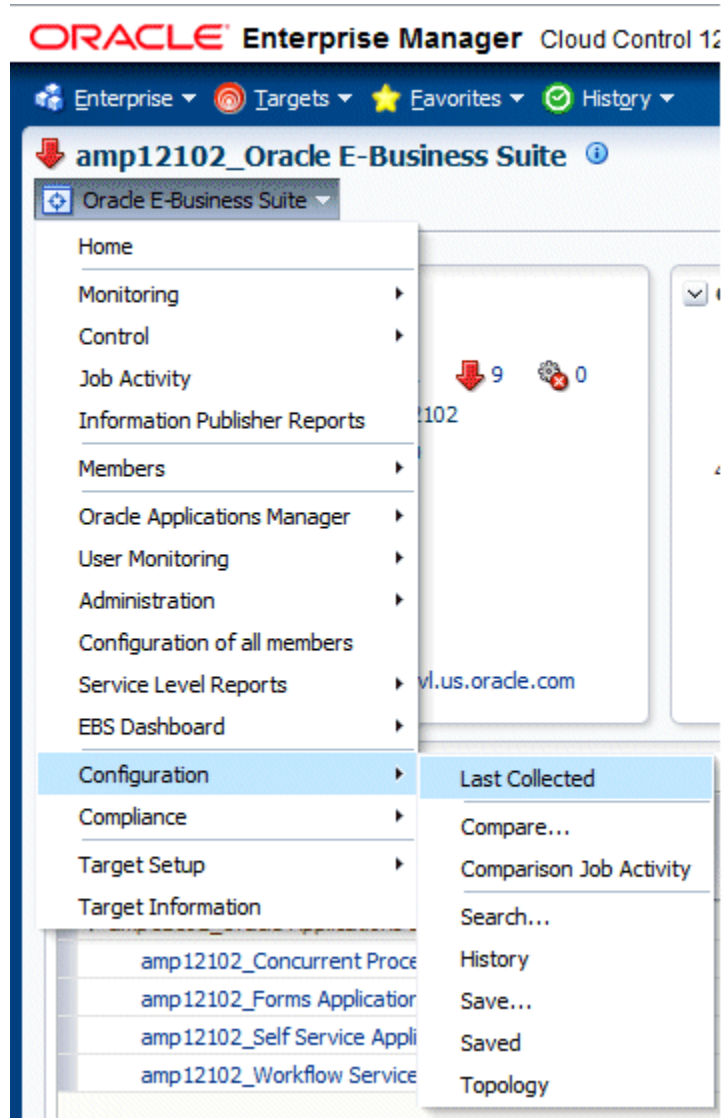
Credentials that must be set to start and stop services

- The preferred credential must be set for Oracle E-Business Suite node for the credential set **OS Credentials**.
- The preferred credential must be set for Oracle E-Business Suite for the credential set **AppsDBCreditsSet**.

For more information on preferred credentials, see: Setting Oracle E-Business Suite Preferred Credentials, page 5-8.

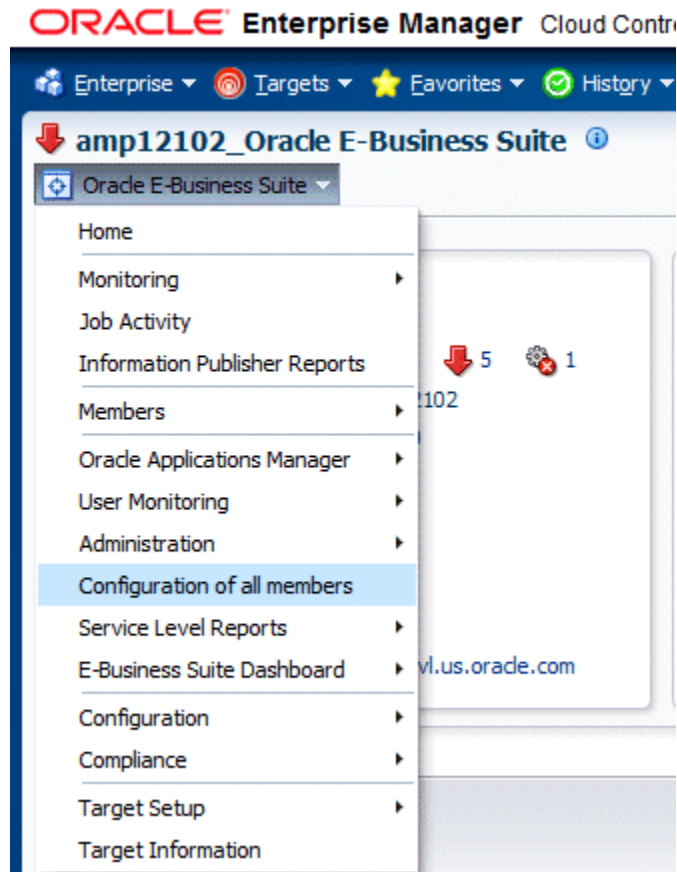
Configuration of Oracle E-Business Suite

You can get the details of how the Oracle E-Business Suite instance is configured by looking at the configuration metrics collected for the Oracle E-Business Suite target. Select Configuration > Last Collected from the target menu.



Configuration of all members

To see the configuration of each member target of Oracle E-Business Suite you would have to go to the home page of each target and follow the navigation path mentioned above. As this would be inconvenient, the **Configuration of all members** page simplifies this task. You will get link to see configuration of all members in one place. Select Configuration of all members from the Oracle E-Business Suite target menu.



Here you can see the links to see the last collected configuration of all member targets grouped as nodes, host, services etc. You can search for any context variable by clicking the **Search Context Variable** button. You can also search for patches applied and patch set information.

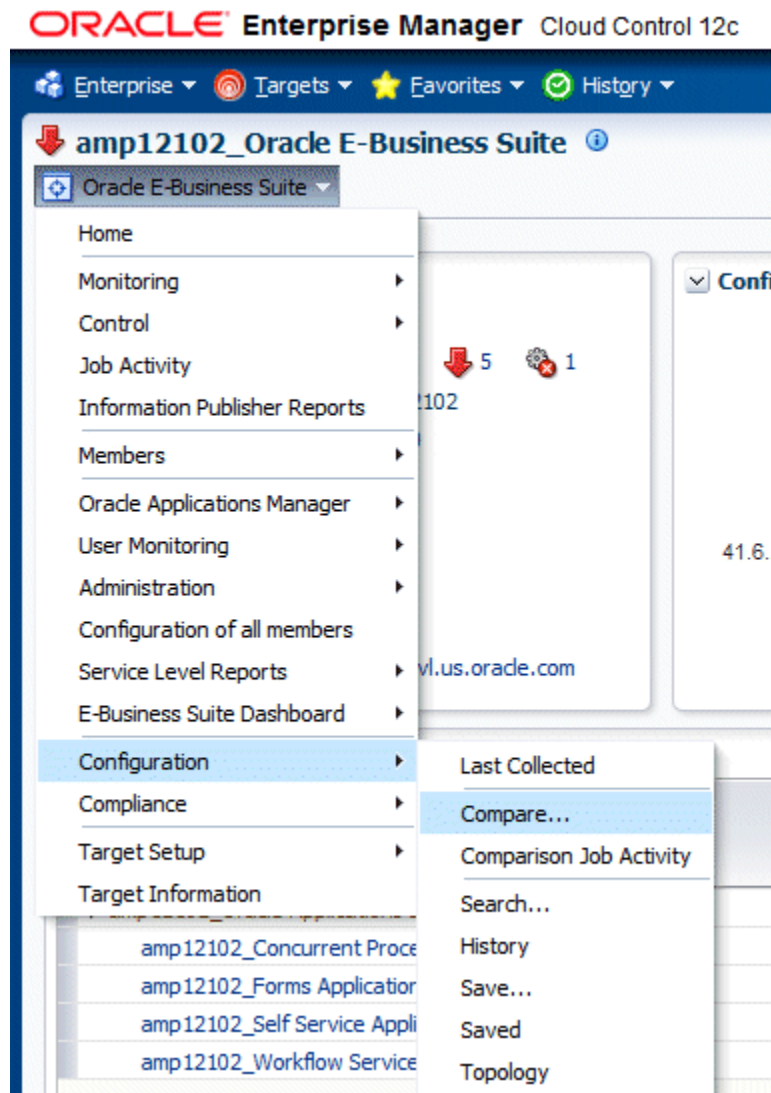
Comparing Configurations

Comparing configurations is very important while managing Oracle E-Business Suite targets. Benefits include:

- Find out why two Oracle E-Business Suite instances with the same configuration is exhibiting different behavior.
- Same Oracle E-Business Suite instance showing different behavior in two different occasions.
- You can use an Oracle E-Business Suite instance as golden copy to bench mark other instances.

You can compare the configuration of one Oracle E-Business Suite instance with another or the configuration of the same Oracle E-Business Suite instance collected at

different times. The same applies to any member target of Oracle E-Business Suite as well. To compare configurations select Configuration > Compare from the target menu.



Incidents for an Oracle E-Business Suite Target

Incidents will be raised if any member of the Oracle E-Business Suite system is down or if any metric exceeded its threshold. The incidents region in the Oracle E-Business Suite instance home page gives an overview of the incidents raised for that instance. You can get the number of incidents grouped by severity. In addition, you can filter incidents based on the type of the incident, such as availability, performance, security, and so on. You can drill down to the details of each incident by clicking on the summary column which takes you to the Incident Manager. Here you can see more details of the event. You can also track and manage the incident from here.

Compliance Standards for Oracle E-Business Suite

The Oracle Enterprise Manager Compliance Management solution provides the capability to define, customize, and manage Compliance Frameworks and Compliance Standards. It also provides tools to evaluate targets and systems for compliance with business best practices in terms of configuration, security, storage, and so on.

Compliance evaluation generates a score for a target which indicates how much the target is compliant with the standard. Violation of a standard can be classified as critical, warning or minor warning.

The management pack includes a set of compliance standards for Oracle E-Business Suite security which will be associated to every Oracle E-Business Suite instance once it is discovered. Evaluation will happen periodically which will ensure that the Oracle E-Business Suite is configured in a secure way.

The following table lists details of the compliance standards shipped along with the compliance rules associated with them.

Compliance Standards

Compliance Standard	Rules mapped to the standard	Severity
Profile Settings	Check if all critical profiles are set correctly.	Critical
Profile Settings	Check if other profiles are set correctly.	Warning
Profile Settings	Check if no profile is missing.	Critical
Change Default Passwords	Checks if any database user with a default password exists.	Critical
Change Default Passwords	Checks if any application user with a default password exists.	Critical
Secure APPLSYSPUB	Checks if there is any unwanted privilege in the APPLSYSPUB account.	Warning
Use Secure Flag on DBC File	Checks if server security is on.	Warning
Migrate to Password Hash	Checks if the setting for hashed passwords are on.	Warning
Enable Application Tier Secure Socket Layer (SSL)	Checks if Oracle E-Business Suite is configured for HTTPS.	Warning

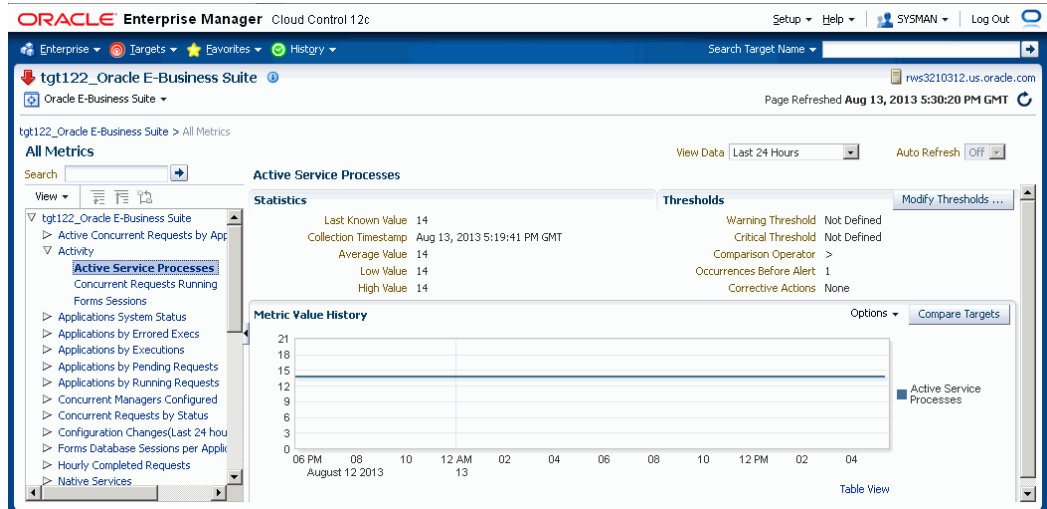
Compliance Standard	Rules mapped to the standard	Severity
Turn on ModSecurity	Checks if mod security is on.	Warning
Encrypt Credit Card Data	Checks for the encryption of credit card data.	Warning
Encrypt Credit Card Data	Checks if supplemental credit card data is encrypted or not.	Warning
Encrypt Credit Card Data	Checks if enhanced hashing is on or not.	Warning

The compliance standards region in the home page of the Oracle E-Business Suite instance has the details of the evaluations performed on that instance and how many violations are there. You can click on each standard which will give further details of evaluations per rule. Each standard comes with a recommendation on how to fix the violations for that standard.

Note: Compliance standards will not be set for Oracle E-Business Suite instances discovered using the previous releases of the management pack. You must rediscover an instance to attach compliance standards to it.

Monitoring Current Activity

Activity metrics are collected for the Oracle E-Business Suite target. These metrics provide details of current activities going on the Oracle E-Business Suite instance. Select Monitoring/All Metrics from the target menu. Expand the metric named Activity. You can see the trends for service processes, concurrent processing, and Forms.



Monitoring User Sessions

When a user logs in to Oracle E-Business Suite, the system creates sessions in the database identified by a unique session ID, or SID. All of these user sessions are created using the APPS schema credential. Each database session is associated with an Oracle E-Business Suite application user. This feature enables linking the database session with the corresponding application user for monitoring and troubleshooting purposes. You will be able to pinpoint how the Oracle E-Business Suite user opened a database session and whether it is with a concurrent processing, Forms, or Self-Service application.

For information on diagnostic tests for this feature, see: Diagnostic Tests for User Monitoring, page 10-15.

Mandatory Settings

The following settings are mandatory:

Settings in the OMS

Set the preferred credentials of the "Oracle E-Business Suite" target type for the credential set AppsUserCredsSet. You must provide the Oracle E-Business Suite user login credentials.

For information on setting preferred credentials, see: Setting Oracle E-Business Suite Preferred Credentials, page 5-8.

Settings on the Oracle E-Business Suite

- For the above Oracle E-Business Suite user, assign "LCM_EM_CLIENT" responsibility.

- Form sessions can be monitored only when the site-level profile Sign-On: Audit Level is set to 'FORM'. The internal name for this profile is 'SIGNONAUDIT:LEVEL'.

Top Sessions

This page will show four bar charts of database sessions triggered by APPS database user.

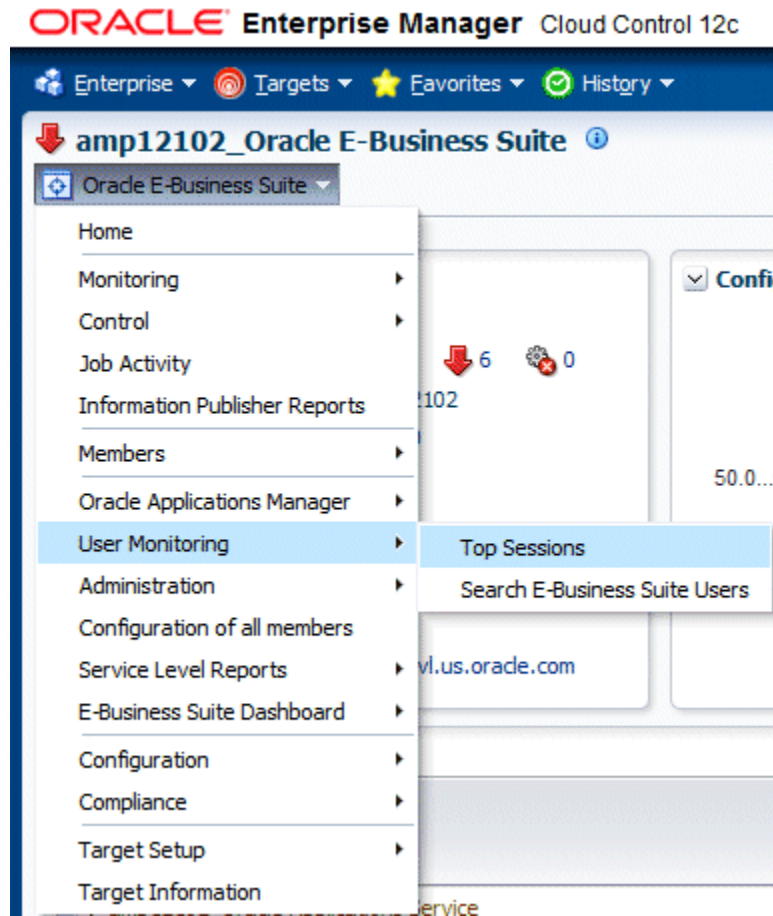
- Top waiting sessions: sessions waiting for a database event to trigger to proceed further.
- Top running SQL statements.
- Top CPU consuming sessions.
- Top memory intense sessions.

The level of detail shown in the bar graphs is controlled by properties set in the Preferences page. See: Setting Preferences, page 6-1.

- Sampling Interval for User Monitoring. By default it is 15 minutes and can be increased up to 60 minutes.
- Number of Rows in tables of User Monitoring.

You can drill down from the legend to see the details of the session. If the Oracle E-Business Suite user information is available, the Oracle E-Business Suite session details is shown with further drilling down available to the database session details. If the Oracle E-Business Suite user information is not available (that is, the database sessions was triggered by a background process and not by a user), you can drill down to the database session details directly.

To navigate to the Top Sessions page, select User Monitoring > Top Sessions from the target menu of the Oracle E-Business Suite target.



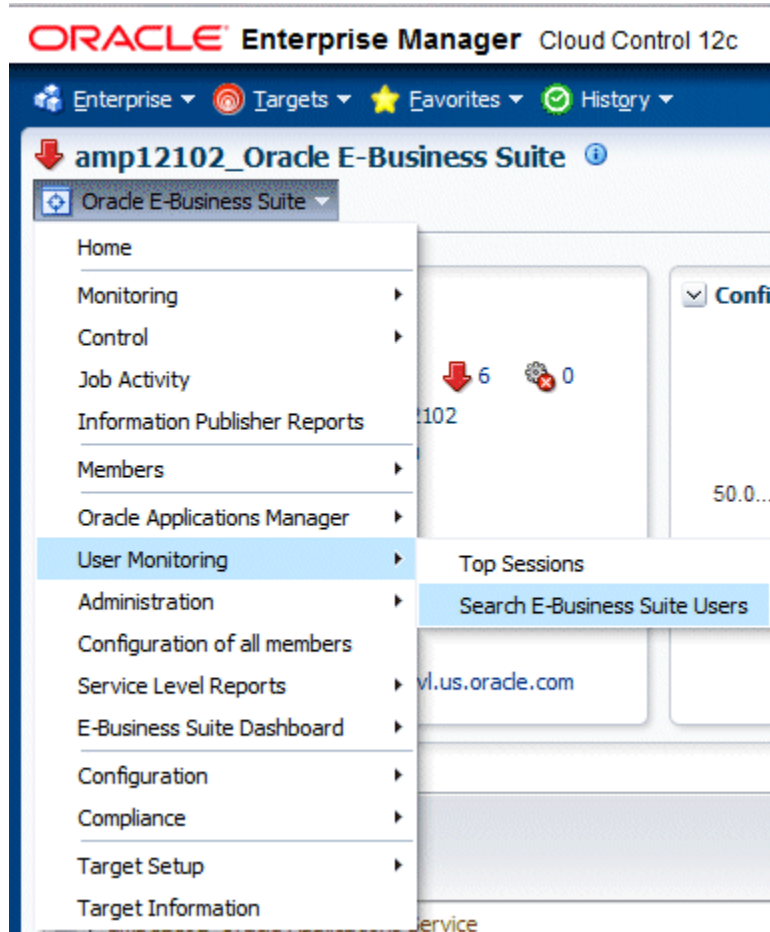
Searching for User Sessions

You can search for Oracle E-Business Suite user sessions using

Database Session ID - Provide the database session ID and if a match is found with a concurrent program, form or Oracle Application Framework page, the details will be shown with a drilldown facility to the database session details.

Oracle E-Business Suite user name - This search shows all the active concurrent programs, Forms, and Oracle Application Framework pages accessed by the user. It will also show the associated database session ID with drilldown capability.

To navigate to user sessions search, select User Monitoring > Search E-Business Suite User from the target menu of the Oracle E-Business Suite target.



Monitoring JVM Usage

Note: This feature is not supported for Oracle E-Business Suite Release 12.2 in this release.

You can monitor JVM usage parameters which are specific for Oracle E-Business Suite. You can review the following parameters for each of the oacore J2EE containers in which a given Oracle E-Business Suite instance is deployed.

- Application Module pool - Provides information about all active and leaked application modules.
- Locked AOLJ Connections - Provides information about all locked and leaked AOL/J connections utilized by applications.
- Cache Components - Provides information about the cache component utilization by Oracle Application Framework.

Setup Steps

For Release 12 systems, ensure that you have set up the monitoring configuration for each "oacore" OC4J target as follows:

1. In the section Targets Running on Nodes in the Oracle E-Business Suite instance home page, click on the "oacore" OC4J target. This will take you to the home page of the target.
2. On the home page of the oacore OC4J target, Select Target Setup > Monitoring Configuration in the target menu.
3. Enter the OC4J administrator username and password for the "oacore" OC4J in the "Username for Basic authorization" and the "Password for Basic authorization" fields, respectively.

Note: The OC4J administrator username by default is "oc4jadmin" and is specified in the system-jazn-data.xml file under the \$INST_TOP/ora/10.1.3/j2ee/oacore/config directory. The oc4jadmin password by default is set to a randomized value during installation and will need to be reset as in the following example:

In the \$INST_TOP/ora/10.1.3/j2ee/oacore/config/system-jazn-data.xml file, set the value of the "credentials" element for oc4jadmin user to your chosen password preceded by a ! character. For example:

```
<user>
<name>oc4jadmin</name>
<display-name>OC4J Administrator</display-name>
<description>OC4J Administrator</description>
<credentials>[new password]</credentials>
</user>
```

After saving system-jazn-data.xml, restart the oacore OC4J. This step encrypts the updated password in system-jazn-data.xml.

4. Click **OK** to save the information.

For both Release 11*i* and Release 12, ensure that the Application Server passwords are set as well, because Oracle Enterprise Manager expects these passwords to be set for metrics collection for the JVM targets.

Note: If you do not set up monitoring for JVM usage after discovery, then metric collection errors will be reported for the target type 'oracle_apps_jvm'. You should either set up monitoring as described above, or disable the metric collection if you do not want to monitor Applications JVM Usage.

To disable the metric collection, run the following commands:

```
emcli modify_collection_schedule
-targetType="oracle_apps_jvm"
-targetNames="<targetName1>,<targetName2>"
-collectionName="LockedAOLJConn"
-collectionStatus="Disabled" -preview=N
emcli modify_collection_schedule
-targetType="oracle_apps_jvm"
-targetNames="<targetName1>,<targetName2>"
-collectionName="AMPoolCount"
-collectionStatus="Disabled" -preview=N
emcli modify_collection_schedule
-targetType="oracle_apps_jvm"
-targetNames="<targetName1>,<targetName2>"
-collectionName="CachedObjects"
-collectionStatus="Disabled" -preview=N
```

To find out the oracle_apps_jvm target names associated with an Oracle E-Business Suite instance, go to the All Targets page and search for <ebs_instance_name>%oacore_jvm_1_apps

In case if you want to enable it back, run the following commands:

```
./emcli modify_collection_schedule -force
-targetType="oracle_apps_jvm"
-targetNames="<targetName1>,<targetName2>"
-collectionName="LockedAOLJConn"
-collectionStatus="Enabled" -preview=N -freqType="Minute"
-freqValue="1"
./emcli modify_collection_schedule -force
-targetType="oracle_apps_jvm"
-targetNames="<targetName1>,<targetName2>"
-collectionName="AMPoolCount"
-collectionStatus="Enabled" -preview=N -freqType="Minute"
-freqValue="1"
./emcli modify_collection_schedule -force
-targetType="oracle_apps_jvm"
-targetNames="<targetName1>,<targetName2>"
-collectionName="CachedObjects"
-collectionStatus="Enabled" -preview=N -freqType="Minute"
-freqValue="1"
```

Configuring Monitoring of HTTPS/SSL Targets

To configure Cloud Control to monitor Oracle E-Business Suite middle tiers that are running in SSL, each Management Agent must be able to authenticate the middle tier's SSL certificate against its Certificate Authority (CA).

Assumed Prerequisites

The HTTP Server that ships with Oracle E-Business Suite is already configured and verified to be running in SSL mode.

Basic knowledge of SSL certificates and their configuration.

Obtaining the CA certificate(s)

1. In Microsoft Internet Explorer, connect to the HTTPS URL of the Web site you are attempting to monitor.
2. Double-click the lock icon at the bottom of the browser screen which indicates that you have connected to a secure Web site. The browser displays the Certificate dialog box, which describes the certificate used for this Web site. Other browsers offer a similar mechanism to view the certificate details of a Web site.
3. Click the Certificate Path tab and select the first entry in the list of certificates.
4. Click **View Certificate** to display a second Certificate dialog box.
5. Click the Details tab on the Certificate window.
6. Click **Copy to File** to display the Certificate Manager Export wizard.
7. In the Certificate Manager Export wizard, select Base64 encoded X.509 (.CER) as the format you want to export and save the certificate to a text file with an easily identifiable name, such as beacon_certificate.cer.
8. Open the certificate file using a text editor.

Add the Certificate to the Management Agent(s)

Each Management Agent that monitors an Oracle E-Business Suite middle-tier must have the CA certificate added to it as follows:

1. Locate the b64InternetCertificate.txt file in the following directory of Agent Home of the Beacon host: \$AGENT_ORACLE_HOME/sysman/config (This file contains a list of Base64 Certificates).
2. Edit the b64InternetCertificate.txt file and add the contents of the certificate file you just exported to the end of the file, taking care to include all the Base64 text of the certificate including the BEGIN and END lines.
3. Repeat for each Management Agent.

Restart Each Management Agent

Each Management Agent should be restarted:

```
> $AGENT_ORACLE_HOME/bin/emctl stop agent  
> $AGENT_ORACLE_HOME/bin/emctl start agent
```

Cloud Control may not immediately pick up the change. You may want to give it a few minutes for the agent to run a metrics collection and upload them to the Oracle

Management Server (OMS). You can click on the **Refresh** icon in the upper right of the Oracle E-Business Suite home page (by the Page Refreshed time stamp) in the Cloud Control console to get updated information.

Importing an Oracle E-Business Suite SSL Certificate to the OMS

Oracle Application Management Pack for Oracle E-Business Suite invokes REST services deployed on Oracle E-Business Suite using `java.net.HttpURLConnection`. The User Monitoring and Diagnostics features use REST services. If the Oracle E-Business Suite instance is SSL-enabled, the SSL certificate must be exported from Oracle E-Business Suite and imported to the trust keystore of the Oracle WebLogic Server (WLS) that runs the OMS. Below are the steps to do this action:

1. Find out the trust keystore of WebLogic Server.
2. Open the WebLogic Server Administration Console by using the following steps.
 1. Go to the All Targets page of Enterprise Manager Grid Control
 2. Select the target type Oracle WebLogic Server.
 3. Select the WebLogic Server instance that runs the OMS.
 4. The target home page will contain the link to open the Administration Console.
3. From the Administration Console, select Servers.
4. Select the server that runs the OMS.
5. Click on the subtab Keystores under Configuration.
6. Look for the Java Standard Trust Keystore which points to the location of the keystore.
7. Run the command to import the certificate using the `keytool` utility. Use the JDK that comes with WebLogic Server.

```
JDK_HOME/bin/keytool -importcert -alias oracle_ebs_<ebs instance name> -trustcacerts -file <location of EBS SSL certificate> -keystore <location of key store>
```

Refer to the Java SE documentation on the command `keytool` for information on passwords.

8. Restart the OMS.

For more information on configuring identity and trust for WebLogic Server, see the Oracle Fusion Middleware manual *Securing Oracle WebLogic Server*.

A Note on Oracle Forms 6i

Even though your Oracle Forms configuration may be running in SSL, Cloud Control does not require any additional configuration to monitor Forms. The reason for this is that it uses a different method for determining the Forms Server status which does not require SSL communications with the server.

Re-Configuring SSL for Oracle E-Business Suite

If you have implemented SSL or deactivated SSL after the initial discovery of that Oracle E-Business Suite instance in Cloud Control, you will have to re-configure Cloud Control to monitor the new URL with the new protocol. There are two ways to do this:

- The Easy Way: If you don't care about the metrics data that has been collected for the instance, you can simply remove the instance from Cloud Control and rediscover it.
- The Hard Way: If metrics history is important, then each HTTP Server Target has to be re-configured to point to the new URL, port, and protocol.

Re-configuring Release 11i Apache Targets

1. Select the Release 11i instance in the Oracle Applications targets tab.
2. Under Applications Nodes Status, expand the Context link that corresponds with your SSL middle tier.
3. Select the Apache target (description: "HTTP Server for Oracle Applications 11i").
4. From the Target menu, select Target Setup, then select Monitoring Configuration.
5. Edit the Protocol and Port as appropriate.
6. Click **OK**.

Re-configuring Release 12 Application Servers

1. Select the Release 12 instance in the Oracle Applications targets tab.
2. Under Applications Nodes Status, expand the Context link that corresponds with your SSL middle tier.
3. Select the target described as "Oracle Application Server".
4. Navigate to the Target menu (labeled "Application Server"), and select Change Application URL.

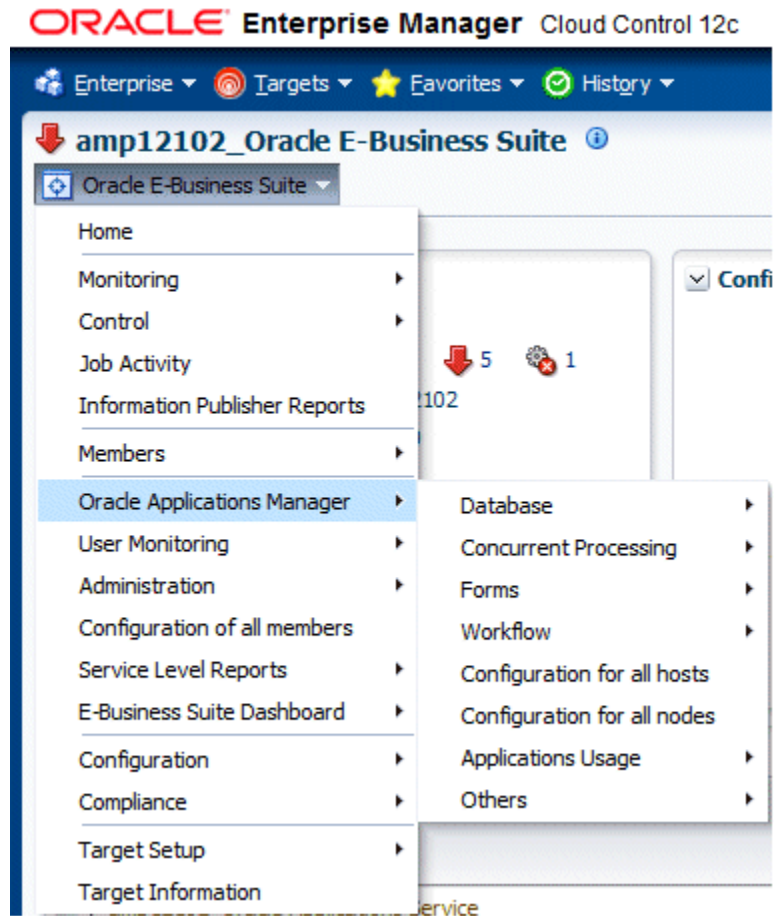
5. Edit the "URL to measure application response" as appropriate.
6. Click **OK**.

References

- My Oracle Support (formerly *OracleMetaLink*) Knowledge Document 123718.1 - A Guide to Understanding and Implementing SSL with Oracle Applications Release 11*i*
- My Oracle Support Knowledge Document 376700.1 - Enabling SSL in Oracle Applications Release 12
- My Oracle Support Knowledge Document 391652.1 - Problem: Accessing Web application gives sun.security.validator.ValidatorException: No trusted certificate
- *Oracle Enterprise Manager Cloud Control Administrator's Guide*

Drilling Down to Oracle Applications Manager

You can drill down to the Oracle Application Manager of each Oracle E-Business Suite instance from Oracle E-Business Suite plug-in. Select Oracle Applications Manager from the target menu.



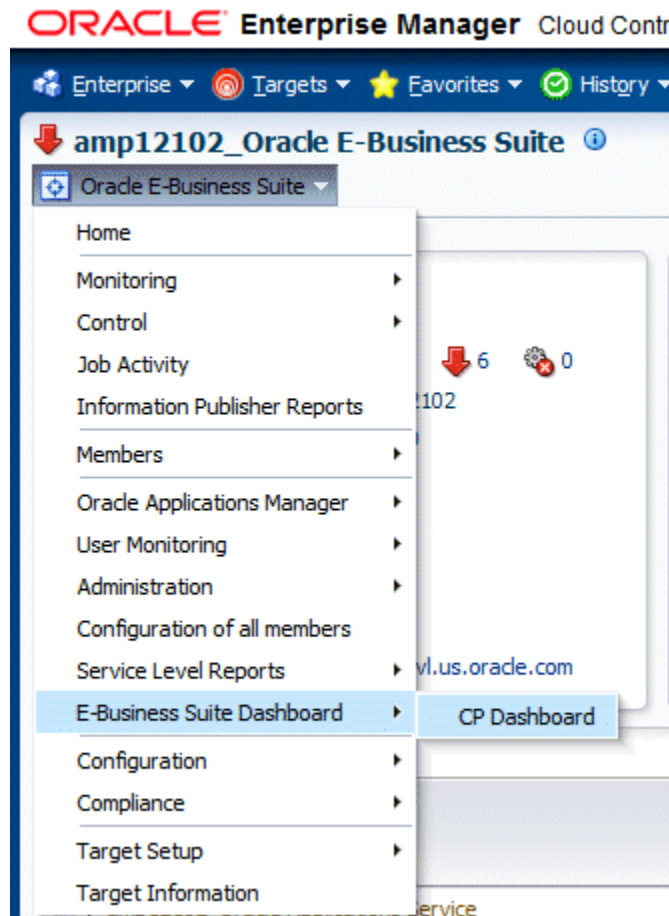
You can go to the following sections and its subsections in Oracle Applications Manager:

- Database
- Concurrent Processing
- Forms
- Workflow
- Configurations of all hosts
- Configurations of all nodes
- Applications Usage
- Others

Concurrent Processing Dashboard

The Concurrent Processing Dashboard provides you with details in concurrent processing in your Oracle E-Business Suite system. The dashboard gives you a complete picture of concurrent processing on your system, both current activities as well as usage statistics.

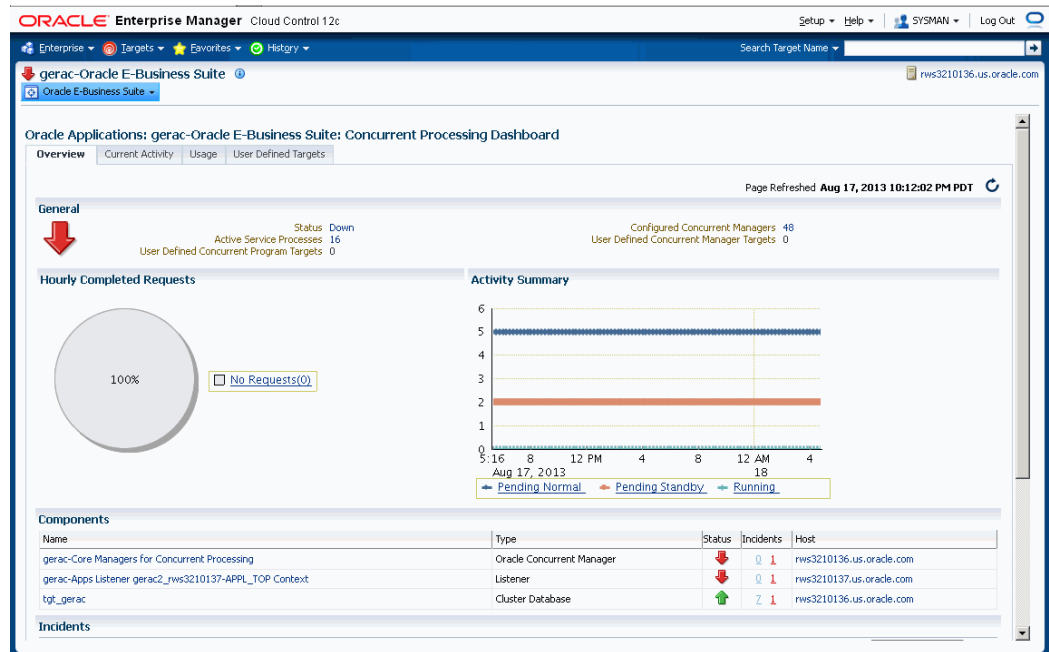
To navigate to the Concurrent Processing Dashboard, select E-Business Dashboard > CP Dashboard from the target menu of the Oracle E-Business Suite target.



You can add a user-defined concurrent program as a target to the Oracle E-Business Suite composite target. You can then monitor related activities of the registered individual concurrent programs for your own specified thresholds.

You can also add a user-defined concurrent manager as a target to the Oracle E-Business Suite composite target. You can then monitor related activities of the registered individual concurrent managers for your own specified thresholds.

Overview Tab



The General region lists the status of the Concurrent Processing Service

- Status - The status is linked to the Concurrent Processing Service home page.
- Active Service Processes - Number of active service processes.
- User-defined Concurrent Program Targets - Defining these targets is described in a later section.
- Configured Concurrent Managers - The number of configured concurrent managers.

The Hourly Completed Requests region shows a pie chart for requests by status (Successful, Warning, and Errored).

The Activity Summary graph illustrates active requests in the following statuses

- Pending Normal
- Pending Standby
- Running

The Components region lists components of the Concurrent Processing service. The table shows the following for each component:

- Name

- Type
- Status
- Incidents
- Host

The Incidents region lists any incidents that were triggered recently, with the following information for each:

- Severity
- Metric
- Target Name
- Target Type
- Incident Triggered
- Last Value
- Last Checked

At the bottom of the dashboard are Related Links:

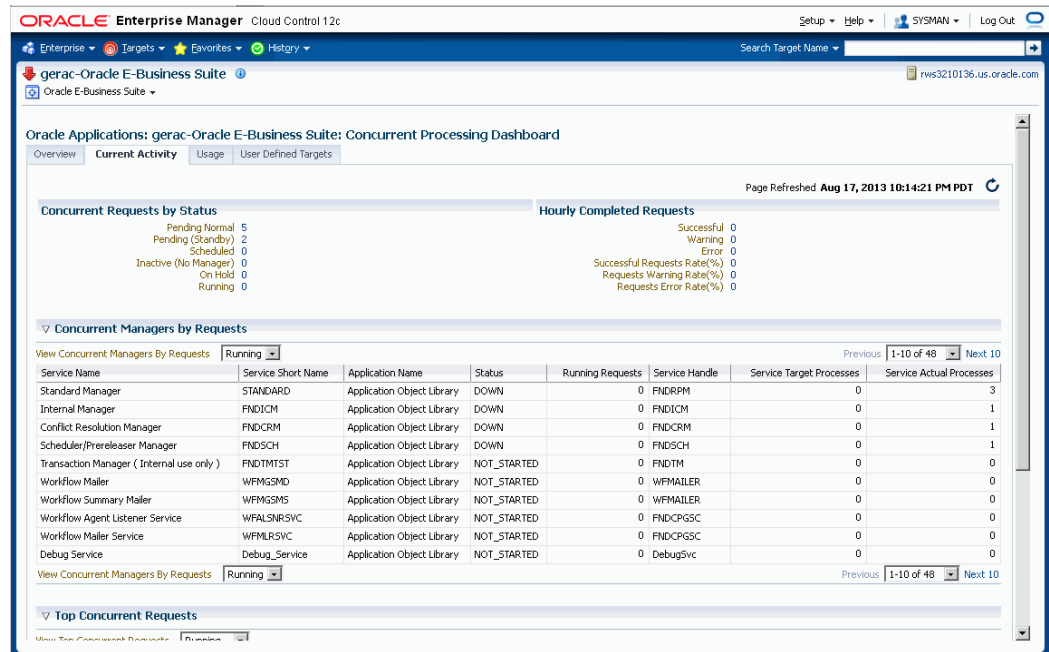
The first three links provide metrics on requests and processes:

- Hourly Completed Requests
- Processes and Requests per Concurrent Manager
- Active Concurrent Requests by Application

The last three links take you to Oracle Applications Manager pages for the Oracle E-Business Suite instance:

- Concurrent Request Runaways
- Concurrent Processing Reports
- Concurrent Processing Charts

Current Activity Tab



The Concurrent Requests by Status region lists the number of requests for each status:

- Pending Normal
- Pending (Standby)
- Scheduled
- Inactive (No Manager)
- On Hold
- Running

Click on the number for a status to find out more about the metric trend.

The Hourly Completed Requests region lists statistics for requests that have completed in the past hour, including:

- Successful
- Warning
- Error
- Successful Requests Rate (%)

- Requests Warning Rate (%)
- Requests Error Rate (%)

Click on the number for each statistic to find out more details.

The Concurrent Managers by Requests lists all concurrent managers, in order of the number of requests it has in the specified status, either Running or Pending.

With "Running" selected, the following is shown for each concurrent manager:

- Service Name
- Service Short Name
- Application Name
- Status
- Running Requests
- Service Handle
- Service Target Processes
- Service Actual Processes

With "Pending" selected, the following is shown for each concurrent manager:

- Service Name
- Service Short Name
- Application Name
- Status
- Normal Pending Requests
- Standby Pending Requests
- Service Handle
- Service Target Processes
- Service Actual Processes

The Top Concurrent Requests region shows the top ten (10) requests for the specified status of Running, Pending, or Scheduled.

- Running - These are sorted by running time in descending order.

- Pending - These are sorted by running time in descending order.
- Scheduled - These are sorted by their scheduled start time.

The Top Applications region lists the top ten (10) applications for running requests or pending requests, as specified.

The Top Users region lists the top ten (10) users by number of running or pending requests, as specified.

Usage Tab

Oracle Enterprise Manager Cloud Control 12c

gerac-Oracle E-Business Suite

Oracle Applications: gerac-Oracle E-Business Suite: Concurrent Processing Dashboard

Overview | Current Activity | **Usage** | User Defined Targets

Page Refreshed Aug 17, 2013 10:15:43 PM PDT

Top Concurrent Programs

Program Name	Short Name	Number of Executions	Successful Executions(%)	Errored Executions(%)
Compile Descriptive Flexfields	FDFCMPD	5899	100	0
Flexfield View Generator	FDFVGN	3066	98.43	1.57
Request Set Stage	FNDRSSTG	115	90.43	0
OAM Applications Dashboard Collection	FNDOSMCL	110	51.82	48.18
Synchronize WF LOCAL tables	FNDWFLSC	108	89.81	0
Compile Key Flexfields	FDFCMPK	101	100	0
Drop obsolete products schema	ADDRPOBS	87	100	0
Generic Loader	FNDLOAD	35	100	0
Workflow Control Queue Cleanup	FNDWFBES_CONTROL_QUEUE_CLEANUP	25	100	0
Compile Security	FNDSCMPT	20	95	5

Top Applications

Application Name	Application Short Name	Number of Executions
Application Object Library	FND	9629
Applications DBA	AD	87
Receivables	AR	39
Incentive Compensation	CN	35
Human Resources	PER	30

Top Users

User Name	Total Requests
SYSADMIN	90

This tab provides a summary of how the concurrent programs and managers have been utilized over a period of time.

The top ten (10) concurrent requests for the following categories are listed:

- Number of executions - For this category, the total number of executions, the percentage (%) of successful executions, and the percentage (%) of errored executions are shown.
- Number of failed executions - The number of executions, percentage (%) of failed executions, and percentage (%) of errored executions are shown.
- Average run time in minutes - The number of executions, average running time (minutes), and total running time (minutes) are shown.
- Total run time in minutes - The top ten (10) programs with the highest maximum

running time are shown. For each program listed, the number of executions, total running time (minutes) and percentage (%) of successful executions are shown.

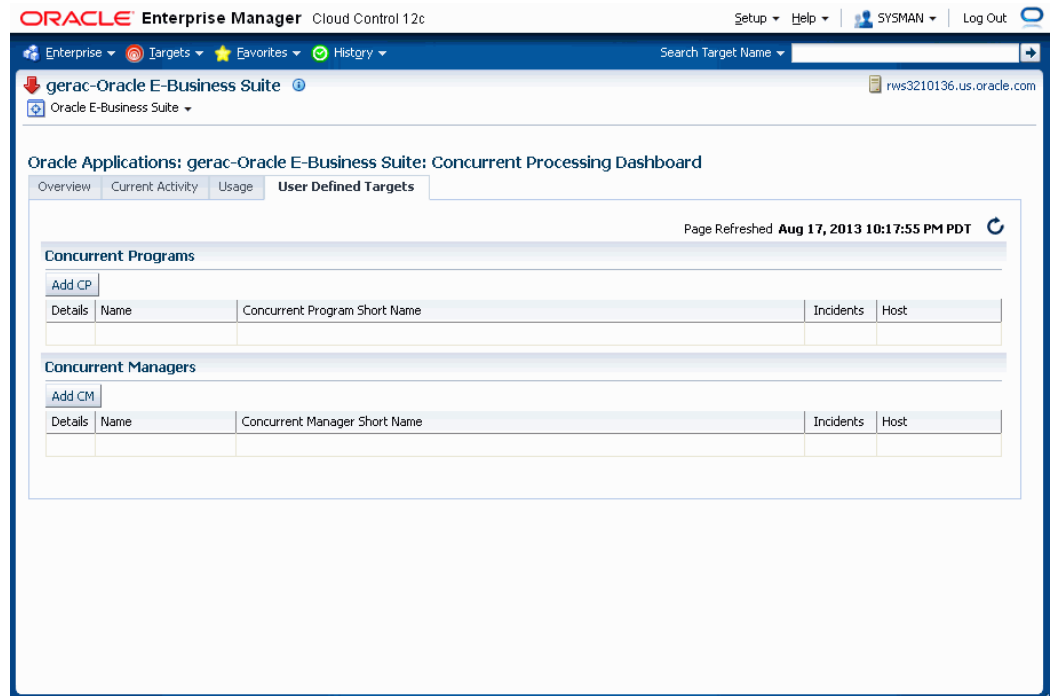
Top Applications			Top Users	
View Apps Number of Executions ▼			User Name	Total Requests ▼
Application Name	Application Short Name	Number of Executions ▼	SYSADMIN	90
Application Object Library	FND	9629		
Applications DBA	AD	87		
Receivables	AR	39		
Incentive Compensation	CN	35		
Human Resources	PER	30		
Service Contracts	OKS	27		
Service	CS	22		
Payables	SQLAP	11		
Sales Foundation	AS	7		
Sales	ASN	5		
View Apps Number of Executions ▼				

The top ten (10) applications for the following categories are listed:

- Number of executions
- Number of failed executions

The top ten (10) users by total number of requests are also listed, in descending order of number of requests.

User-Defined Targets Tab



You can add concurrent managers and programs as targets to monitor. Use this tab to get details about these targets as well as add more custom targets.

Concurrent Programs

For custom concurrent program targets, the following columns are shown:

- Name
- Concurrent Program Short Name
- Incidents
- Host

Click on "Show" in the Details column to see the following metrics for the given concurrent program target. (More details can be seen from the Target home page > All Metrics):

- Number of Concurrent Requests by Status
- Number of Hourly Completed Requests
- Requests Completed with Error

- Long-Pending Requests
- Long-Running Requests

Use the **Add** button under Concurrent Programs to add a new program target.

Concurrent Managers

For concurrent manager targets, the following columns are shown:

- Name
- Concurrent Manager Short Name
- Incidents
- Host

Click on "Show" in the Details column to see the following for the given concurrent manager target:

- Active Processes
- Running Requests
- Pending Requests

Use the **Add** button under Concurrent Managers to add a new manager target.

Adding a Concurrent Program Target

You can add a concurrent program custom target so that the system will collect metrics on activity and usage for the concurrent program.

Note: You cannot add a custom concurrent program target using Internet Explorer 8. Please use a different version, or different browser such as Mozilla Firefox.

1. To add a concurrent program custom target, navigate to the Concurrent Processing Dashboard, User Defined Targets tab, and click **Add** under Concurrent Programs.

Oracle Enterprise Manager Cloud Control 12c

gerac-Oracle E-Business Suite

Add Concurrent Program: gerac-Oracle E-Business Suite

Target Name Prefix: gerac

* Target Name: [Field]

Target Type: Custom Oracle Concurrent Program

* Concurrent Program Short Name: [Field]

Monitoring Host: rws3210136.us.oracle.com

Basic Properties

Name	Value	Description
SID	gerac2	SID
Machine	rws3210136-v.us.oracle.com	Host Machine
Port	1542	Database Port
User name	apps	Database monitoring User
password	*****	Database monitoring password
ConnectString	(DESCRIPTION=(LOAD_BALANCE=	ConnectString in case of RAC

Monitoring Properties

Name	Value	Description
Long Running Request Threshold in Minutes	300	Requests running more than this time will be classified as long running
Long Pending Request Threshold in Minutes	300	Requests pending for more than this time will be classified as long pending
Long Running Tolerance Percentage	100	Requests running more than this percentage of the average run time will be classified as long running

2. For your new target, define the following:

- Target Name Prefix - This value is determined by the system based on the instance name and cannot be updated.
- Target Name - Enter in a target name "suffix". The actual target name will be composed of the Target Name Prefix (above) and the value of this field.
- Target Type - The system automatically provides the value "Custom Oracle Concurrent Program".
- Concurrent Program Short Name - Use the LOV icon to search for and select the program short name. In searching for the program name you can search by concurrent program short name, concurrent program name, or application.
- Monitoring Host

For the Basic Properties region, values for the following should default in. These values are used as credentials by the target for metrics collection:

- SID
- Machine
- Port
- (Database) User name

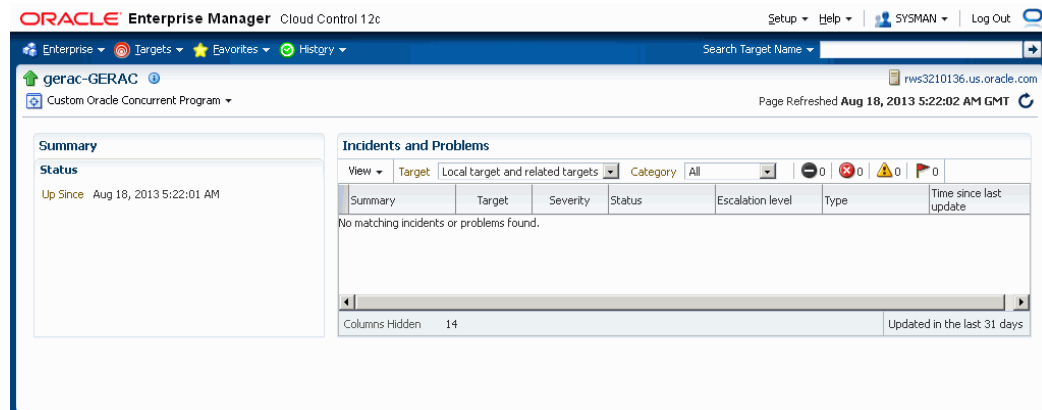
- (Database) Password
 - ConnectString
3. For metrics collection, you need to define the thresholds for several metrics. Define instance parameters that will be used to categorize requests for the following:

A request will be termed Long Pending if it is in Pending status for longer than the "Long Pending Request Threshold In Minutes".

A request will be considered Long Running if it runs for longer than the "Long Running Request Threshold In Minutes" and $(1+0.1 \times \text{"Long Running Tolerance Percentage"}) \times \text{Average Running Time of the Concurrent Program}$.
 4. When you are done, click **Add** to add the target.

Custom Concurrent Program Target Metrics

Once you have added a custom concurrent program target, you can monitor it. It should be listed on the User Defined Targets tab. Click on its name link to view details.



Click on the Show link under Details for links to drill down on the following:

- Number of Concurrent Requests by Status
- Number of Hourly Completed Requests
- Requests Completed with Error
- Long Pending Requests
- Long Running Requests

From here, you can access the metrics collected for this target by navigating to Target menu > Monitoring > All Metrics. The collected metrics are listed below.

Metrics Collected

The following metrics are collected:

Basic Information

This page lists metrics for the following:

- Requests Completed Successfully
- Requests Completed with Warnings
- Requests Completed with Errors
- Minimum Run Time
- Maximum Run Time
- Average Run Time

Concurrent Requests by Status

The numbers for requests in each status below are listed.

- Concurrent Requests Pending (Normal)
- Concurrent Requests Pending (Standby)
- Concurrent Requests Scheduled
- Concurrent Requests Inactive (No Manager)
- Concurrent Requests Inactive (On Hold)
- Concurrent Requests Running

Hourly Completed Requests

- Concurrent Requests Completed Successfully
- Concurrent Requests Completed With Warning
- Concurrent Requests With Error
- Concurrent Requests Successful Requests Rate (%)
- Concurrent Requests Warning Rate (%)
- Concurrent Requests Error Rate (%)

Long Pending Requests

- Request ID
- Concurrent Program Short Name
- Concurrent Program Name
- Request Start Date
- Username
- Phase
- Status
- Pending Time
- Concurrent Manager

Long Running Requests

- Request ID
- Concurrent Program Short Name
- Concurrent Program Name
- Request Start Date
- Username
- Phase
- Status
- Running Time
- Concurrent Manager

Pending Requests

- Request ID
- Concurrent Program Short Name
- Concurrent Program Name

- Request Start Date
- Username
- Phase
- Status
- Pending Time
- Concurrent Manager

Requests Completed with Error

- Request ID
- Concurrent Program Short Name
- Concurrent Program Name
- Request Start Date
- Username
- Phase
- Status
- Execution Time

Requests Completed with Warning

- Request ID
- Concurrent Program Short Name
- Concurrent Program Name
- Request Start Date
- Username
- Phase
- Status
- Execution Time

Running Requests

- Request ID
- Concurrent Program Short Name
- Concurrent Program Name
- Request Start Date
- Username
- Phase
- Status
- Running Time
- Concurrent Manager

Adding a Concurrent Manager Target

You can add a concurrent manager custom target so that the system will collect metrics on activity and usage for requests run by the concurrent manager.

1. To add a concurrent manager custom target, navigate to the Concurrent Processing Dashboard > User Defined Targets tab, and click **Add** under Concurrent Manager.

Add Concurrent Manager: gerac-Oracle E-Business Suite

Target Name Prefix: gerac

* Target Name: [Empty]

Target Type: Custom Oracle Concurrent Manager

* Concurrent Manager Short Name: [Empty]

Monitoring Host: rws3210136.us.oracle.com

Name	Value	Description
SID	gerac2	SID
Machine	rws3210136-v.us.oracle.com	Host Machine
Port	1542	Database Port
User name	apps	Database monitoring User
password	*****	Database monitoring password
ConnectionString	(DESCRIPTION=(LOAD_BALANCE=	ConnectionString in case of RAC

Name	Value	Description
Long Running Request Threshold in Minutes	300	Requests running more than this time will be classified as long running
Long Pending Request Threshold in Minutes	300	Requests pending for more than this time will be classified as long pending
Long Running Tolerance Percentage	100	Requests running more than this percentage of the average run time will be classified as long running

2. For your new target, define the following:

- Target Name Prefix - This value is determined by the system based on the instance name and cannot be updated.
- Target Name - Enter in a target name "suffix". The actual target name will be composed of the Target Name Prefix (above) and the value of this field.
- Target Type - The system automatically provides the value "Custom Oracle Concurrent Manager".
- Concurrent Manager Short Name - Use the LOV icon to search for and select the concurrent manager short name. In searching for the manager name you can search by concurrent manager short name, concurrent manager name, or application.
- Monitoring Host

For the Basic Properties region, values for the following should default in. These values are used as credentials by the target for metrics collection:

- SID
- Machine
- Port
- (Database) User name

- (Database) Password
 - ConnectString
3. For metrics collection, you need to specify values for three Instance Properties that will be used to categorize requests for the following:

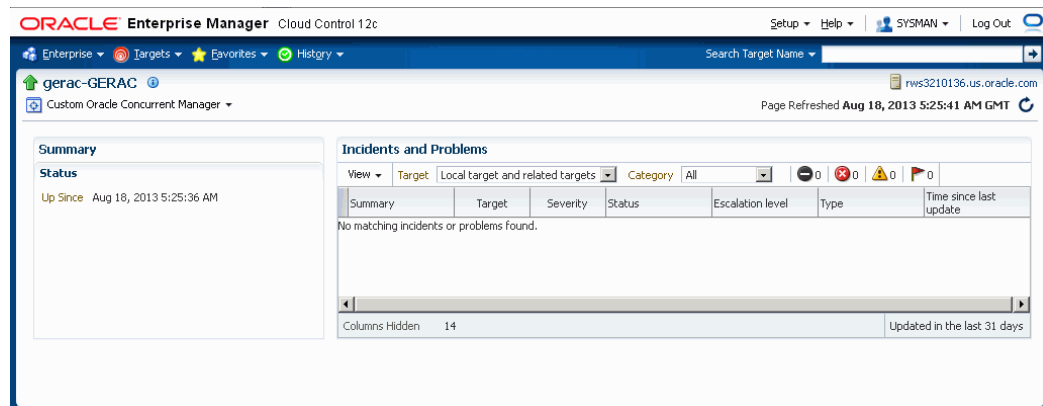
A request will be termed Long Pending if it is in Pending status for longer than the "Long Pending Request Threshold In Minutes".

A request will be considered Long Running if it runs for longer than the "Long Running Request Threshold In Minutes" and $(1+0.1 \times \text{"Long Running Tolerance Percentage"}) \times \text{Average Running Time of the Concurrent Program}$.

You can also change these properties by clicking the "Monitoring Configuration" link on the Target Home page.
 4. When you are done, click **Add** to add the target.

Monitoring a Custom Concurrent Manager Target

Once you have added a custom concurrent manager target, you can monitor for it. It should be listed on the User Defined Targets tab. Click on its name link to view details.



From here, you can also monitor the metrics for this target by navigating to Target menu > Monitoring > All Metrics.

Active Processes

- Target Node
- OS Process ID
- Session ID

- Process Status

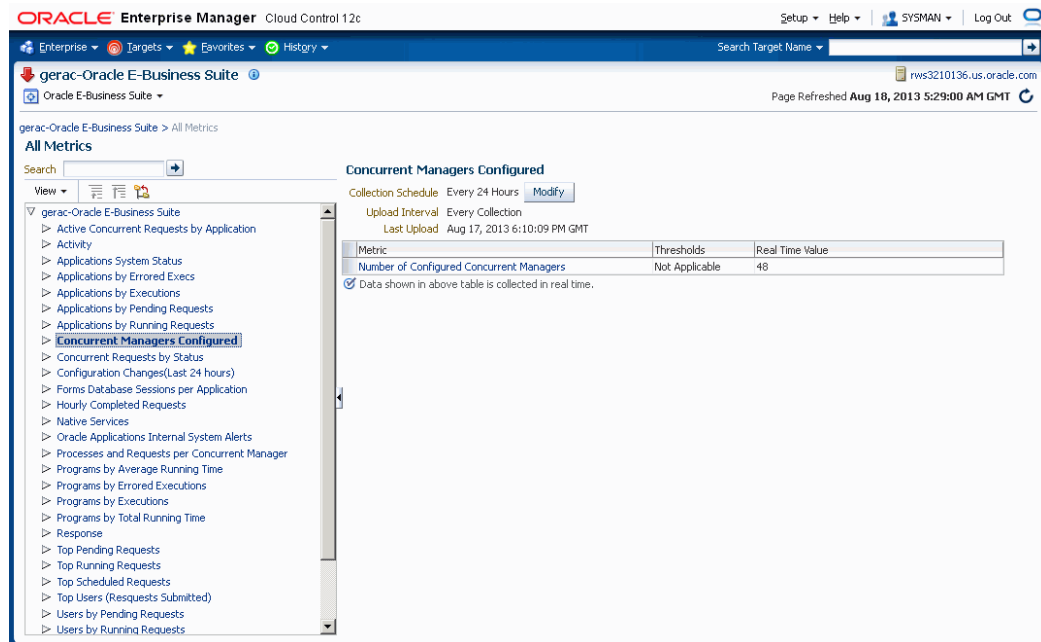
Pending Requests

- Request ID
- Concurrent Program Short Name
- Concurrent Program Name
- Request Start Date
- Username
- Phase
- Status
- Pending Time

Running Requests

- Request ID
- Concurrent Program Short Name
- Concurrent Program Name
- Request Start Date
- Username
- Phase
- Status
- Running Time

Concurrent Processing Metrics



This section lists the concurrent processing metrics available from the All Metrics page. Navigate to the All Metrics page by selecting Target menu > Monitoring > All Metrics.

For each type of metric below, the details listed for each record are shown.

Active Concurrent Requests by Application

- Application Short Name
- Application Name
- Non-Repeating Pending Requests (Normal and Standby)
- Repeating Pending Requests (Normal and Standby)
- Non-Repeating Running Requests
- Repeating Running Requests

Applications by Errored Executions

- Application Short Name
- Application Name

- Total Executions
- Errored Executions
- Errored Executions (%)

Applications by Executions

- Application Short Name
- Application Name
- Total Executions
- Successful Executions (%)
- Errored Executions (%)

Applications by Pending Requests

- Application Short Name
- Application Name
- Number of Pending Requests

Applications by Running Requests

- Application Short Name
- Application Name
- Number of Running Requests

Programs by Average Running Time

- Concurrent Program Name
- User Concurrent Program Name
- Total Executions
- Average Running Time
- Maximum Running Time

Programs by Errored Executions

- Concurrent Program Name
- User Concurrent Program Name
- Total Executions
- Total Executions (Errored)
- Executions Errored (%)

Programs by Executions

- Concurrent Program Name
- User Concurrent Program Name
- Total Executions
- Successful Executions (%)
- Errored Executions (%)

Programs by Total Running Time

- Concurrent Program Name
- User Concurrent Program Name
- Total Executions
- Total Running Time
- Successful Executions (%)

Top Pending Requests

- Request ID
- Program Name
- Program Short Name
- Request Start Date
- Pending Time

- User Name
- Manager Name
- Phase
- Status

Top Running Requests

- Request ID
- Program Name
- Program Short Name
- Request Start Date
- Running Time
- User Name
- Manager Name
- Phase
- Status

Top Scheduled Requests

- Request ID
- Program Name
- Program Short Name
- Request Start Date
- Scheduled to Run In (Minutes)
- User Name
- Manager Name
- Phase
- Status

Top Users (Requests Submitted)

- User Name
- Number of Requests

Users by Pending Requests

- User Name
- Number of Pending Requests

Users by Running Requests

- User Name
- Number of Running Requests

Setting Long Running and Long Pending Requests Parameters for Metrics and Incidents

Oracle Application Management Pack for Oracle E-Business Suite allows you to define parameters for long running and long pending requests. Follow the procedure below to do so.

1. From the Concurrent Processing Dashboard, add a custom concurrent program or concurrent manager target.
2. For the custom target, enter in values for these fields:
 - Long Pending Request Threshold in Minutes
 - Long Running Request Threshold in Minutes
 - Long Running Tolerance Percentage

The three parameters above are instance parameters for categorizing a request as long running or long pending.

A request will be considered long pending if it is pending for more than the "Long Pending Threshold in Minutes" value.

A request will be considered long running if it runs for more than the "Long Running Request Threshold in Minutes" value AND for longer than $(1 + 0.01 * [\text{Long Running Tolerance Percentage}] * [\text{Average Running Time of the Concurrent Program}])$.

3. After you have set these parameters, you can go to the All Metrics page to see these categories listed. Navigate to the All Metrics page by navigating to the Target

Menu, selecting Monitoring, then selecting All Metrics.

For Long Pending Requests, the following details are available through drilling down:

- Request ID
- Concurrent Program Short Name
- Concurrent Program Name
- Request Start Date
- Username
- Phase
- Status
- Pending Time
- Concurrent Manager

For Long Running Requests, the following are available through drilling down:

- Request ID
- Concurrent Program Short Name
- Concurrent Program Name
- Request Start Date
- Username
- Phase
- Status
- Running Time
- Concurrent Manager

For Long Running and Long Pending Requests, you can drill down to get a count for each.

4. On the same All Metrics page, click on Metric and Policy Settings to edit the incident threshold for long pending and long running requests. Choose to view "All Metrics" from the View dropdown list and set the incidents count for Long Pending Requests and Long Running Requests.

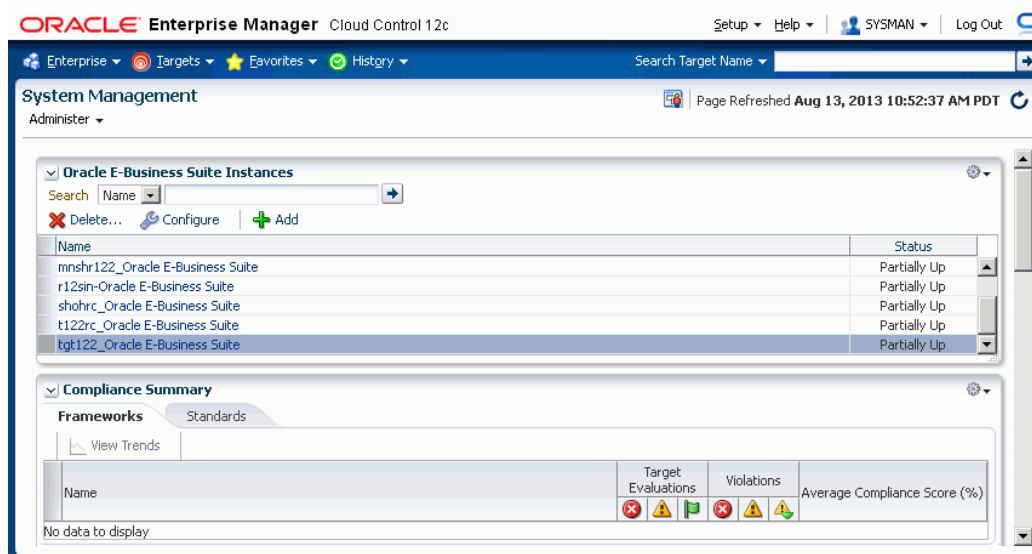
Monitoring Configuration

Configuring Monitoring of Oracle E-Business Suite

You can change the configuration with which each Oracle E-Business Suite instance is monitored. You can do two things

- Change monitoring schema
- Change the availability definition of the Oracle E-Business Suite instance

To configure monitoring, go the System Management page and select the Oracle E-Business Suite instance and click Configure.



Changing the monitoring schema

After clicking the Configure button, you can change the details of the monitoring

schema. You can either change the user name or password here and click **Next** or directly proceed to change the availability computation by clicking **Next**.

The screenshot shows the Oracle Enterprise Manager Cloud Control 12c interface. The top navigation bar includes 'Enterprise', 'Targets', 'Favorites', 'History', and a search bar. The main content area displays the 'Edit tgt122_Oracle E-Business Suite: Parameters' dialog. The 'Monitoring Schema Information' section is expanded, showing two fields: 'Monitoring Schema Username' with the value 'appsdemo' and 'Monitoring Schema Password' which is masked with dots. Navigation buttons 'Cancel', 'Step 1 of 3', and 'Next' are located at the bottom right of the dialog.

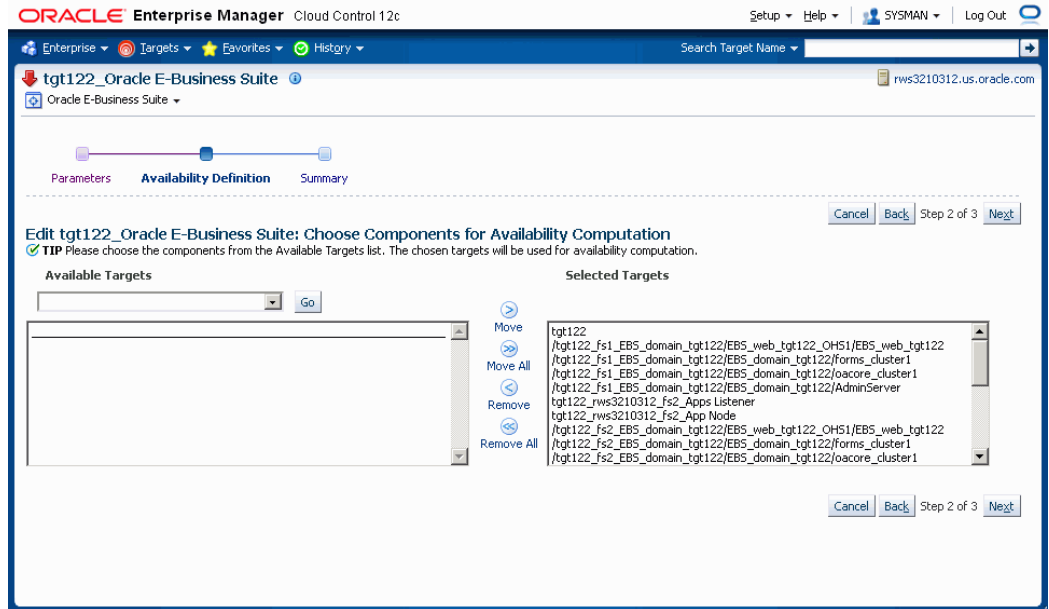
Changing the availability computation

The status of the Oracle E-Business Suite target is determined by the status of its member targets. The availability of the Oracle E-Business Suite system is calculated as described in the following table:

Availability Computation

Selected Targets' Status	Oracle E-Business Suite System Status
All Up	Up
One or More Up	Partially Up
All Down	Down

Customers can change this configuration by adding more targets or removing existing targets. Note that this will not change the members of the Oracle E-Business Suite target. This configuration is solely used in the Oracle E-Business Suite instance home page to show the availability of the instance.



The Available Targets section allows you to search for targets and add them to the availability computation list. You can select target type from the drop down before clicking **Go**.

The Selected Targets section shows the targets which are already in the availability computation list. By default the availability computation list contains all the members of the Oracle E-Business Suite instance.

If the Oracle E-Business Suite instance features online patching, you must add targets from both file editions. At runtime the patch edition targets will be ignored while computing the status of the Oracle E-Business Suite instance.

Click **Next** once you are done with availability computation list.

Review the configurations

The last step in changing the monitoring of the Oracle E-Business Suite configuration is the page where you can review the entire configuration and submit the changes

Diagnosing Issues

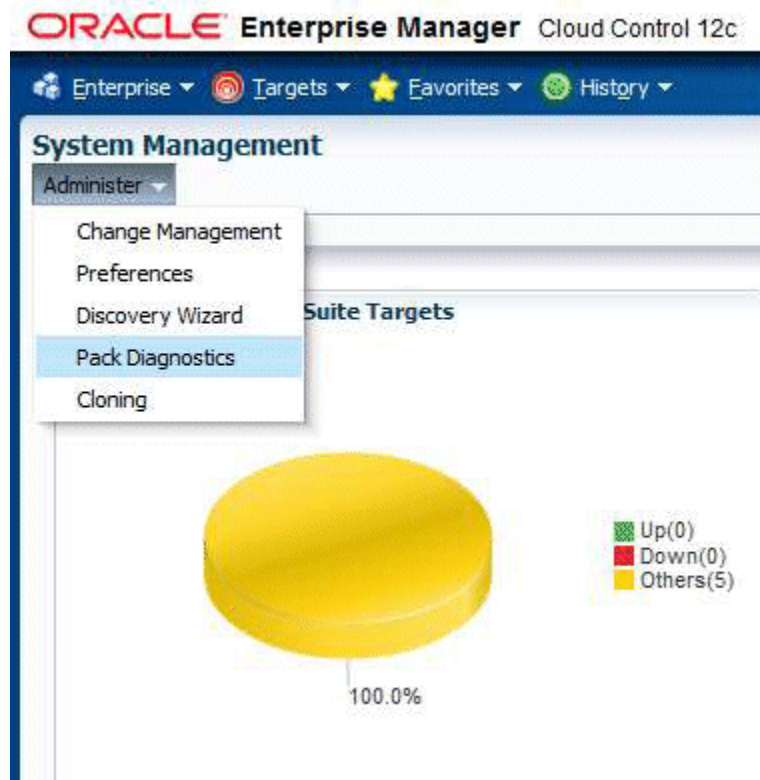
Diagnosing Issues

Pack Diagnostics

Oracle Application Management Pack for Oracle E-Business Suite includes a diagnostics feature which can be used to troubleshoot issues by running diagnostic tests. The tests are grouped into the modules listed below.

- Cloning
- Patch Manager
- Customization Manager
- User Monitoring

To navigate to the diagnostics module, select Pack Diagnostics from the Administer menu in the System Management page.



How to run a diagnostic test

To execute a diagnostic test, click on the Create button. This will take you the page where you must provide the details to do the diagnosis. You must enter the following details:

Diagnostic Test Details

Field	Description
Name	A unique name to identify this instance of execution. This name can be later used to search for this instance of execution.
Module	You can select a specific module or all modules. When you select a module, all tests for that module will be run.

Field	Description
Show Details	<p>You can select the extent of detail you want in the final report.</p> <ul style="list-style-type: none"> • All - This option logs all information regardless of whether the diagnostic test completes with success or error. • Error - This option only logs details for those tests that error out.
Category	<ul style="list-style-type: none"> • Generic - Select this option to perform a health check of a specific module. • User Specific - Select this option to diagnose issues faced by the current logged-in user in a specific module.
Description	Optional description for this instance of the execution.

You must add the Oracle E-Business Suite instance against which the diagnostic test will be executed. You can add multiple Oracle E-Business Suite instances. Click on the **Add** button in the Targets section. A list of values will pop up with the list of all the Oracle E-Business Suite instances discovered, and you can select the needed Oracle E-Business Suite instances. Once you are done with the selection, click the **Submit** button.

A job to run the tests is submitted, and the status column in the Requests table will show the status of the execution. You can refresh the page to get the latest status. You can click on the **Status** column to drill down further to see a detailed report of the execution. Expand the hierarchical table by clicking **Expand All**. There will be **Tasks** and **Steps**. Click on the status column of each step to get the detailed report for that step.

Search for a test execution

The pack diagnostics page by default list the name and other details of recent executions. You can search for any execution by its name.

Executing a test again

You can rerun an instance of execution without entering the details again. Search for that instance. Select it and click on the **Retest** button.

Diagnostic Tests for Cloning

You should run diagnostic tests on your system in preparation for the cloning procedures to ensure your system is set up properly. These tests can be accessed from

the Diagnostics dashboard, available from the Pack Diagnostics link on the Oracle Applications page. For more information on running diagnostic tests, see: Running Pack Diagnostics Tests, page 10-1.

The following tables list tests related to cloning.

Generic Diagnostics Tests for Cloning

Step	Severity	Test	Description	Notes/Expected Results/Corrective Measures
EBS	Warning	Check if EBS has Shared File System	Check if the Oracle E-Business Suite is a multi-node applications tier with a shared file system configured.	<p>Expected results: Yes/No.</p> <p>This is an informational message. If the shared file system is enabled and the result is No, please check 's_atname' to find out if all the nodes are consistent.</p> <p>Name of Command: CheckIfSFS</p>
EBS	Critical	Check if AutoConfig is run on Database Tier	Verify if AutoConfig has been run on the database tier.	<p>For cloning to work, it is mandatory that AutoConfig was successfully run on the source database tier.</p> <p>Name of Command: CheckIfAutoConfigIsRun</p>
EBS	Critical	Check If AutoConfig Is Run on Applications Tier	Verify if AutoConfig has been run on the applications tier.	<p>For Cloning to work, it is mandatory that AutoConfig was successfully run on the source applications tier.</p> <p>Name of Command: CheckIfAutoConfigIsRun</p>

Step	Severity	Test	Description	Notes/Expected Results/Corrective Measures
EBS	Warning	Get the Database Tier Operating System User Name	Get the O/S User Name for the database tier.	<p>It is useful to know with which operating system user name the source database nodes have been created, as there could be file permissions issues in cloning.</p> <p>Corrective action: AutoConfig needs to be run in the Database Context to get this value populated in the configuration. The configuration variable 's_dbuser' stores this information.</p> <p>Name of Command: GetDBOSUserInfo</p>
EBS	Warning	Get Agent Perl Version	Verify Agent Perl utility version.	<p>Cloning using the management pack requires the agent Perl utilities to be at a certain version level for certain cloning flows to function properly. Please make sure that the Perl version inside the Agent is compatible with that in the Oracle E-Business Suite instance (see the related diagnostic test for the Oracle E-Business Suite Perl Version)</p> <p>Name of Command: GetAgentPerlVersion</p>

Step	Severity	Test	Description	Notes/Expected Results/Corrective Measures
EBS	Warning	Get key environment variables for Database Context	Obtain key environment variables for Database Context, including: PATH LD_LIBRARY_PATH LIBPATH SHLIB_PATH ORACLE_HOME ORACLE_SID PERL5LIB TNS_ADMIN	Certain database context variables of the source Oracle E-Business Suite instance need to be definitively set with non-null values for the cloning job to proceed successfully. If this diagnostic test fails, run AutoConfig on the database tier so that the correct environment file is generated again. The values in the environment file are used in this command. Name of Command: GetEnvironmentVariableValues
EBS	Warning	Get the APPS tier Operating System User Name	Get the O/S User Name for the applications tier.	If this diagnostic test fails, rerun AutoConfig on the applications tier. AutoConfig should populate the 's_appsuser' variable in the applications tier context file correctly. Name of Command: GetAppsOSUserInfo

Step	Severity	Test	Description	Notes/Expected Results/Corrective Measures
EBS	Warning	Get key information required for Apps Context Configvariables	Obtain key environment variables for the applications context, including: s_base s_dbuser s_dbgroup s_appsuser s_appsgroup s_dbport s_port_pool s_config_home s_atName s_hostname	Certain applications context variables of the source Oracle E-Business Suite instance need to be definitively set with non-null values for the clone job to proceed successfully. If this diagnostic test fails, run AutoConfig on the applications tier so that the correct environment file is generated again. The values in the environment file are used in this command. Name of Command: GetAPPSCfgVariables
EBS	Critical	CheckIOPatches for <Oracle E-Business Suite Release Name>	Verify that certain patches have been applied on the Oracle E-Business Suite target.	Certain I/O patches need to be definitively run on the Oracle E-Business Suite instance for some of the clone flows to work successfully. Note that this step may change – depending on the Oracle E-Business Suite release (for example, 11i, 12.0, and so on). The list of patches is contained in an XML file that might be modified to include or exclude recommended patches. Name of Command: CheckEBS Patches

Step	Severity	Test	Description	Notes/Expected Results/Corrective Measures
EBS	Critical	Get EBS Perl Version	Check Oracle E-Business Suite Perl utility version.	<p>Cloning using the management pack requires Oracle E-Business Suite Perl utilities to be at a certain version level for certain cloning flows to function properly. Please make sure that the Perl version on the Oracle E-Business Suite instance is compatible with that in the Agent (see related diagnostic test for the Agent Perl Version).</p> <p>Name of Command: CheckEBSPerlVersion</p>
EBS	Critical	Check if AutoConfig is run on Applications Tier	Verify if AutoConfig has been run on the applications tier.	<p>It is mandatory that AutoConfig completed successfully on the source applications tier for cloning to work.</p> <p>Name of Command: CheckIfAutoConfigIsRun</p>
EBS	Warning	Get information for key Database Context Config variable	<p>Obtain key database context variables that are required for non-"Smart Clone" cloning procedures, including:</p> <p>s_base s_dbuser s_dbgroup s_appsuser s_appsgroup s_dbport s_port_pool s_hostname</p>	<p>Certain database context variables of the source Oracle E-Business Suite instance need to be set with non-null values for the clone jobs to finish successfully. If this diagnostic test fails, rerun AutoConfig on the database tier.</p> <p>Name of Command: GetDBConfigVariables</p>

Step	Severity	Test	Description	Notes/Expected Results/Corrective Measures
EBS	Warning	Get key environment variables for Application Context	Obtain key environment variables for the applications context, including: PATH LD_LIBRARY_PATH LIBPATH SHLIB_PATH ORACLE_HOME ORACLE_SID PERL5LIB TNS_ADMIN	If this diagnostic test fails, rerun AutoConfig on the applications tier. Name of Command: GetEnvironmentVariableValues
EBS	Warning	Checks if Oracle E-Business Suite AD Snapshot is valid	Verify if the Oracle E-Business Suite AD snapshot is valid.	In order to perform a "scale-down clone" process (that is, a multi-node source applications tier instance which has non-shared APPL_TOPs to a unified APPL_TOP in the target), AMP needs to ensure that the snapshots for the source APPL_TOPs have been updated properly. Make sure the Maintain "Update Current View Snapshots" option in adadmin is run at least once after the Oracle E-Business Suite creation. Name of Command: CheckIfADSnapshotsValid
EBS		Summary:	A summary of all of the diagnostic tests that have been executed, in the following groups: Successful, Failed, With Warning, Aborted, and Total.	

User-Specific Tests for Cloning

Step	Severity	Test	Description	Notes/Expected Results/Corrective Measures
EBS	Warning	Check Host Credential for Smart Clone flows	Check if the EM User has required preferred credential set for "Operating System Username" and "Operating System Password" in "Oracle E-Business Suite Node" target type for the applications context for Smart Clone flows.	If this diagnostic test fails, set the applications context operating system credentials in the "Oracle E-Business Suite Node" target type in the preferred credential store. Name of Command: CheckAppsContextCredential Existence
EBS		Check Database schema credentials for Smart clone flows	Check if the EM User has the required preferred credential set for the APPS schema users in "Oracle E-Business Suite" target type for Smart Clone flows.	The database APPS schema credentials must be entered manually with Smart Clone flows.
EBS		Summary	A summary of all of the diagnostic tests that have been executed, in the following groups: Successful, Failed, With Warning, Aborted, and Total.	

Diagnostic Tests for Patch Manager

You should run diagnostic tests on your system in preparation for running Patch Manager procedures to ensure your system is set up correctly. These tests can be accessed from the Diagnostics dashboard, available from the Pack Diagnostics link on the Oracle Applications page. For more information on running diagnostic tests, see: Running Pack Diagnostics Tests, page 10-1.

The following tables list tests related to Patch Manager:

Generic Diagnostic Tests for Patch Manager

Step	Test Group	Description	Notes/Expected Results/Corrective Measures
EM GC	Check permissions for OMS Stage directory	Determine if a stage directory is defined on the OMS. Determine if the owner has read/write permissions to that directory.	Expected results are: the OMS Stage Directory Location, with the OMS user with read/write permissions.
EM GC	Check Patch Manager Stage directories	Verify if the properties set in the Preferences page have proper definitions for Patch Manager Stage directories	Refer to Running a Patching Procedure, page 13-8 for instructions on completing this step.
EM GC	Summary	A summary of all of the diagnostic tests that have been executed, in the following groups: Successful, Failed, With Warning, Aborted, and Total.	
EBS	Check if EBS Snapshot in OMS Repository is valid	Verify if the Oracle E-Business Suite snapshot in OMS Repository is valid.	A snapshot shows data about a system for a point in time. If the snapshot is invalid, navigate to the Targets menu > Oracle E-Business Suite and click on the instance name. Then navigate to the Oracle E-Business Suite menu (in the top left corner) > Configuration > Last Collected > Actions > Refresh.
EBS	Check for EBS CPU Count	Verify that the target Oracle E-Business Suite system's CPU Count is greater than zero (0).	If there is not a valid snapshot, contact Oracle Support.
EBS	Summary	A summary of all of the diagnostic tests that have been executed, in the following groups: Successful, Failed, With Warning, Aborted, and Total.	

User-Specific Diagnostic Tests for Patch Manager

Step	Test Group	Description	Notes/Expected Results/Corrective Measures
EM GC	CheckMetalinkCredentials	Verify if username/password credentials are entered for My Oracle Support.	Refer to the Oracle Enterprise Manager documentation for instructions on completing this step.
EM GC	CheckPrivilege	Check if the user currently logged in has authority to patch any instances.	
EM GC	Summary	A summary of all of the diagnostic tests that have been executed, in the following groups: Successful, Failed, With Warning, Aborted, and Total.	
EBS	Check if Preferred Credentials exist	Check if the EM User has the required Preferred Credential set for APPS and SYSTEM schema users in "Oracle E-Business Suite" target type. Check if that user has the required Preferred Credentials for "Oracle E-Business Suite Node" target type for Database Context and for APPL_TOP Context.	
EBS	Summary	A summary of all of the diagnostic tests that have been executed, in the following groups: Successful, Failed, With Warning, Aborted, and Total.	

Diagnostic Tests for Customization Manager

You should run diagnostic tests on your system in preparation for using Customization Manager to ensure your system is set up correctly. These tests can be accessed from the Diagnostics dashboard, available from the Pack Diagnostics link on the Oracle Applications page. For more information on running diagnostic tests, see: Running Pack Diagnostics Tests, page 10-1.

The following tables list tests related to Customization Manager:

Generic Diagnostic Tests for Customization Manager

Step	Test Group	Description	Notes/Expected Results/Corrective Measures
EM GC	CheckOMSStage	Determine if a stage directory is defined on the OMS. Determine if the owner of the directory has read/write permissions to that directory.	Expected results are: the OMS Stage Directory Location and the OMS user with read/write permissions.
EM GC	Summary	A summary of all of the diagnostic tests that have been executed, in the following groups: Successful, Failed, With Warning, Aborted, and Total.	
EBS	CheckEBSHome	Verify permissions for APPL_TOP.	<p>Verify that the user running the diagnostic test has the correct permissions for the APPL_TOP directory structure.</p> <p>If the test fails, provide the correct Preferred Credentials information in "E-Business Suite" or "E-Business Suite Infrastructure". See: Setting Up Credentials, page 5-11.</p>
EBS	CheckAgentHome	Verify permissions within the Agent home directory.	<p>Verify that the user running the Diagnostic test has the correct permissions for the \$AGENT_HOME directory structure.</p> <p>If the test fails, provide the correct Preferred Credentials information in "E-Business Suite" or "E-Business Suite Infrastructure". See: Setting Up Credentials, page 5-11.</p>

Step	Test Group	Description	Notes/Expected Results/Corrective Measures
EBS	Check Customization Manager related AD Patches for 11i Release	Verify that certain AD patches have been applied on the Oracle E-Business Suite target.	<p>The set of required interoperability patches will vary for the different Oracle E-Business Suite releases (that is, Release 11i , Release 12, and so on). The list of patches is contained in an XML file that might be modified to include or exclude recommended patches.</p> <p>The file is located at: <OMS_HOME>\sysman\admin\emdrep\ebss\testsuites\CMTestSuite.xml</p>
EBS	Check Customization Manager Patches for 11i Release	Verify that certain Customization Manager patches have been applied on the Oracle E-Business Suite target.	<p>The set of required interoperability patches will vary for the different EBS releases (that is, Release 11i , Release 12, and so on). The list of patches is contained in an XML file that might be modified to include or exclude recommended patches.</p> <p>The file is located at: <OMS_HOME>\sysman\admin\emdrep\ebss\testsuites\CMTestSuite.xml</p>
EBS	CheckAmpApp	Verify that the Agent is patched with the latest Oracle E-Business Suite management pack release. The Application Management Pack and the Application Change Management Pack patches are required on both the OMS and Agents.	If the Agent is not at the appropriate release, then it will need to be installed or upgraded through Oracle Universal Installer.
EBS	GetAPPSConfigVariables	Check if the context property JDBC_URL is available.	The context variable JDBC_URL needs to be set with non-null values for the Customization Manager jobs to proceed successfully. If the test fails, wait until the metric collection occurs, or force evaluation of the metric collection explicitly

Step	Test Group	Description	Notes/Expected Results/Corrective Measures
EM GC	Summary	A summary of all of the diagnostic tests that have been executed, in these groups: Successful, Failed, With Warning, Aborted, and Total.	

User-Specific Diagnostic Tests for Customization Manager

Step	Test Group	Description	Notes/Expected Results/Corrective Measures
EBS	CheckEBSGlobalCred	Check Oracle E-Business Suite Preferred Credentials. This test verifies if the "Applsys Schema", "Apps Schema", and "System Schema" username/password exist; and, if so, if they are valid for a particular instance.	<p>Verify the validity of the credentials supplied for the "Applsys Schema", "Apps Schema", and "System Schema" username/password for the "E-Business Suite" target type in Preferred Credentials.</p> <p>If the test fails, provide the correct credentials for the user in question. See: Setting Up Credentials, page 5-11.</p>
EBS	Summary	A summary of all of the diagnostic tests that have been executed, in these groups: Successful, Failed, With Warning, Aborted, and Total.	

Diagnostic Tests for User Monitoring

The following table has details for generic tests for user monitoring.

Generic Tests for User Monitoring

Test	Description	Corrective Actions
CheckIOPatches	Checks whether the mandatory interoperability patches needed for user monitoring are applied in this Oracle E-Business Suite instance.	Apply the mandatory interoperability patches in the Oracle E-Business Suite instance.
CheckRESTHealth	User monitoring uses REST services deployed on the Oracle E-Business Suite instance. This test checks if the REST services are accessible or not.	Check the error message in the report. Refer to the emoms.log for additional information.
CheckEBSProfile	Checks if the site-level profile Sign-On:Audit Level is set to 'FORM' in this Oracle E-Business Suite instance.	Set the the site-level profile Sign-On:Audit Level to 'FORM'.

The following table lists user-specific tests for user monitoring.

User-Specific Tests for User Monitoring

Test	Description	Corrective Actions
CheckEBSGlobalCred	Checks if the preferred credential is set for AppsUserCredSet for this Oracle E-Business Suite instance.	Set the preferred credential.
CheckEBSRole	Checks if the Oracle E-Business Suite user, whose credential is set as the preferred credential for AppsUserCredsSet, has the LCM_EM_CLIENT responsibility in this Oracle E-Business Suite instance	Assign the LCM_EM_CLIENT responsibility to the Oracle E-Business Suite user.

Cloning an Oracle E-Business Suite System

Cloning an Oracle E-Business Suite System

One of the key features of the Oracle Application Management Pack for Oracle E-Business Suite is the ability to clone an Oracle E-Business Suite system automatically using the Smart Clone procedure.

The key highlights of the cloning process include:

- The Oracle Application Management Pack for Oracle E-Business Suite allows Oracle E-Business Suite systems to be cloned using the Cloud Control provisioning framework.
- Cloud Control automates the creation of clone systems and executes any required application-specific actions.
- Cloning of systems deployed on Oracle Real Application Clusters (RAC) is possible. For more information, see the My Oracle Support Knowledge Documents listed later in this section.

Smart Clone

Smart Clone expects, as a prerequisite, the target Oracle E-Business Suite database to be cloned and discovered in the Enterprise Manager. In doing so, customers can choose their own options in creating the target Oracle E-Business Suite database by cloning from the source Oracle E-Business Suite database using the Database Plug-in Provisioning Pack, RMAN, a storage system solution, or so on; whichever suits their needs the best. Smart Clone starts with taking the discovered target database as a input to configure a database target and then clones the applications tier of the source instance. It then applies that to the target Oracle E-Business Suite system.

Smart Clone supports the following scenarios for Release 11*i* and Release 12.x:

- Configuring single instance databases

- Configuring RAC databases
 - Customizing the listener names is supported if you have the required Oracle E-Business Suite patches applied.
 - Configuring listeners with SCAN IPs is supported if both the database version and the cluster version are greater than 11.2.0.2

The following table lists the details of use cases and their supported releases:

Use Case	Source Oracle E-Business Suite Instance	Target Oracle E-Business Suite Instance	Releases Supported
1A	Single Apps Node configured with Single Instance DB or RAC DB	Single Apps Node configured with Single Instance DB or RAC DB	11i, 12.0, 12.1, 12.2
1B	Single Apps Node configured with Single Instance DB or RAC DB	Multi Apps Node (with or without Shared File System) configured with Single Instance DB or RAC DB	12.0, 12.1
2A	Multi Apps Node (with or without Shared File System) configured with Single Instance DB or RAC DB	Single Apps Node configured with Single instance DB or RAC DB	11i, 12.0, 12.1, 12.2
2B	Multi Apps Node (with or without Shared File System) configured with Single Instance DB or RAC DB	Multi Apps Node (with or without Shared File System) configured with Single Instance DB or RAC DB	12.0, 12.1

In addition to the above features, the following scenarios are supported:

- As soon as Oracle E-Business Suite announces the certification on any database version with Oracle E-Business Suite, then the Oracle Application Management Pack for Oracle E-Business Suite (Release 12.1.0.2.0) customers should be able to use the Smart Clone deployment procedure immediately for Oracle E-Business Suite cloning.
- Any specific needs like data masking, data compression, and so on can be performed before running Smart Clone.
- Smart Clone supports cloning of systems with different OS users for the database tier and the applications tier.

Terms

The following table lists some cloning terms used in this document.

Term	Meaning
Source	Oracle E-Business Suite system being cloned.
Target	Oracle E-Business Suite system being created as a copy of the source system.
Smart Clone	The cloning utility in Oracle Application Management Pack for Oracle E-Business Suite. Smart Clone allows you to use a database target cloned using an external solution as an input to its cloning procedures.

Requirements and Setup Steps

- Cloning using Oracle Application Management Pack for Oracle E-Business suite requires Perl 5.005 or higher on the Oracle Enterprise Manager agent. The user who starts the agent processes must set the PERL5LIB environment variable pointing to Perl 5.005 (or higher) libraries. Also, the Perl executable 5.005 must be used.
- While upgrading the database from 9i to 10g (or 11g) with an Oracle E-Business Suite Release 11i instance, you need to ensure that the source instance perl.exe is pointed to the database 10g (11g) ORACLE_HOME of the Oracle E-Business Suite.
- All the virtual internet protocol (VIP) addresses configured in the Oracle Cluster Ready Services (CRS) of the target nodes identified for the created RAC instance must be up and running.
- With Release 11i, for a clone job from Single Node - Single User to Single Node - Multiple User, ensure that you have write permissions for user IDs to the target base directory. Give 770 permissions to the directories from/to the target base directory with the following command:

```
$ chmod -R 770 <target base directory>
```
- If for a cloning process the target is multi-node and the database node domain and the applications node domain are different, perform the following step:
 1. Include the target database node server name in the /etc/hosts file of the target applications node so that the applications node will be able to resolve the database node without the domain name. The modification should be like the following (this entry is for Linux x86; change as appropriate for your platform):

<ip-address> <Machine name with domain name> <Machine Name>

For example:

140.87.205.217 adc60002demo.us.oracle.com adc60002demo

2. For Release 12 only: In addition to the above entry in the /etc/hosts file, the applications node context file needs to be changed.

Change the s_dbdomain entry in the
<STAGE_LOC>/appsTier/context/apps/<SID>_<SERVER_NAME>.xml file to the
correct domain name of the database tier.

For example, if the database node domain name is idc.oracle.com, and the
applications node domain name is us.oracle.com, then the context file

/d1/QA/stage/PMS29/080522035852/PMS29_adc60010demo.xml

should be changed to

<domain oa_var="s_dbdomain">idc.oracle.com</domain>

- The OS utilities **make**, **ld**, **cc**, and **ar** must be in the environment PATH variable in all the host targets. If not, please update the PATH variable accordingly and restart the agent in the same terminal.

Prerequisites

The following are prerequisites to running an individual Smart Clone procedure:

1. The target database must have already been cloned from the source Oracle E-Business Suite database.

To do this, you can:

- Use the Enterprise Manager 12c Database Plug-in to perform the required database cloning procedures OR
- Use any other technology which suits your database cloning needs.

Once the Target Database is cloned, discover it in Enterprise Manager 12c.

2. The Oracle E-Business Suite Agent Plug-in must be deployed on all the target database hosts and applications hosts.
3. The Enterprise Manager user running the Smart Clone procedure must have the appropriate privileges.

The following privilege setup instructions can be ignored if the user is a "Super Administrator".

In order to execute the Smart Clone deployment procedure, a non-Super Administrator user must have certain target-level privileges and the resource

privileges.

The privileges listed below could be granted in many ways depending on the desired level of granularity of privileges to be granted to the user. For more details on granting privileges, please refer to the section "Configuring Security" in the manual *Oracle Enterprise Manager Cloud Control Administrator's Guide 12c Release 1*.

The following outlines one of the ways of granting the required privileges for executing the Smart clone procedure.

Target Privileges

- Add any Target
 - Privileges applicable to all targets
 - Name: Add any Target (Description: Add any target in Enterprise Manager)
- Operator any Target
 - Privileges applicable to all targets
 - Name: Operator any Target (Description - Ability to perform administrative operations on all managed targets)
 - Included Privileges - View any Target
 - Applicable Target Types - All Target Types

Resource Privileges

1. Job System resource:
 - Name - Job System
 - Description - Job is a schedulable unit of work that administrator defines to automate the commonly run tasks
 - Resource Type Privilege - Create
2. Deployment Procedure:
 - Name - Deployment Procedure
 - Description - Deployment procedures are customizable orchestration routines for various Provisioning and Patching tasks
 - Resource Type Privilege - Create

4. The following Named Credentials must be defined:

- Host target type
 - Authentication Target Type: "Host"
 - Credential Type: "Host Credentials"
- Oracle E-Business Suite target type

Please refer to the section Creating Named Credentials for Oracle E-Business Suite, page 5-1 for instructions on creating the Oracle E-Business Suite Database Credentials.

Cloning with RAC Instances

With Smart Clone, if the target Oracle E-Business Suite instance database is of type "RAC" and if you want to configure Parallel Concurrent Processing after the clone is completed, then it is recommended that you follow instructions described in the following My Oracle Support Knowledge Documents, depending on your RDBMS version:

- Document 312731.1, "Configuring Oracle Applications Release 11*i* with 10g RAC and 10g ASM"
- Document 757980.1, "Using Oracle 11g Release 1 Real Application Clusters and Automatic Storage Management with Oracle E-Business Suite Release 11*i* (11.1.0.6)"
- Document 455398.1, "Using Oracle Real Application Clusters and Automatic Storage Management with Oracle E-Business Suite Release 11*i* and Oracle Database 11g"
- Document 783188.1, "Certified RAC Scenarios for E-Business Suite Cloning" for more information on cloning of systems deployed on Oracle Real Application Clusters (RAC) is possible.
- Document 559518.1, "Cloning Oracle E-Business Suite Release 12 RAC-Enabled Systems with Rapid Clone" for information on cloning a Release 12 system on a RAC database

Preferences

For Oracle E-Business Release 12.1 and earlier, the following properties are set in the Preferences page. Navigate to the Preferences page by navigating to Targets > Oracle E-Business Suite > Administer > Preferences. These preferences are not applicable to cloning with Oracle E-Business Suite Release 12.2. For Release 12.2, default values are used.

- Number of parallel threads/processes that will be used while zipping, transferring and unzipping the files under APPL_TOP directory of the applications tier.
 - Minimum value: 1
 - Maximum value: 16
 - If the value is empty OR less than 1 OR greater than 16, then the default value of 8 is used.
- Number of parallel threads/processes that will be used while zipping, transferring and unzipping the files under Tools Oracle Home directory of the applications tier.
 - Minimum value: 1
 - Maximum value: 8
 - If the value is empty OR less than 1 OR greater than 8, then the default value of 4 is used.
- Number of parallel threads/processes that will be used while zipping, transferring and unzipping the files under Tools Oracle Home directory of the applications tier.
 - Minimum value: 1
 - Maximum value: 4
 - If the value is empty OR less than 1 OR greater than 4, then the default value of 2 is used.
- Number of parallel threads/processes that will be used while zipping, transferring and unzipping the files under COMMON_TOP directory of the applications tier.
 - Minimum value: 1
 - Maximum value: 4
 - If the value is empty OR less than 1 OR greater than 16, then the default value of 2 is used.

Considerations for Cloning with Oracle E-Business Suite Release 12.2

Oracle E-Business Suite Release 12.2 is deployed on Oracle WebLogic Server. As a result, most of the technology stack scripts used in cloning (such as adpreclone, adclone, adstrtall, adstpall, and so on) require the WebLogic Admin password. Therefore, the WebLogic Admin password is required in the cloning procedure interview for Release 12.2 systems.

Also, note the following regarding zipping of files during the cloning process:

- <COMMON_TOP>/clone/FMW/FMW_Home.jar will be very large (2.7 GB).
- The WebLogic Server home directory (FMW_Home) will NOT be zipped or transferred.

Diagnostic Tests

For information on diagnostic tests for this feature, see: Diagnostic Tests for Cloning, page 10-3.

Running a Single Node to Single Node or Multi Node to Single Node Cloning Procedure for Release 11*i* and 12.1.x

This section describes running the Single Node to Single Node and Multi Node to Single Node Smart Clone procedure. These procedure can be used for Release 11*i* and Release 12.1.x.

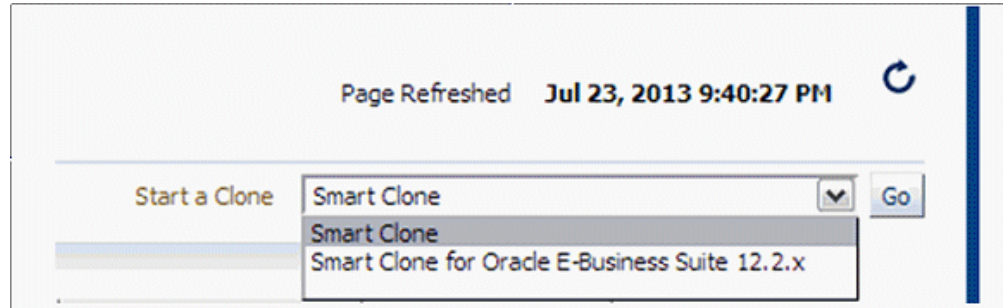
At a high level, a Smart Clone procedure performs the following

1. Configures the target database.
2. Clones and configures the applications tier from the source Oracle E-Business Suite system.

These two steps result in creating a target Oracle E-Business Suite system which is ready to use.

To run a single-node cloning procedure:

1. Navigate to the Cloning home page by selecting Targets > Oracle E-Business Suite > Administer > Cloning.
2. Select "Smart Clone" from the dropdown list and click **Go**.



3. Enter general information for the cloning process. This step captures information related to the target database already cloned and discovered in Enterprise Manager.

Provide a transaction name for the Clone Name.

Choose the source Oracle E-Business Suite you would like to clone from the LOV.

Specify the target database which is to be cloned from the source Oracle E-Business Suite's database.

Based on the type of database chosen (that is, a single instance database or a RAC database), the Target Database Details region is dynamically rendered.

For a single instance database, provide the following:

- Target Database
- Apps Schema Username
- Apps Schema Password
- System Schema Password
- TNS admin directory

You can click on **Validate Database** button or you can leave it to the **Next** button to perform the same action.

Enterprise ▾ Targets ▾ Favorites ▾ History ▾ Search Target Name ▾

General RAC Target DB details Source/Target Copy Parameters Credentials Custom Properties More

Smart Clone: General

* Indicates required field Cancel Save For Later Step 1 of 8 Next

Job Details

* Clone Name

* Source Applications System

Description

Target Database Details

* Select Target Database

* Apps Schema Username

* Apps Schema Password

* System Schema Password

* TNS admin directory
TNS admin directory should be a directory where your target database listener configurations are picked from

Validate Database

Components

The following components of the application node will be cloned.

Node Type
▽ Application Node
Technology Stack
APPL_TOP

Cancel Save For Later Step 1 of 8 Next

If the target database is a RAC database, the Target Database Details region is rendered differently, as shown in the following figure. Specify whether SCAN is configured in the target database.

ORACLE Enterprise Manager Cloud Control 12c Setup Help SYSMAN Log Out

Enterprise Targets Favorites History

General RAC Target DB details Source/Target Copy Parameters Credentials Custom Properties More

Smart Clone: General

* Indicates required field Cancel Save For Later Step 1 of 8 Next

Job Details

* Clone Name Smart Clone Test1

* Source Applications System amp1213-Oracle E-Business Suite

Description

Target Database Details

* Select Target Database amprac

* Apps Schema Username apps

* Apps Schema Password

* System Schema Password

* Is SCAN already configured in target DB? Yes No

Validate Database

Components

The following components of the application node will be cloned.

Node Type
Application Node
Technology Stack
APPL_TOP

Cancel Save For Later Step 1 of 8 Next

4. Enter RAC Target database details, if applicable.

This step only applies if the target database is a RAC database. This step is skipped if the target database has the type Single Instance.

If the source Oracle E-Business Suite technology stack has the required patches applied for configuring customized names for listeners, then this page will automatically render in such a way that you provide names for the target database listeners by providing the required names in the column "New Listener Name".

If the source Oracle E-Business Suite technology stack does not have the required patches, then Smart Clone will provide default names for the listeners using the naming convention "LISTENER_<hostname>".

If the source Oracle E-Business Suite technology stack has the required patches applied for configuring the target database with "SCAN Listeners", then the "Custom SCAN Details" section is rendered with the "SCAN Name" and "SCAN Port" fields populated automatically. It is highly recommended not to change these values if it automatically populated. If for some reason the SCAN Name and SCAN

Port fields are not populated (for example, if the cluster target instance discovered in Enterprise Manager has not populated these values yet as properties), then you must enter the correct values for these fields.

Optionally, check the box "Use Custom SCAN Name and Port" if you want to get the target database configured with the SCAN listener. If you do not check the box "Use Custom SCAN Name and Port" box, then Smart Clone will clone the target database with virtual host names.

If the source Oracle E-Business Suite technology stack does not have the required patches, then the "Custom SCAN Details" section will not be rendered, and the target database will be configured with virtual host names.

If the target instance is already configured with scan listeners, then by default the "Use Custom SCAN Name and Port" box will be checked.

Smart Clone:
 * Indicates required field

RAC Target DB Global Details
 DB Global Name: **amprc**

RAC Target DB Node Specific Details

DB Instance Name	Host Name	Virtual Host Name	Current Listener Name	New Listener Name	TNS admin directory
amprc1	rws3510791	rws3510791-v	LISTENER_rws3510791	LISTENER_amprc1	/d1/cmore/f12/amprc1/db/11.2.0/network/admin/amprc1_rws3510791
amprc2	rws3510790	rws3510790-v	LISTENER_rws3510790	LISTENER_amprc2	/d1/cmore/f12/amprc1/db/11.2.0/network/admin/amprc1_rws3510791

Custom SCAN Details
☒ Use Custom SCAN Name and Port

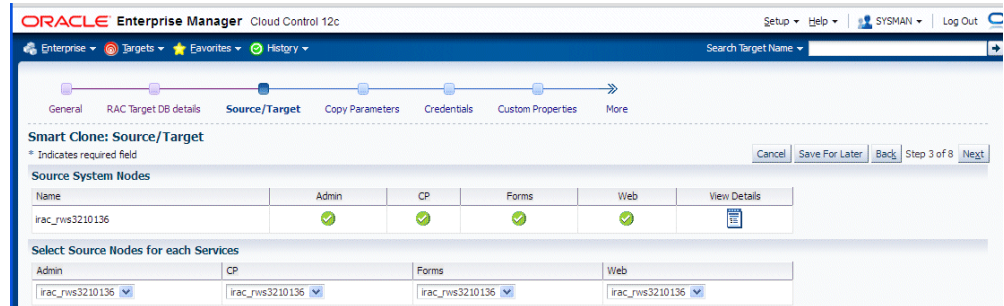
SCAN Name:
 SCAN Port:
 DB local listener Port:

5. Enter source and target information.

In this step, Smart Clone captures information related to the source and target.

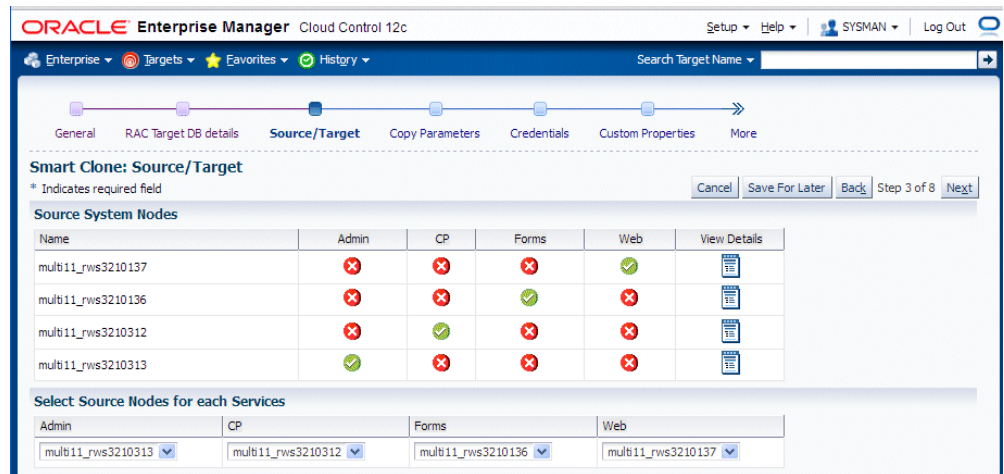
- All application tier information of the source Oracle E-Business Suite system is displayed.
- You enter details for the target Oracle E-Business Suite system.

If the source Oracle E-Business Suite system is deployed on a single applications tier, the Source regions appear as shown in the following figure. Information is shown for the following services: Admin, CP (Concurrent Processing), Forms, and Web.



In the Available Target System Nodes region, choose the source host that can be used as a reference while cloning the target applications tier. Specify the target host from the LOV where Smart Clone should create the target applications tier.

If the source Oracle E-Business Suite system is deployed on a multi-node applications tier, then the Source regions appear as shown below.



The Source System Nodes region shows the details of the source Oracle E-Business Suite applications tier in terms of

- Number of nodes the applications tier is deployed on.
- Details of the services on the nodes.

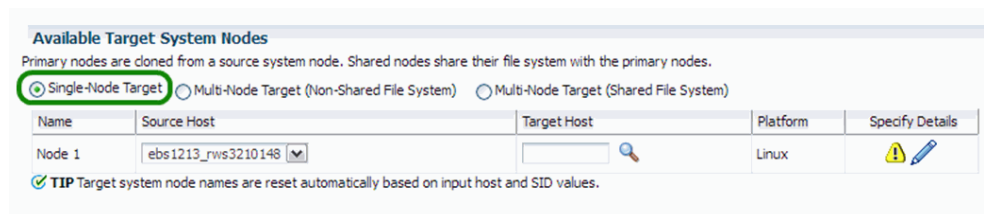
For a Release 11*i* multi-node applications tier system, you will need to choose the nodes for the services which are to be used as references for creating the Release 11*i* single node applications tiers. Do this in the "Select Source Nodes for Each Service" region.

For Release 12, selecting the service in this section is unnecessary because the reference source host will be selected only from the "Available Target System Nodes" region.

6. In the Available Target System Nodes region, choose "Single-Node Target". This is

the default option.

Then choose the source host that can be used as a reference while cloning the target applications tier. Specify the target host from the LOV where Smart Clone should create the target applications tier.



Available Target System Nodes

Primary nodes are cloned from a source system node. Shared nodes share their file system with the primary nodes.

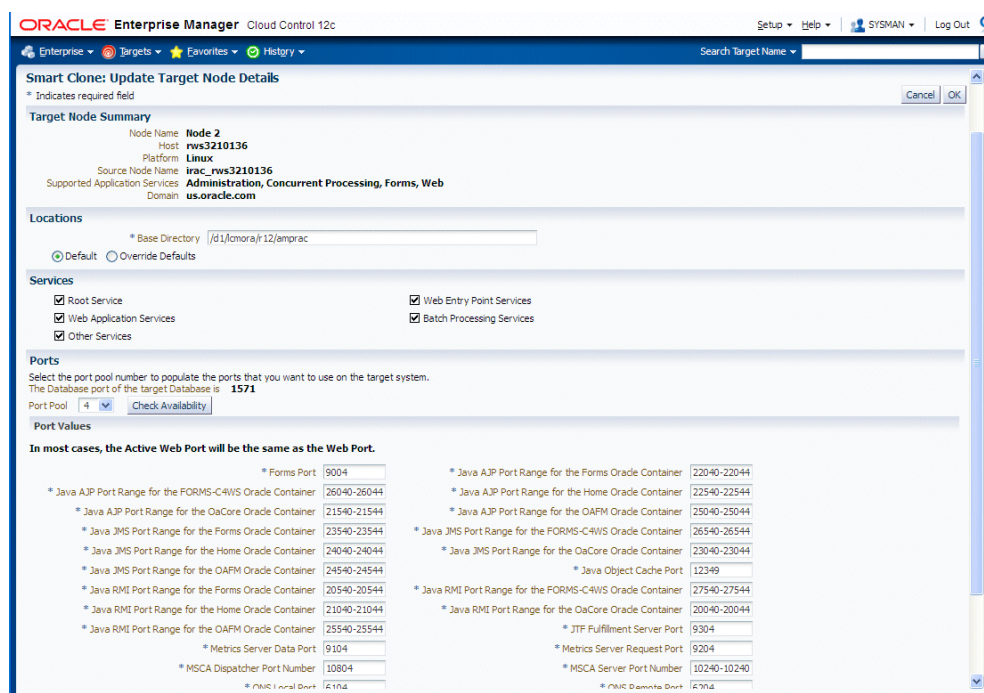
☒ Single-Node Target ☐ Multi-Node Target (Non-Shared File System) ☐ Multi-Node Target (Shared File System)

Name	Source Host	Target Host	Platform	Specify Details
Node 1	ebs1213_rws3210148		Linux	

TIP Target system node names are reset automatically based on input host and SID values.

For the target system node, click the Specify Details icon to update its properties in the Target Node Summary page.

- The Target Node Summary page is shown below.



ORACLE Enterprise Manager Cloud Control 12c

Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Smart Clone: Update Target Node Details

* Indicates required field

Target Node Summary

Node Name: **Node 2**
 Host: **rws3210136**
 Platform: **Linux**
 Source Node Name: **irac_rws3210136**
 Supported Application Services: **Administration, Concurrent Processing, Forms, Web**
 Domain: **us.oracle.com**

Locations

* Base Directory:

☒ Default ☐ Override Defaults

Services

☒ Root Service ☒ Web Entry Point Services
☒ Web Application Services ☒ Batch Processing Services
☒ Other Services

Ports

Select the port pool number to populate the ports that you want to use on the target system.
 The Database port of the target Database is: **1571**

Port Pool:

Port Values

In most cases, the Active Web Port will be the same as the Web Port.

* Java AJP Port Range for the FORMS-C4WS Oracle Container: <input type="text" value="26040-26044"/>	* Java AJP Port Range for the Forms Oracle Container: <input type="text" value="22040-22044"/>
* Java AJP Port Range for the OaCore Oracle Container: <input type="text" value="21540-21544"/>	* Java AJP Port Range for the Home Oracle Container: <input type="text" value="22540-22544"/>
* Java JMS Port Range for the Forms Oracle Container: <input type="text" value="23540-23544"/>	* Java AJP Port Range for the OAFM Oracle Container: <input type="text" value="25040-25044"/>
* Java JMS Port Range for the Home Oracle Container: <input type="text" value="24040-24044"/>	* Java JMS Port Range for the FORMS-C4WS Oracle Container: <input type="text" value="26540-26544"/>
* Java JMS Port Range for the OAFM Oracle Container: <input type="text" value="24540-24544"/>	* Java JMS Port Range for the OaCore Oracle Container: <input type="text" value="23040-23044"/>
* Java RMI Port Range for the Forms Oracle Container: <input type="text" value="20540-20544"/>	* Java Object Cache Port: <input type="text" value="12349"/>
* Java RMI Port Range for the Home Oracle Container: <input type="text" value="21040-21044"/>	* Java RMI Port Range for the FORMS-C4WS Oracle Container: <input type="text" value="27540-27544"/>
* Java RMI Port Range for the OAFM Oracle Container: <input type="text" value="25540-25544"/>	* Java RMI Port Range for the OaCore Oracle Container: <input type="text" value="20040-20044"/>
* Metrics Server Data Port: <input type="text" value="9104"/>	* JTF Fulfillment Server Port: <input type="text" value="9304"/>
* MSCA Dispatcher Port Number: <input type="text" value="10804"/>	* Metrics Server Request Port: <input type="text" value="9204"/>
* FMSC Internal Port: <input type="text" value="6104"/>	* MSCA Server Port Number: <input type="text" value="10240-10240"/>
	* FMSC Demote Port: <input type="text" value="6104"/>

The port pool and individual port values are updated from the source instance.

If there is an invalid value in the port pool from the source instance, the following error is shown: "NOTE: Source Apps portpool context variable (s_port_pool) is invalid: <value>. Setting to default value '0'. Please update as needed!"

- In the Copy Parameters step, enter information on how the copying process should be done.

Smart Clone: Copy Parameters

Indicates required field

Stage And Copy Options: ☐ No Copy (Choose No Copy if your Source and Destination Stage directories are one and the same and on a disk which is shared by both Source and Target hosts) ☒ Copy (Choose Copy if your Source and Destination Stage directories are different (or) on different hosts)

Copy Options

☐ Shared (Use this option if your Destination directory is shared across source and destination hosts and is different from source stage)

☒ Remote File Transfer (Use this option if your Source and Destination Stage directories are on different hosts and are not accessible from the other host)

☐ Manual Copy (Use your customised software for faster copying/imaging with this option. Instructions on source and destination paths and files to be copied will be available in a manual step)

Source Stage

Name	Host	Stage Path
irac_rws3210136	rws3210136	/d1/cmora/stages/RAC11gR2

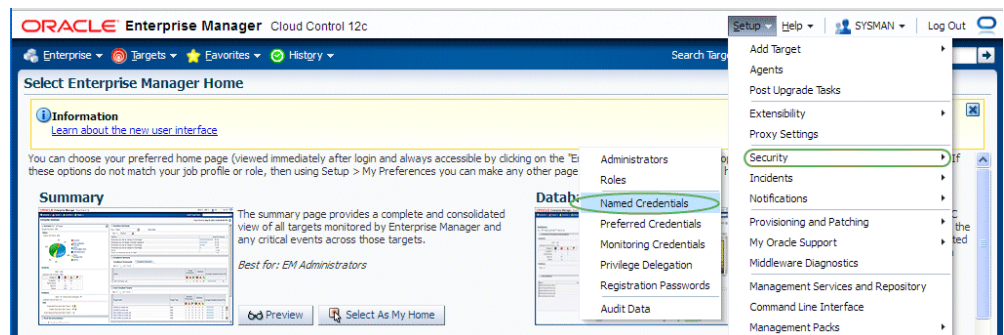
Target Stage

Name	Host	Stage Path
amprc1_rws3210136	rws3210136	/d1/cmora/stages/RAC11gR2

9. Enter Credentials.

Smart Clone uses named credentials. You can select and test the named credentials on this page.

Named credentials can be created by navigating to the Setup menu, then Security > Named Credentials, and clicking **Create**.



Smart Clone requires the following credentials to be created:

- Application Node OS Credentials and Database Node OS Credentials.
 - Authentication Target Type - Host
 - Credential Type - Host Credentials
- Database Schema Credentials

Please refer to the section Creating Named Credentials for Oracle E-Business Suite, page 5-1 for information on creating the Oracle E-Business Suite Database Credentials.

Note: Database schema credentials appear only when the source applications system is on Release 11*i* and using a non-shared file system.

The screenshot shows the Oracle Enterprise Manager interface for creating a new credential. The page is titled "Security" and "Named Credentials > Create Credential". It features three main sections: "General Properties", "Credential Properties", and "Access control".

General Properties:

- * Credential name: APPS_SCHEMA_GLOBAL
- Credential description: (empty)
- * Authenticating Target Type: Oracle E-Business Suite
- * Credential type: Apps Schema Credentials
- Scope: ☒ Target ☐ Global
- * Target type: Oracle E-Business Suite
- * Target Name: multi11-Oracle E-Business Suite

Credential Properties:

- * Apps Schema Username: apps
- * Apps Schema Password: (masked with dots)
- * Confirm Apps Schema Password: (masked with dots)

Access control:

Buttons: View, Add Grant, Revoke Grant, Change Privilege

Grantee	Privilege
No data to display	

The Credentials page for a Smart Clone procedure where the source applications system is multi-node and the target database is non-RAC is shown in the figure below. This page allows you to enter in and test all required credentials for the nodes.

Smart Clone: Credentials

* Indicates required field

Cancel Save For Later Back Step 5 of 8 Next

Source System

Application Node OS Credentials

Name	Target Name	Target Type		Test
mult11_rws3210137	rws3210137.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test
mult11_rws3210136	rws3210136.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test
mult11_rws3210312	rws3210312.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test
mult11_rws3210313	rws3210313.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test

Database Schema Credentials

Name	Target Name	Target Type		Test
mult11_rws3210313	rws3210313.us.oracle.com	host	APPS_SCHEMA_GLOBAL (SYSMAN)	Test

Target System

Database Node OS Credentials

Name	Target Name	Target Type		Test
tgt11_rws3210136	rws3210136.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test

Application Node OS Credentials

Name	Target Name	Target Type		Test
tgt11_rws3210137	rws3210137.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test

Cancel Save For Later Back Step 5 of 8 Next

The Credentials page for a Smart Clone procedure where the source applications system is single node and the target database is RAC is shown in the figure below. On this page you can enter and test the required credentials for all the nodes.

Smart Clone: Credentials

* Indicates required field

Cancel Save For Later Back Step 5 of 8 Next

Source System

Application Node OS Credentials

Name	Target Name	Target Type		Test
irac_rws3210136	rws3210136.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test

Database Schema Credentials

Name	Target Name	Target Type		Test
amprc1_rws3510791	rws3510791.us.oracle.com	host	ORALCMQA (SYSMAN)	Test
amprc2_rws3510790	rws3510790.us.oracle.com	host	ORALCMQA (SYSMAN)	Test

Target System

Application Node OS Credentials

Name	Target Name	Target Type		Test
amprc1_rws3210136	rws3210136.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test

Cancel Save For Later Back Step 5 of 8 Next

- Enter values for custom parameters. These would be used in any directive steps you have created.

You can create directive steps to be integrated into a deployment procedure. For more information on deployment procedures, see the *Oracle Enterprise Manager Cloud Control Administrator's Guide*. For a description on how to create a directive step and insert it into a procedure created using the "Create Like" feature and a

shipped Smart Clone procedure, see: Adding Custom Steps to a Smart Clone Deployment Procedure, page 11-38.

ORACLE Enterprise Manager Cloud Control 12c

Enterprise Targets Favorites History Search Target Name

Previous Credentials Custom Properties Schedule Review

Smart Clone: Custom Properties

* Indicates required field
Provide values for the following uninitialized parameters.
Expand All Collapse All

x: All Custom Parameters

Focus	Step/Parameter Name	Parameter Value
	▽ All Custom Parameters	
x	▽ Custom Step	
	Parameter 2	rws3210312

Cancel Save For Later Back Step 6 of 8 Next

[Privacy Statement](#)

11. Schedule the deployment.

ORACLE Enterprise Manager Cloud Control 12c

Enterprise Targets Favorites History Search Target Name

Previous Credentials Custom Properties Schedule Review

Smart Clone: Schedule

* Indicates required field
Specify when you would like the clone to run. You can create the clone now or schedule a future date and time.

☒ Immediately
☐ Later

Cancel Save For Later Back Step 7 of 8 Next

[Privacy Statement](#)

12. Review your Smart Clone deployment procedure and click **Finish**.

Oracle Enterprise Manager Cloud Control 12c

Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Previous Credentials Custom Properties Schedule **Review**

Smart Clone: Review

* Indicates required field
Please review the cloning details below.

Cancel Save For Later Back Step 8 of 6 **Finish**

General

Target Database Details
Source Applications System: **irac-Oracle E-Business Suite**
Select Target Database: **amprac**
Apps Schema Username: **apps**
Clone: **appstier**

Application

Source System Nodes

Name	Admin	CP	Forms	Web	View Details
irac_rws3210136	✓	✓	✓	✓	

Target OS User Details
Apps OS User: **lcmora**
Apps OS Group: **dba**

Available Target System Nodes
Primary nodes are cloned from a source system node. Shared nodes share their file system with the primary nodes.

Name	Source Host	Target Host	Platform	View Details
amprc1_rws3210136	irac_rws3210136	rws3210136.us.oracle.com	Linux	

✓ **TIP** Target system node names are reset automatically based on input host and SID values.

Copy Parameters

Stage And Copy Options
☐ No Copy
 Choose No Copy if your Source and Destination Stage directories are one and the same and on a disk which is shared by both Source and Target hosts
☒ Copy
 Choose Copy if your Source and Destination Stage directories are different (or) on different hosts

Copy Options
☐ Shared ☒ Remote File Transfer ☐ Manual Copy

Source Stage

Name	Host	Stage Path
irac_rws3210136	rws3210136	/d1/lcmora/stages/RAC11gR2

Target Stage

Stage

Running Scale-Up and Scale-Down Multi-Node Cloning Procedures

This section describes using Smart Clone for scale-down and scale-up cloning of Oracle E-Business Suite application nodes.

This type of procedure is supported for Oracle E-Business Suite Releases 12.0 and 12.1.

This procedure is similar to the single-node Smart Clone procedure; the main difference is in specifying the source and target in the "Source/Target" step in the interview process.

The following steps provide a high-level description of a Smart Clone procedure:

1. Smart Clone configures the target database.
2. Smart Clone clones and configures the applications tier from the source Oracle E-Business Suite system.

These steps result in creating a target Oracle E-Business Suite system which is ready to use.

To run a multi-node cloning procedure:

1. Navigate to the Cloning home page by using the following path: Targets menu > Oracle E-Business Suite > Administer > Cloning. Choose "Smart Clone" from the

"Start a Clone" list.

2. Enter general information for the cloning process. This step captures information related to the target database already cloned and discovered in Enterprise Manager.

Provide a transaction name for the Clone Name.

Choose the source Oracle E-Business Suite you would like to clone from the LOV.

Select the target database which is cloned from the source Oracle E-Business Suite's database.

Based on the type of database (that is, a single instance database versus a RAC database), the rendering of the Target Database Details region will dynamically change. The figure below shows the rendering of the region for a single instance database.

Provide the following for the target database:

- Apps Schema Username
- Apps Schema Password
- System Schema Password
- TNS admin directory

You can click on **Validate Database** button or you can leave it to the **Next** button to perform the same action.

ORACLE Enterprise Manager Cloud Control 12c Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

General RAC Target DB details Source/Target Copy Parameters Credentials Custom Properties More

Smart Clone: General

* Indicates required field Cancel Save For Later Step 1 of 8 Next

Job Details

* Clone Name Demo Multi-node Cloning

* Source Applications System multir12-Oracle E-Business Suite

Description

Target Database Details

* Select Target Database ebs137

* Apps Schema Username apps

* Apps Schema Password

* System Schema Password

* TNS admin directory aa

TNS admin directory should be a directory where your target database listener configurations are picked from

Validate Database

Components

The following components of the application node will be cloned.

Node Type
Application Node
Technology Stack
APPL_TOP

Cancel Save For Later Step 1 of 8 Next

[Privacy Statement](#)

If the target database is a RAC database, the Target Database Details is rendered differently, as shown in the following figure.

ORACLE Enterprise Manager Cloud Control 12c Setup Help SYSMAN Log Out

Enterprise Targets Favorites History

General RAC Target DB details Source/Target Copy Parameters Credentials Custom Properties More

Smart Clone: General

* Indicates required field

Cancel Save For Later Step 1 of 8 Next

Job Details

* Clone Name Smart Clone Test1

* Source Applications System amp1213-Oracle E-Business Suite

Description

Target Database Details

* Select Target Database amprac

* Apps Schema Username apps

* Apps Schema Password

* System Schema Password

* Is SCAN already configured in target DB? Yes No

Validate Database

Components

The following components of the application node will be cloned.

Node Type
Application Node
Technology Stack
APPL_TOP

Cancel Save For Later Step 1 of 8 Next

Provide the following for the target database:

- Apps Schema Username
- Apps Schema Password
- System Schema Password

Specify whether SCAN is configured in the target database.

You can click on **Validate Database** button or you can leave it to the **Next** button to perform the same action.

3. Enter RAC Target database details, if applicable.

This step only applies if the target database is a RAC database. This step is skipped if the target database is a single instance database.

If the source Oracle E-Business Suite technology stack has the required patches applied for configuring customized names for listeners, then this page would

automatically render so that you provide names for the target database listeners in the required field "New Listener Name".

If the source Oracle E-Business Suite technology stack does not have the required patches, then Smart Clone will give default names to the listeners using the naming convention "LISTENER_<hostname>".

If the source Oracle E-Business Suite technology stack has the required patches applied for configuring the target database with "SCAN Listeners", then the "Custom SCAN Details" region is rendered with the "SCAN Name" and "SCAN Port" fields populated automatically. It is highly recommended not to change these values if it automatically populated. If for some reason the SCAN Name and SCAN Port fields are not populated (for example, if the cluster target instance discovered in Enterprise Manager has not populated these values yet as properties), then you must enter correct values into these fields.

Optionally, check the box "Use Custom SCAN Name and Port" if you want to get the target database configured with the SCAN listener. If you do not check the box "Use Custom SCAN Name and Port", then Smart Clone will clone the target database with virtual host names.

If the source Oracle E-Business Suite technology stack does not have the required patches, then the "Custom SCAN Details" region will not be rendered and the target database will be configured with virtual host names.

If the target instance is already configured with SCAN listeners, then by default the "Use Custom SCAN Name and Port" box will be checked.

DB Instance Name	Host Name	Virtual Host Name	Current Listener Name	New Listener Name	TNS admin directory
amprc1	rws3510791	rws3510791-v	LISTENER_rws3510791	LISTENER_amprc1	/d1/fcmora/r12/amprc1/db/11.2.0/network/admin/amprc1_rws3510791
amprc2	rws3510790	rws3510790-v	LISTENER_rws3510790	LISTENER_amprc2	/d1/fcmora/r12/amprc1/db/11.2.0/network/admin/amprc1_rws3510791

4. Enter source information in the Source/Target step.

The "Source System Nodes" region shows the details of the source Oracle E-Business Suite applications tier including:

- Number of nodes on which the applications tier is deployed

- Details of the services on the nodes

Smart Clone: Source/Target

* Indicates required field

Cancel Save For Later Back Step 3 of 8 Next

Source System Nodes

Name	Admin	CP	Forms	Web	View Details
multi11_rws3210137	✗	✗	✗	✓	
multi11_rws3210136	✗	✗	✓	✗	
multi11_rws3210312	✗	✓	✗	✗	
multi11_rws3210313	✓	✗	✗	✗	

Select Source Nodes for each Services

Admin	CP	Forms	Web
multi11_rws3210313	multi11_rws3210312	multi11_rws3210136	multi11_rws3210137

5. Enter target information on the Source/Target step.

Choose the type of target. For multi-node cloning, the options are:

- Multi-node target with a non-shared file system
- Multi-node target with a shared file system

Note that when the target has a shared file system that:

- The first node in the admin service list is considered the primary service.
- The Target location has "Override Defaults" selected as a provision to update the shared directory location for APPL_TOP, COMN_TOP, and so on.

If you choose either of the multi-node choices, a new set of options is shown:

Available Target System Nodes

Primary nodes are cloned from a source system node. Shared nodes share their file system with the primary nodes.

☐ Single-Node Target ☒ Multi-Node Target (Non-Shared File System) ☐ Multi-Node Target (Shared File System)

Select nodes for each service

Root Service enabled host(s) Web Entry Point Service enabled host(s) Web Application Service enabled host(s)

Batch Processing Service enabled host(s) Other Service enabled host(s)

Common Properties

Node for Source File System	Platform	Common Properties
ampmnt11_rws3210313	Linux	

TIP Target system node names are reset automatically based on input host and SID values.

6. Add a node to each service by clicking on the **Add** button for the service and choosing the node from the LOV.

Search and Select: Targets

Cancel

Select

Search

To find your item, enter a word in the text field then select the "Go" button. To see a list of all items, clear the search box and click the "Go" button

Search By

Target Name

Go

Results

Select	Name	Display Name
<input type="checkbox"/>	rws3210138.us.oracle.com	rws3210138.us.oracle.com
<input checked="" type="checkbox"/>	rws3210148.us.oracle.com	rws3210148.us.oracle.com
<input checked="" type="checkbox"/>	slc03jrx.us.oracle.com	slc03jrx.us.oracle.com

Cancel

Select

If you want to delete a node from a service, select the node to be deleted and click the **Delete** button.

- After you add the lists of nodes, you can navigate to the "Common Properties" page.

In this page you specify properties such as port data and the applications base directory location.

Common Properties for Non-Shared APPL_TOP

Locations

* Base Directory

/d1/fcmora/r12/multir12

Default

Override Defaults

Ports

Select the port pool number to populate the ports that you want to use on the target system.

The Database port of the target Database is 1576

Port Pool

19

Check Availability

Port Values

In most cases, the Active Web Port will be the same as the Web Port.

* Forms Port	9019	* Java AJP Port Range for the Forms Oracle Container	22190-22194
* Java AJP Port Range for the FORMS-C4WS Oracle Container	26190-26194	* Java AJP Port Range for the Home Oracle Container	22690-22694
* Java AJP Port Range for the OaCore Oracle Container	21690-21694	* Java AJP Port Range for the OAFM Oracle Container	25190-25194
* Java JMS Port Range for the Forms Oracle Container	23690-23694	* Java JMS Port Range for the FORMS-C4WS Oracle Container	26690-26694
* Java JMS Port Range for the Home Oracle Container	24190-24194	* Java JMS Port Range for the OaCore Oracle Container	23190-23194
* Java JMS Port Range for the OAFM Oracle Container	24690-24694	* Java Object Cache Port	12364
* Java RMI Port Range for the Forms Oracle Container	20690-20694	* Java RMI Port Range for the FORMS-C4WS Oracle Container	27690-27694
* Java RMI Port Range for the Home Oracle Container	71190-71194	* Java RMI Port Range for the OaCore Oracle Container	70190-70194

Common Properties for Shared APPL_TOP

Locations	
* Base Directory	/d1/cmorar12/ampmnt1
* COMMON_TOP directory	/d1/cmorar12/ampmnt1/apps/apps_st/comm
* Tools Oracle Home	/d1/cmorar12/ampmnt1/apps/tech_st/10.1.2
* Web Oracle Home	/d1/cmorar12/ampmnt1/apps/tech_st/10.1.3
* Instance Home	/d1/cmorar12/ampmnt1/inst
* APPL_TOP mount point	/d1/cmorar12/ampmnt1/apps/apps_st/appl

Ports	
Select the port pool number to populate the ports that you want to use on the target system.	
The Database port of the target Database is 1576	
Port Pool	15 <input type="button" value="Check Availability"/>

Port Values	
In most cases, the Active Web Port will be the same as the Web Port.	
* Forms Port	9015
* Java AJP Port Range for the FORMS-C4WS Oracle Container	26150-26154
* Java AJP Port Range for the OaCore Oracle Container	21650-21654
* Java JMS Port Range for the Forms Oracle Container	23650-23654
* Java JMS Port Range for the Home Oracle Container	24150-24154
* Java JMS Port Range for the OAFM Oracle Container	24650-24654
* Java RMI Port Range for the Forms Oracle Container	20650-20654
* Java RMI Port Range for the Home Oracle Container	21150-21154
* Java RMI Port Range for the OAFM Oracle Container	25650-25654
* Metrics Server Data Port	9115
* MSCA Dispatcher Port Number	10815
* Java AJP Port Range for the Forms Oracle Container	22150-22154
* Java AJP Port Range for the Home Oracle Container	22650-22654
* Java AJP Port Range for the OAFM Oracle Container	25150-25154
* Java JMS Port Range for the FORMS-C4WS Oracle Container	26650-26654
* Java JMS Port Range for the OaCore Oracle Container	23150-23154
* Java Object Cache Port	12360
* Java RMI Port Range for the FORMS-C4WS Oracle Container	27650-27654
* Java RMI Port Range for the OaCore Oracle Container	20150-20154
* JTF Fulfillment Server Port	9315
* Metrics Server Request Port	9215
* MSCA Server Port Number	10350-10350

When you click the **Check Availability** button, the port availability on all selected nodes will be checked. This verification is also done when you click **OK** for the page itself.

The port pool and individual port values are updated from the source instance.

If there is an invalid value in the port pool from the source instance: following error will be shown: "NOTE: Source Apps portpool context variable (s_port_pool) is invalid: <value>. Setting to default value '0'. Please update as needed!"

Click **Next** to proceed to the next step. After you click Next, the system checks to confirm all the services are enabled on the target node.

Note: Dependent services are automatically added to the nodes.

8. In the Copy Parameters step, choose options for how your copying will be done.

Smart Clone: Copy Parameters

Indicates required field

Stage And Copy Options: ☐ No Copy (Choose No Copy if your Source and Destination Stage directories are one and the same and on a disk which is shared by both Source and Target hosts) ☒ Copy (Choose Copy if your Source and Destination Stage directories are different (or) on different hosts)

Copy Options

☐ Shared (Use this option if your Destination directory is shared across source and destination hosts and is different from source stage)

☒ Remote File Transfer (Use this option if your Source and Destination Stage directories are on different hosts and are not accessible from the other host)

☐ Manual Copy (Use your customised software for faster copying/imaging with this option. Instructions on source and destination paths and files to be copied will be available in a manual step)

Source Stage

Name	Host	Stage Path
irac_rws3210136	rws3210136	/d1/cmora/stages/RAC11gR2

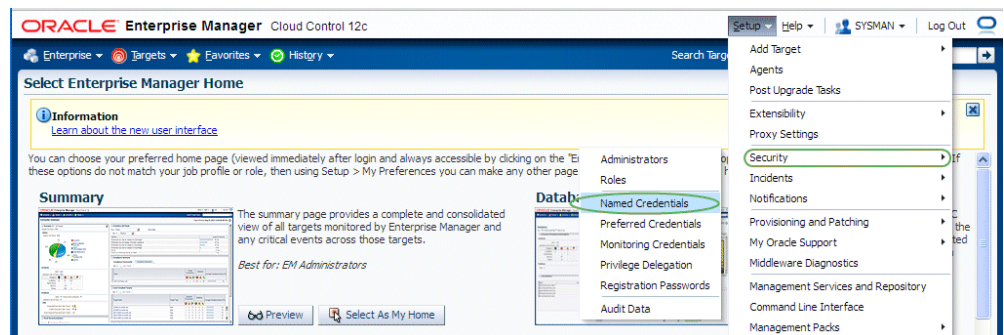
Target Stage

Name	Host	Stage Path
amprc1_rws3210136	rws3210136	/d1/cmora/stages/RAC11gR2

9. Enter Credentials.

Smart Clone uses Named Credentials. You can select and test the named credentials on this page.

Named credentials can be created by navigating to the Setup menu, then Security > Named Credentials, and clicking **Create**.



Smart Clone requires the following credentials to be created:

- Application Node OS Credentials and Database Node OS Credentials.
 - Authentication Target Type - Host
 - Credential Type - Host Credentials
- Database Schema Credentials

Please refer to the section Creating Named Credentials for Oracle E-Business Suite, page 5-1 for information on creating the Oracle E-Business Suite Database Credentials.

Note: Database schema credentials appear only when the source applications system is on Release 11*i* and using a non-shared file system.

The screenshot shows the Oracle Enterprise Manager interface for creating a new credential. The page is titled "Security" and "Named Credentials > Create Credential". It features three main sections: "General Properties", "Credential Properties", and "Access control".

General Properties:

- * Credential name: APPS_SCHEMA_GLOBAL
- Credential description: (empty)
- * Authenticating Target Type: Oracle E-Business Suite
- * Credential type: Apps Schema Credentials
- Scope: ☒ Target ☐ Global
- * Target type: Oracle E-Business Suite
- * Target Name: multi11-Oracle E-Business Suite

Credential Properties:

- * Apps Schema Username: apps
- * Apps Schema Password: (masked with dots)
- * Confirm Apps Schema Password: (masked with dots)

Access control:

Buttons: View, Add Grant, Revoke Grant, Change Privilege

Grantee	Privilege
No data to display	

The Credentials page for a Smart Clone procedure where the source applications system is multi-node and the target database is non-RAC is shown below. This page allows you to enter and test all required credentials.

Oracle Enterprise Manager Cloud Control 12c

Enterprise Targets Favorites History Search Target Name

General RAC Target DB details Source/Target Copy Parameters **Credentials** Custom Properties More

Smart Clone: Credentials

* Indicates required field

Cancel Save For Later Back Step 5 of 8 Next

Source System

Application Node OS Credentials

Name	Target Name	Target Type		Test
mult11_rws3210137	rws3210137.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test
mult11_rws3210136	rws3210136.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test
mult11_rws3210312	rws3210312.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test
mult11_rws3210313	rws3210313.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test

Database Schema Credentials

Name	Target Name	Target Type		Test
mult11_rws3210313	rws3210313.us.oracle.com	host	APPS_SCHEMA_GLOBAL (SYSMAN)	Test

Target System

Database Node OS Credentials

Name	Target Name	Target Type		Test
tgt11l_rws3210136	rws3210136.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test

Application Node OS Credentials

Name	Target Name	Target Type		Test
tgt11l_rws3210137	rws3210137.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test

Cancel Save For Later Back Step 5 of 8 Next

The Credentials page for a Smart Clone procedure where the source applications system is single node and the target database is RAC is shown below. This page allows you to enter and test the required credentials.

Oracle Enterprise Manager Cloud Control 12c

Enterprise Targets Favorites History Search Target Name

General RAC Target DB details Source/Target Copy Parameters **Credentials** Custom Properties More

Smart Clone: Credentials

* Indicates required field

Cancel Save For Later Back Step 5 of 8 Next

Source System

Application Node OS Credentials

Name	Target Name	Target Type		Test
irac_rws3210136	rws3210136.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test

Database Schema Credentials

Name	Target Name	Target Type		Test
amprc1_rws3510791	rws3510791.us.oracle.com	host	ORALCMQA (SYSMAN)	Test
amprc2_rws3510790	rws3510790.us.oracle.com	host	ORALCMQA (SYSMAN)	Test

Application Node OS Credentials

Name	Target Name	Target Type		Test
amprc1_rws3210136	rws3210136.us.oracle.com	host	LCMORA_GLOBAL (SYSMAN)	Test

Cancel Save For Later Back Step 5 of 8 Next

[Privacy Statement](#)

10. Enter values for custom parameters.

You can create directive steps to be integrated into a deployment procedure. For more information on deployment procedures, see the *Oracle Enterprise Manager Cloud Control Administrator's Guide*. For a description on how to create a directive step and insert it into a procedure created using the "Create Like" feature and a shipped Smart Clone procedure, see: Adding Custom Steps to a Smart Clone

Deployment Procedure, page 11-38.

The screenshot shows the 'Smart Clone: Custom Properties' page in Oracle Enterprise Manager Cloud Control 12c. The page is part of a multi-step wizard with steps: Previous, Credentials, Custom Properties (current), Schedule, and Review. The 'Custom Properties' section includes a table for 'All Custom Parameters' with columns 'Focus', 'Step/Parameter Name', and 'Parameter Value'. The table shows a 'Custom Step' with 'Parameter 2' having a value of 'rws3210312'. Navigation buttons at the bottom include 'Cancel', 'Save For Later', 'Back', 'Step 6 of 8', and 'Next'. A 'Privacy Statement' link is also present.

Focus	Step/Parameter Name	Parameter Value
	All Custom Parameters	
X	Custom Step	
	Parameter 2	rws3210312

11. Schedule the deployment.

The screenshot shows the 'Smart Clone: Schedule' page in Oracle Enterprise Manager Cloud Control 12c. The page is part of a multi-step wizard with steps: Previous, Credentials, Custom Properties, Schedule (current), and Review. The 'Schedule' section includes radio buttons for 'Immediately' (selected) and 'Later'. Navigation buttons at the bottom include 'Cancel', 'Save For Later', 'Back', 'Step 7 of 8', and 'Next'. A 'Privacy Statement' link is also present.

12. Review your Smart Clone deployment procedure and click **Finish**.

Oracle Enterprise Manager Cloud Control 12c

Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Previous Credentials Custom Properties Schedule **Review**

Smart Clone: Review

* Indicates required field
Please review the cloning details below.

Cancel Save For Later Back Step 8 of 6 **Finish**

General

Target Database Details
Source Applications System: **irac-Oracle E-Business Suite**
Select Target Database: **amprac**
Apps Schema Username: **apps**
Clone: **appstier**

Application

Source System Nodes

Name	Admin	CP	Forms	Web	View Details
irac_rws3210136	✓	✓	✓	✓	

Target OS User Details
Apps OS User: **lcmora**
Apps OS Group: **dba**

Available Target System Nodes
Primary nodes are cloned from a source system node. Shared nodes share their file system with the primary nodes.

Name	Source Host	Target Host	Platform	View Details
amprc1_rws3210136	irac_rws3210136	rws3210136.us.oracle.com	Linux	

✓ **TIP** Target system node names are reset automatically based on input host and SID values.

Copy Parameters

Stage And Copy Options
☐ No Copy
 Choose No Copy if your Source and Destination Stage directories are one and the same and on a disk which is shared by both Source and Target hosts
☒ Copy
 Choose Copy if your Source and Destination Stage directories are different (or) on different hosts

Copy Options
☐ Shared ☒ Remote File Transfer ☐ Manual Copy

Source Stage

Name	Host	Stage Path
irac_rws3210136	rws3210136	/d1/lcmora/stages/RAC11gR2

Target Stage

Name	Host	Stage Path

What's Next

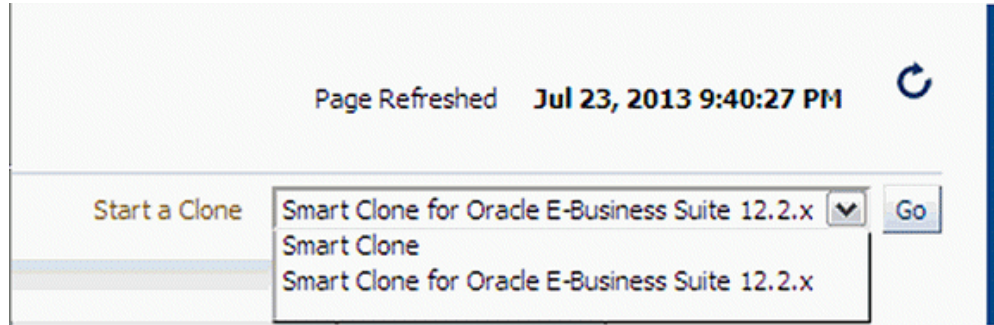
When a multi-node to multi-node applications tier cloning procedure is submitted, then, irrespective of whether it is a "scale-up" or "scale-down" procedure, the admin node is configured first with the given services enabled. Then each node will be configured one after the other, depending on the node details specified in the cloning interview.

After all the nodes are configured, the URLs used in accessing Oracle E-Business Suite are redirected to the node on which AutoConfig was last run. Therefore, after all nodes are configured, you should run AutoConfig again on the node in which the web service is enabled.

Note: For more information, see My Oracle Support Knowledge Document 1349509.1, "All the URLs Accessing Oracle E-Business Suite Are Getting Redirected to the Web Node Where AutoConfig Last Ran."

Running Smart Clone for Oracle E-Business Suite Release 12.2

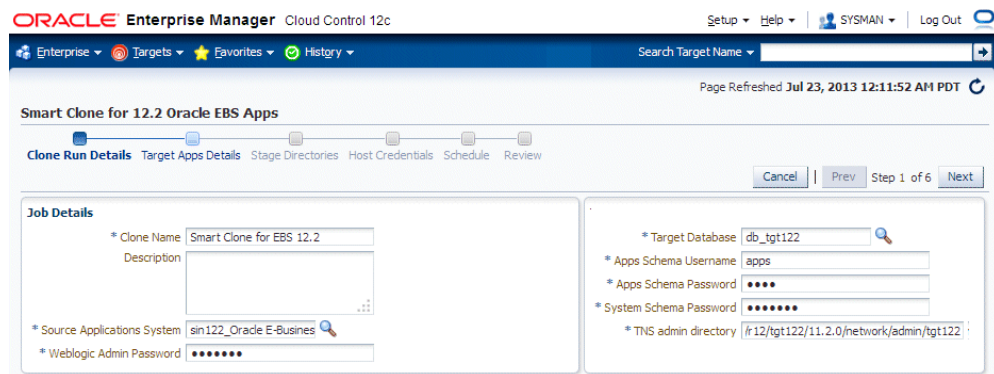
1. Navigate to the Cloning home page by selecting Targets > Oracle E-Business Suite > Administer > Cloning. Select "Smart Clone for Oracle E-Business Suite 12.2.x" and click Go.



2. Enter basic information for your cloning procedure, including Clone Name, Description, and target and source information.

Also enter the source WebLogic Admin Password and the target database APPS credentials.

In the case of single-node target database cloning, you will be prompted the TNS_ADMIN of target database.



If the target database is a RAC database, a new region of prompts appears to capture RAC-specific information, as shown below.

Oracle Enterprise Manager Cloud Control 12c

Setup Help SYSMAN Log Out

Enterprise Targets Favorites History

Search Target Name

Page Refreshed Aug 12, 2013 8:35:48 PM PDT

Smart Clone for 12.2 Oracle EBS Apps

Clone Run Details Target Apps Details Stage Directories Host Credentials Schedule Review

Cancel Prev Step 1 of 6 Next

Job Details

* Clone Name

Description

* Source Applications System

* Weblogic Admin Password

Target Database Details

* Target Database tgt_gerac

* Apps Schema Username

* Apps Schema Password

* System Schema Password

RAC DB Details

DB Global Name: gerac

RAC Target DB Node Specific Details

DB Instance Name	Host Name	Virtual Host Name	Current Listener Name	New Listener Name	TNS Admin Directory
gerac1_rws3210137_rws3210137					
gerac2_rws3210136_rws3210136					

RAC Target DB Custom SCAN Details

* Does the Target DB already has SCAN Configured? Yes

* Enable SCAN Configuration in the Target DB? Yes

* SCAN Name rws3210136-r

* SCAN Port 1521

* Local Database Port

For the RAC Target DB Node Specific Details:

- Virtual Host Name - The virtual host name. Note that the domain name must NOT be appended.
- Current Listener Name- The value with which the database instance can be connected.
- New Listener Name - If you want to change the existing listener name, enter the new name here. If you want to retain the existing listener name, then enter the current listener name in this field.
- TNS Admin Directory - The TNS_ADMIN value with which the database instance can be connected.

For the RAC Target DB Custom SCAN Details section: If the target database is already SCAN-configured, then select "Yes" for "Does the Target DB already has SCAN Configured" In this case, enter the Local Database port. Also in this case, "Enable SCAN Configuration in the Target DB" will automatically become "Yes".

If you wish to configure SCAN on the target database, then select "Yes" for "Enable SCAN Configuration in the Target DB". You will then be prompted for the SCAN name and port.

The SCAN name and SCAN port will be populated from the cluster target.

3. Enter target application details.

Select the host on which the target applications system is intended to be cloned and the base directory. Once the base directory is provided, other directories details are automatically populated. Please note that these auto-populated values are read-only.

You can choose the port pool for run file system and patch file system. You can validate the ports individually for the run file system and the patch file system. In case of port unavailability, an error will list the invalid port information.

ORACLE Enterprise Manager Cloud Control 12c

Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Page Refreshed Jul 23, 2013 12:11:52 AM PDT

Smart Clone for 12.2 Oracle EBS Apps

Clone Run Details **Target Apps Details** Stage Directories Host Credentials Schedule Review

Cancel Prev Step 2 of 6 Next

Target Apps Details

Platform: Linux

* Select Source Node: sin122_rws3210313

* Target Application Host: rws3210312.us.oracle.c

* Target System Base Directory: /d1/cmora/r12/tgt122

Instance Home: /d1/cmora/r12/tgt122

Run System Details

Run File System Base: /d1/cmora/r12/tgt122/fs2

App Top: /d1/cmora/r12/tgt122/fs2/EBSapps/appl

COMMON TOP: /d1/cmora/r12/tgt122/fs2/EBSapps/comm

Fusion Middleware Home: /d1/cmora/r12/tgt122/fs2/FMW_Home

Web Oracle Home: /d1/cmora/r12/tgt122/fs2/FMW_Home/webtier

* Run File System Portpool: 8 Validate

Patch System Details

Patch File System Base: /d1/cmora/r12/tgt122/fs1

App Top: /d1/cmora/r12/tgt122/fs1/EBSapps/appl

COMMON TOP: /d1/cmora/r12/tgt122/fs1/EBSapps/comm

Fusion Middleware Home: /d1/cmora/r12/tgt122/fs1/FMW_Home

Web Oracle Home: /d1/cmora/r12/tgt122/fs1/FMW_Home/webtier

* Patch File System Portpool: 30 Validate

4. In the Stage Directories step, enter stage location information.

ORACLE Enterprise Manager Cloud Control 12c

Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Page Refreshed Jul 23, 2013 12:11:52 AM PDT

Smart Clone for 12.2 Oracle EBS Apps

Clone Run Details Target Apps Details **Stage Directories** Host Credentials Schedule Review

Cancel Prev Step 3 of 6 Next

Copy Options

☐ No Copy

☒ Copy

Choose Copy Method:

☐ Shared

☒ Remote File Transfer

☐ Manual Copy

Stage Directories

Source Stage:

Name	Host	Stage Path
sin122_rws3210313	rws3210313	/d1/cmora/dnStage/src

Target Stage:

Name	Host	Stage Path
tgt122_rws3210312	rws3210312	/d1/cmora/dnStage/tgt

The source stage location is where the source application file system is staged. The target stage is the location where the staged application files are copied.

Note: Ensure that these directories have write permissions.

Specify your copy options:

No Copy - Select this if the source and target applications file systems are in the same host. This is applicable to Single-Node to Single-Node applications cloning. Make sure both source and target stage locations are same.

If you choose Copy, select the Copy Method:

- Shared File Copy Option - Choose this option if the stage location is shared across the source and target.

Note: Because of a known limitation in Smart Clone for Release 12.2.x, please do not use the 'Shared File Copy' option currently. Instead use 'No Copy' method as they are functionally same.

- Remote File Transfer Option - Choose this if the source and target applications file systems are in different hosts.
- Manual Copy Option - If this option is chosen, you will have to manually copy the source file system to target file system. The clone procedure will be halted and will wait for user confirmation.

5. Provide Host Credential Details in the next page.

ORACLE Enterprise Manager Cloud Control 12c

Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Page Refreshed Jul 23, 2013 12:11:52 AM PDT

Smart Clone for 12.2 Oracle EBS Apps

Clone Run Details Target Apps Details Stage Directories **Host Credentials** Schedule Review

Cancel Prev Step 4 of 6 Next

Source Apps Node OS Credentials

Name	Target Name	Target Type	Named Credential	Test
pin122_rws3210313	rws3210313.us.oracle.host	rws3210313.us.oracle.host	LCMORA_GLOBAL(SYSMAN)	Test

Target Database Node OS Credentials

Name	Target Name	Target Type	Credential	Test
rws3210312_tgt122	rws3210312.us.oracle.host	rws3210312.us.oracle.host	LCMORA_GLOBAL(SYSMAN)	Test

Target Apps Node OS Credentials

Name	Target Name	Target Type	Credential	Test
tgt122_rws3210312	rws3210312.us.oracle.host	rws3210312.us.oracle.host	LCMORA_GLOBAL(SYSMAN)	Test

You can validate a credential using the **Test** button.

In the case of a RAC database, all the target database node information must be entered.

ORACLE Enterprise Manager Cloud Control 12c

Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Page Refreshed Jul 23, 2013 12:12:28 AM PDT

Smart Clone for 12.2 Oracle EBS Apps

Clone Run Details Target Apps Details Stage Directories **Host Credentials** Schedule Review

Cancel Prev Step 4 of 6 Next

Source Apps Node OS Credentials

Name	Target Name	Target Type	Named Credential	Test
sin122_rws3210313	rws3210313.us.oraclehost		LCMORA_GLOBAL(SYSMAN)	Test

Target Database Node OS Credentials

Name	Target Name	Target Type	Credential	Test
rws3210136_gerac2	rws3210136.us.oraclehost		LCMORA_GLOBAL(SYSMAN)	Test
rws3210137_gerac1	rws3210137.us.oraclehost		LCMORA_GLOBAL(SYSMAN)	Test

Target Apps Node OS Credentials

Name	Target Name	Target Type	Credential	Test
gerac2_rws3210312	rws3210312.us.oraclehost		LCMORA_GLOBAL(SYSMAN)	Test

6. Enter the Schedule information.

ORACLE Enterprise Manager Cloud Control 12c

Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Page Refreshed Jul 23, 2013 12:12:28 AM PDT

Smart Clone for 12.2 Oracle EBS Apps

Clone Run Details Target Apps Details Stage Directories Host Credentials **Schedule** Review

Cancel Prev Step 5 of 6 Next

Schedule

Specify when you would like the clone to run. You can create the clone now or schedule a future date and time.

☐ Immediate

☒ Later

Choose Date

Date: 7/24/2013

Time (hh mm): 00 00

July 2013

SUN	MON	TUE	WED	THU	FRI	SAT
30	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	1	2	3

You can select "Immediate" to submit the Smart Clone run immediately, or you can schedule the Smart Clone run for a future date.

7. Review the information you have entered.

ORACLE Enterprise Manager Cloud Control 12c Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Page Refreshed Jul 23, 2013 12:11:52 AM PDT

Smart Clone for 12.2 Oracle EBS Apps

Clone Run Details Target Apps Details Stage Directories Host Credentials Schedule Review

Cancel Prev Step 6 of 6 Finish

Clone Run Details

Clone Name: Smart Clone for EBS 12.2
 Description:
 Source Applications System: sin122_Oracle E-Business Suite
 Target Database: db_tgt122
 Apps Schema Username: apps
 TNS admin directory: /d1/fcmora/r 12/tgt122/11.2.0/network/admin/tgt122_rws3210312
 Target DB RAC: ☐

Target Apps Details

Platform: Linux
 Select Source Node: sin122_rws3210313
 Target Application Host: rws3210312.us.oracle.com
 Target System Base Directory: /d1/fcmora/r 12/tgt122
 Run File System Base: /d1/fcmora/r 12/tgt122/fs2
 Run File System Portpool: 8
 Patch File System Base: /d1/fcmora/r 12/tgt122/fs1
 Patch File System Portpool: 30

Stage Directory Details

Use Smart Clone Copy: ☒
 Copy Method: Remote File Transfer

Node Name	Host Name	Stage Directory
sin122_rws3210313	rws3210313	/d1/fcmora/cdnStage/src
Node Name	Host Name	Stage Directory
tgt122_rws3210312	rws3210312	/d1/fcmora/cdnStage/tgt

Credential Details

Node Name	Target Name	Target Type	Credential
sin122_rws3210313	rws3210313.us.oracle.host	LCMORA_GLOBAL(SYSMAN)	
Node Name	Target Name	Target Type	Credential
rws3210312_tgt122	rws3210312.us.oracle.host	LCMORA_GLOBAL(SYSMAN)	
Node Name	Target Name	Target Type	Credential
tgt122_rws3210312	rws3210312.us.oracle.host	LCMORA_GLOBAL(SYSMAN)	

In the case of a RAC target database, specific information pertaining to RAC is also displayed.

ORACLE Enterprise Manager Cloud Control 12c Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Page Refreshed Jul 23, 2013 12:12:28 AM PDT

Smart Clone for 12.2 Oracle EBS Apps

Clone Run Details Target Apps Details Stage Directories Host Credentials Schedule Review

Cancel Prev Step 6 of 6 Finish

Clone Run Details

Clone Name: Smart Clone for EBS 12.2_RAC
 Description:
 Source Applications System: sin122_Oracle E-Business Suite
 Target Database: rac1223_ge
 Apps Schema Username: apps
 Target DB RAC: ☒

RAC DB Details

dbInstance	Host Name	Virtual Host	current.snrName	new.snrName	TNS Admin Directory
gerac1_rws3210137	rws3210137	rws3210137-v	LISTENER_rws3210137	LISTENER_rws3210137	/d1/fcmora/r 12/gerac/db/tech_st/11.2.0.3_rac/network/admin/amp_gerac1
gerac2_rws3210136	rws3210136	rws3210136-v	LISTENER_rws3210136	LISTENER_rws3210136	/d1/fcmora/r 12/gerac/db/tech_st/11.2.0.3_rac/network/admin/amp_gerac2

RAC Target DB Custom SCAN Details

scanAlreadyEnabled: ☐
 useCustomScan: ☒
 scanName: rws3210136-r
 scanPort: 1521

Note on manual steps if the source is a multi-node application tier instance:

In the Smart Clone Deployment Procedure for Release 12.2.x , if the source is multi-node application tier instance, then there will be manual steps involved. The

figure below illustrates these steps.

▽ <u>Configure Target Application System</u>	Rolling	
<u>Copy Apps Tier Configuration script to Agent</u>	Job	Copy Apps Tier Configuration script to Agent
<u>Copy Start Apps Tier services script to Agent</u>	Job	Copy Start Apps Tier services script to Agent
<u>Copy Apps Tier PreClone script to Agent specific to Run FS</u>	Job	Copy Apps Tier PreClone script to Agent specific to Run FS
<u>Generate Context Files for Target System Nodes</u>	Job	Generate Context Files for Target System Nodes
<u>Remove Target App Entries from inventory (if present)</u>	Job	Remove Target App Entries from inventory (if present)
<u>Configure Target Applications Tier</u>	Job	Configure Target Applications Tier
<u>Start Application Nodes</u>	Job	Start Application Nodes
<u>Manually remove the extra entries in the weblogic console</u>	Manual	
<u>Stage apps node (Primary)</u>	Job	Stages the primary apps node with merge option
<u>Move the Run FS stage clone directory to Patch FS</u>	Job	Move the Run FS stage clone directory to Patch FS
<u>Execute Apps Configuration on Run FS</u>	Job	Execute Apps Configuration on Run FS
▽ <u>Execute DB Configuration on Target Database</u>	Rolling	
<u>Execute AD configuration scripts</u>	Job	Execute AD configuration scripts
▽ <u>Update iFile entry in sqlnet.ora for enabling connectivity</u>	Parallel	
<u>Manually update iFile entry in sqlnet.ora for enabling connectivity</u>	Manual	
▽ <u>Register the Target Applications System.</u>	Parallel	
<u>Register the Target Applications System.</u>	Job	Register the Target Applications System.

1. In the first manual step, a manual step is needed after the RUN File system is configured and started. You must manually login to WebLogic console of the RUN file system and remove the redundant source node entries as described in the manual step information.

Instructions

Login to Run FS WebLogic Console and follow below steps:
1. Click on Lock and Edit
2. Click on Environment -> Servers
3. Select extra servers
4. Click on Delete
5. Click on Environment -> Machines
6. Select extra server(s)
7. Click on Delete
8. Click on Activate Changes

Then you must confirm your changes in the EM Console.

2. As AutoConfig on the database tier will update the sqlnet.ora file; there will be a manual step just before the target Oracle E-Business Suite discovery step for updating iFile to enable the OMS host(s) to connect to the target Oracle E-Business Suite database.

Adding Custom Steps to a Smart Clone Deployment Procedure

This section describes creating custom steps and adding them to a Smart Clone deployment procedure. For more information generic information on how to create a

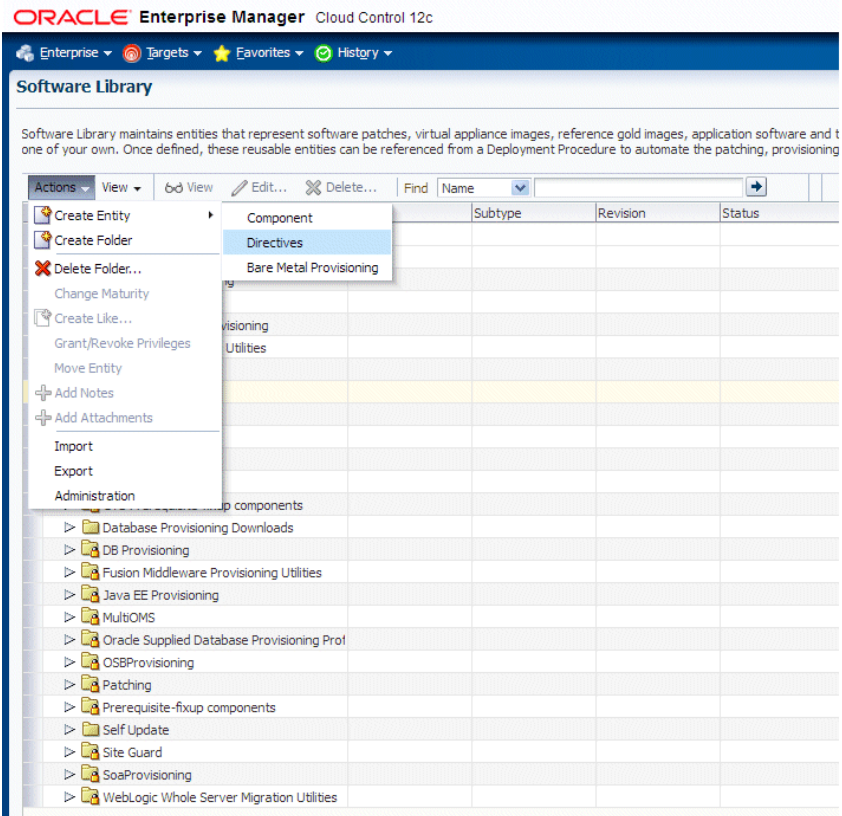
directive step and add it to a copy of an out-of-the-box deployment procedure, refer to the *Oracle Enterprise Manager Cloud Control Administrator's Guide*.

Create a directive step:


1. From the Enterprise menu, select Provisioning and Patching, then select Software Library.



2. Create a new directive. From the Actions menu, select Create Entity, then select Directives.



3. Specify a name and other attributes for the directive.

ORACLE Enterprise Manager Cloud Control 12c Help 

Software Library

[Describe](#) [Configure](#) [Select Files](#) [Review](#)

Create Directives : Describe [Back](#) [Step 1 of 4](#) [Next](#) [Save](#) [Cancel](#)

[Parent Directory](#) [Directives](#)

Specify name, description and other attributes that describe the entity. These attributes are shared by all revisions of this entity. Additionally, attach any documents and keep notes.

* Name

Description

Other Attributes

Name	Value
PRODUCT_VERSION	<input type="text"/>
PRODUCT	<input type="text"/>
VENDOR	<input type="text"/>

Attachments


[+ Add](#) [✕ Remove](#)

File Name	Size(KB)	Mime Type
No attachment has been added yet.		

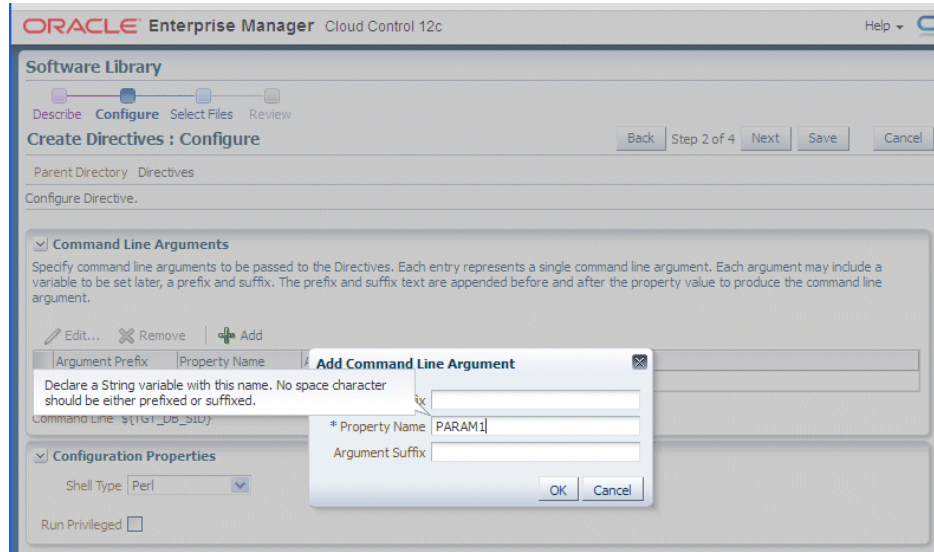
Notes

New Note [+ Add](#)

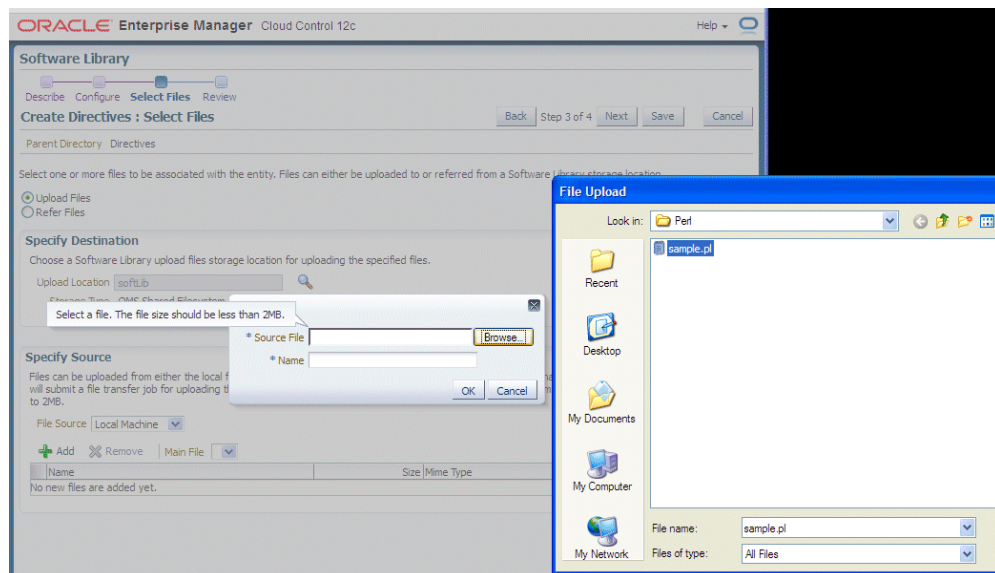
Note	Added By	Date
No note has been added yet.		

 **TIP** Notes once added cannot be deleted or edited.

4. Add parameters for the directive.



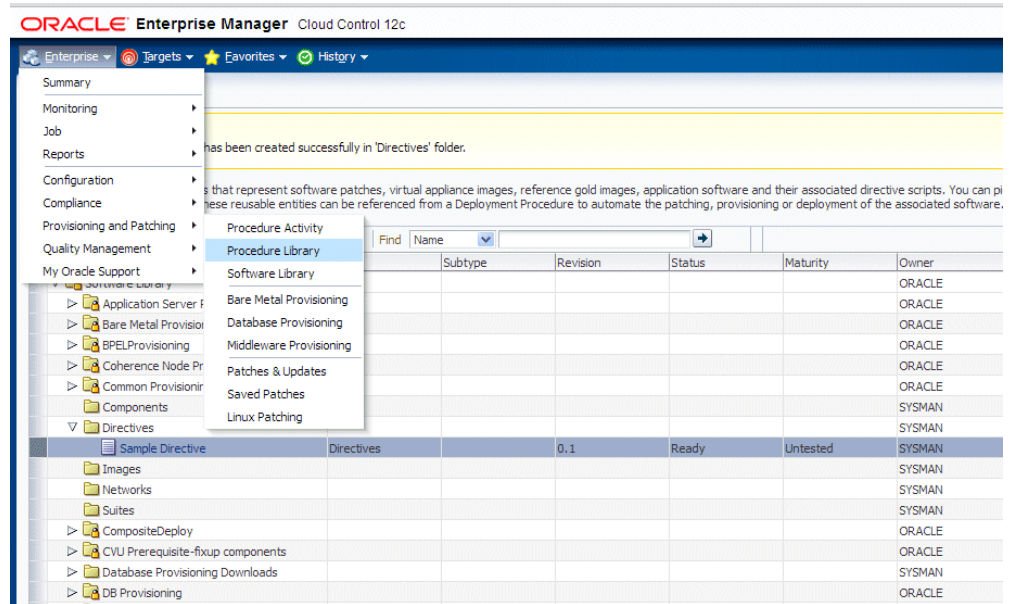
5. Select the "Software Library" location and the script to be executed. In the example below, a Perl script is used.



6. Click **Next** and **Save and Upload**.

Create a copy of the out-of-box Smart Clone deployment procedure:

1. From the Enterprise menu, select Provisioning and Patching, then select Procedure Library.



2. Select "Smart Clone" and click "Create Like".
3. Enter a name and other general information.

ORACLE Enterprise Manager Cloud Control 12c

Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Provisioning

Procedure Library > Create Like Procedure

Create Like Procedure

Cancel Save Save and close

General Information Procedure Variables Procedure Steps

Name Custom Smart Clone DP

Description Clone Oracle Applications: Flexible Source to Target Clone

Environment Variables

Enter environment variables for component and directive step types in Perl format (6000 characters or less). Example: If you want to set my_var to value 'ABC', then the following line should be added above: \$ENV["my_var"] = "ABC";

Procedure Utilities Staging Path %emd_emstagedir%

Enter the target's complete path to place binaries when running this procedure (e.g., /tmp/oracle).

Cancel Save Save and close

4. On the Procedure Steps tab, select the step before, inside, or after which you want to add the custom step, and click **Insert**.

ORACLE Enterprise Manager Cloud Control 12c

Enterprise Targets Favorites History Search Target Name

Provisioning

Procedure Library > Create Like Procedure

Create Like Procedure

Cancel Save Save and close

General Information Procedure Variables Procedure Steps

Enable Disable Delete **Insert** Edit Step

Select All Select None Expand All Collapse All

Select	Name	Type	Description	Error Handling Mode	Credentials Used
<input type="checkbox"/>	▽ Custom Smart Clone DP		Clone Oracle Applications: Flexible Source to Target Clone	Stop On Error	
<input type="checkbox"/>	▽ Pre-Check validity of Target Database	Parallel		Inherit (Stop On Error)	
<input type="checkbox"/>	Checks the status in Enterprise Manager	Job	Checks the status of Target Database in Enterprise Manager	Inherit (Stop On Error)	os_creds
<input type="checkbox"/>	Checking the Connectivity to Target Database	Job	Checking the existence of tnsname.ora, listener.ora, connecting to Target Database using apps credentials with sid, Service Name and connecting as sysdba	Inherit (Stop On Error)	os_creds
<input type="checkbox"/>	Check and Reterive the Remote and Local listeners	Job	Check and Retrieve the Remote and Local listeners information	Inherit (Stop On Error)	os_creds
<input type="checkbox"/>	Instantiate new listener and tnsnames information	Job	Instantiate new listener.ora and tnsnames.ora file entries	Inherit (Stop On Error)	os_creds
<input type="checkbox"/>	Stop Target Database	Job	Stop Target Database	Inherit (Stop On Error)	os_creds
<input type="checkbox"/>	Stop Target Database Listener	Job	Stop Target Database Listener	Inherit (Stop On Error)	os_creds
<input checked="" type="checkbox"/>	▽ Start Configuring Target Database	Rolling		Inherit (Stop On Error)	
<input type="checkbox"/>	Start the Listeners	Job	Start the Listeners	Inherit (Stop On Error)	os_creds
<input type="checkbox"/>	Start the Target Database	Job	Start the Target Database	Inherit (Stop On Error)	os_creds
<input type="checkbox"/>	Check the Status of	Job	Check the status of the instantiated listeners	Inherit (Stop On Error)	os_creds

Waiting for rws3210143.us.oracle.com...

5. Give the new step a name and enter additional information for the step.

ORACLE Enterprise Manager Cloud Control 12c

Create Select Directive Map Properties Review

Create

Specify the general information of the new step or phase.

Cancel Step 1 of 4 Next

Select Step

* Name Custom Step

Description

Condition

Insert Location Inside of "Start Configuring Target Database"

This new step will be the first step in the selected step.

Type Library: Directive

Error Handling Inherit (Stop On Error)

Cancel Step 1 of 4 Next

- Search for the directive and click **Next**.

ORACLE Enterprise Manager Cloud Control 12c

Create Select Directive Map Properties Review

Create Directive Step: Select Directive

Cancel Back Step 2 of 4 Next

Select a directive. Directives can be created in the Directives page in the Provisioning subtab, under Deployments.

Select Directive

Component Name Sample Revision All Versions

File name Maturity --Any--

Status --Any-- Author

Product Name

Go

Select	Component Name	Type	Revision	Status	Maturity	Product Name	Product Version	Description
<input checked="" type="radio"/>	Directives/Sample Directive	Directives	0.1	Ready	Untested			

Always Use Latest Revision ☐

By checking this, the latest revision of the selected directive will be used. Latest revision will be calculated at the time when this step is run. Please make sure that the latest revision is currently selected in the table when checking this.

Cancel Back Step 2 of 4 Next

- Map the parameters as required in the Map Properties step.

In our example, a text box will be provisioned in the Smart Clone procedure interview to provide the value for "Parameter 2".

Note: The option 'Ask User during Procedure Interview' is NOT

supported in Smart Clone for Release 12.2.x.

ORACLE Enterprise Manager Cloud Control 12c

Create Select Directive **Map Properties** Review

Create Directive Step: Map Properties

Specify the values for the component and/or directive properties. You can also change the run privilege accordingly.

Directive Run Mode

Run Directive ☒
Uncheck this checkbox to skip running the script.

Perform Cleanup ☒
Uncheck this checkbox to skip cleaning up the files after step is run.

Directive Properties

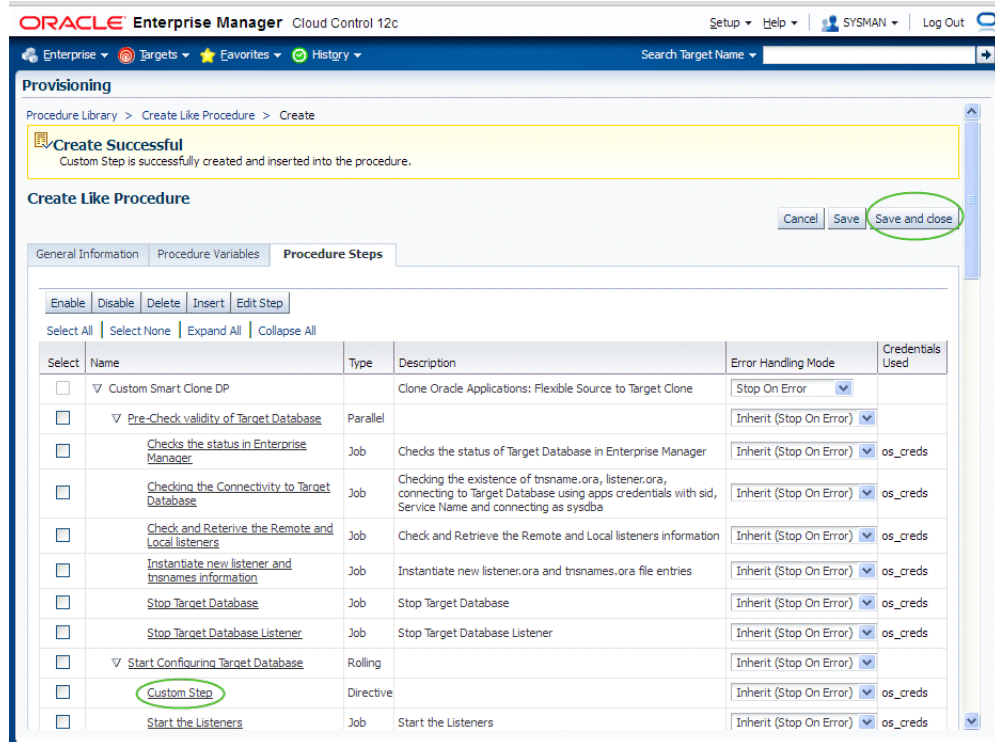
Parameter	Description	Choose Variable	Procedure Variable
PARAM1	Parameter 1	Description of 1st param	Choose Variable
PARAM2	Parameter 2	Description of 2nd param	Ask User during Procedure Interview

Credentials

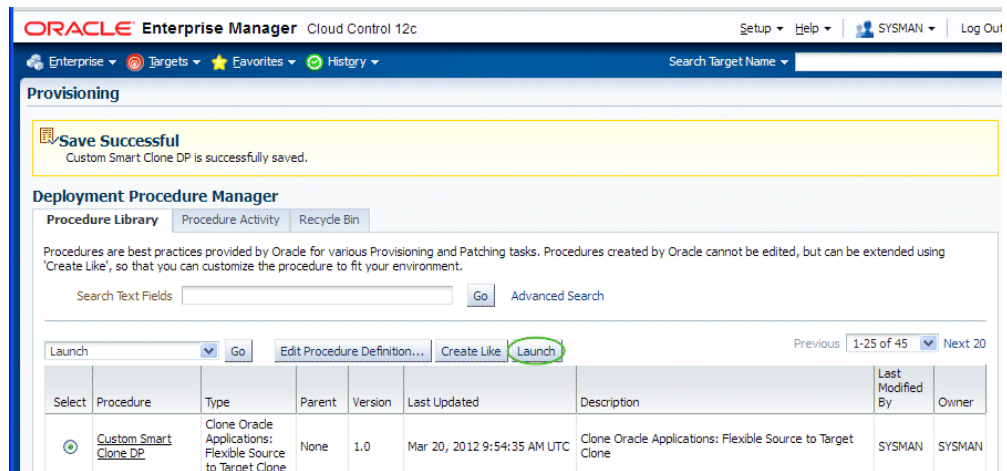
Credential Usage: os_creds
Credential Usage in the Target List to be applied for this Step.

Cancel Back Step 3 of 4 Next

8. Save the custom step and then save the procedure.



9. You can now submit the newly-created deployment procedure.



Introduction to Change Management

Introduction

Change Management for Oracle E-Business Suite (formerly delivered in the product "Oracle Application Change Management Pack for Oracle E-Business Suite" and abbreviated as "ACP" or "ACMP") provides a centralized view to monitor and orchestrate changes (both functional and technical) across multiple Oracle E-Business Suite systems. Change Management offers the capabilities to manage changes introduced by customizations, patches and functional setups during implementation or maintenance activities.

Change Management for Oracle E-Business Suite consists of two main components:

- Patch Manager allows you to deploy patches across Oracle E-Business Suite instances from a single console. Patch Manager integrates with My Oracle Support and can automatically download and deploy patches across multiple (single or multi-node) Oracle E-Business Suite instances. Both Oracle E-Business Suite patches and patchsets, as well as patches created with Customization Manager, are supported.
- Customization Manager automates the process of packaging, releasing, deploying, and migrating customizations for a single Oracle E-Business Suite instance or multiple Oracle E-Business Suite instances. It provides capabilities to integrate with third-party source control repositories to access customizations that need to be packaged. Before packaging the updates, Customization Manager validates the customization against software coding best practices. These custom packages can then be patched to Oracle E-Business Suite instances like any other Oracle Patch either using the Oracle Applications DBA (AD) utilities or using Patch Manager.

These components can be accessed from the central Change Management page, or dashboard, available from Targets > Oracle E-Business Suite > Administer > Change Management.

Major Benefits

- Simplifies the mechanism of orchestrating changes across multiple Oracle E-Business Suite systems.
- Improves user productivity by automating the deployment of changes.
- Reduces human errors by providing a standards-based change deployment framework.
- Provides notifications to specified users of updates to the Oracle E-Business Suite systems.

Change Management thus helps to lower the total cost of ownership by providing these benefits from the central Oracle Enterprise Manager console which allows you to manage the entire application environment.

Change Management Dashboard

The Change Management Dashboard gives you quick access to commonly-used functions, as well as summaries of recent activity.

The Change Approval Requests region is available to users with the required roles. This Change Approval section shows the summary of recent change approval requests that have been updated. You can also search for a specific change approval request or navigate to the complete list by clicking the "Home" link.

For Patch Manager, recent patching activity is listed. The summary lists patch runs that have completed, that are in progress, or that are scheduled. You can click on the patch names to drill down to more information. You can also search for patches, go to the Patch Dashboard, or start/schedule a new patch application.

For Customization Manager, the most recently updated packages, for both Release 11i and Release 12, are shown. Recent activity regarding packages including their statuses is also shown. You can click on the package names to drill down for more information. You can search for packages, create new packages, set up your File Source and Oracle E-Business Suite mappings, or access reports. Also, you can manage custom applications and track requests pertaining to custom application registration/validation on one or more instances.

Change Approval Framework and Change Management Privileges

The Change Approval Framework helps ensure that all changes done using any of the products in Change Management go through a change approval mechanism. This change control mechanism entails one level of approval for any change that results in a configuration or code change of an Oracle E-Business Suite instance. The Change Approval Framework provides tracking and auditing with respect to the change control

requests and historical data. A common change control tracking dashboard is provided for tracking all change requests within Change Management. Auto-approvals are possible if the requestor is a Super Administrator or has the respective approver role with approval target access.

All critical changes within Patch Manager and Customization Manager would need to go through the change control mechanism.

The main Change Management tab lists recent activity for change approval requests.

The screenshot displays the Oracle Enterprise Manager Cloud Control 12c interface for Change Management. The page title is 'Change Approval Requests'. It features a table of recent activity and search filters.

Requests ID	Name	Module	Status	Requested By
137	adap demo	Patch Manager	Approved	SYSMAN
136	PM adapatch demo	Patch Manager	Approved	SYSMAN
135	test	Patch Manager	Approved	SYSMAN
134	demo	Patch Manager	Approved	SYSMAN
133	empty cycle with actualize all	Patch Manager	Approved	SYSMAN

Search Change Approval Requests

Name:

Requests ID:

Module:

Status:

Go:

Related Links

Home

See the section Privileges for Change Management, page 7-5 for information on required privileges.

The Change Approval Dashboard

Click on the Home link under Change Approval Requests on the Change Management to access the Change Approval Dashboard.

ORACLE Enterprise Manager Cloud Control 12c Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Change Approval

Page Refreshed May 23, 2012 10:53:52 AM PDT

Requests

Name Module Any

Requests ID Status Pending Approval

Requests ID	Name	Module	Status	Requested By	Last Updated Date	Update
236	Copy of patch1 2012/05/19 02:29:20	Patch Manager	Pending Approval	CMUSER	May 19, 2012 2:29:35 AM PDT	

TIP Search results are restricted to the most recent 200 records. Please use appropriate search criteria to narrow down the search results.

The Change Approval Dashboard allows users with the proper privileges to perform the following:

- Search for requests as per role access.
- Approve or reject a given change control request after viewing details.
- Track heuristic data with respect to change control requests for auditing purposes using "Related History".

Preferred Credentials for Change Management

When using Change Management features, you will need to access Oracle E-Business Suite instances. You can set up credentials for these instances for every user as a one-time setup step instead of entering them every time you need to access an instance. Note that preferred credentials are not shared across users. See the section Setting Preferred Credentials for Change Management, page 5-11 for more information.

Notifications Setup

You have the option of sending e-mail notifications to users regarding updates to the Oracle E-Business Suite systems. To have these notifications sent successfully, you must have the system set up properly:

- Ensure that the agent on the Oracle Management Server is up and running.
- Ensure that the command parDeploy has been run as part of the setup of Oracle Enterprise Manager Cloud Control 12c.

- Enter the SMTP information as described below.

To set the SMTP information in Oracle Enterprise Manager:

The Outgoing SMTP Server information must be entered in Oracle Enterprise Manager.

Note: If the SMTP information is not set correctly, notifications will not be sent.

1. Within Oracle Enterprise Manager, navigate to Setup > Notifications > Notification Methods.
2. Set the Outgoing Mail (SMTP) Server value.
3. Enter additional information as needed.

Diagnostic Tests

Oracle Application Management Pack for Oracle E-Business Suite includes diagnostic tests that should be run to ensure your system is set up correctly to use the pack's features. These tests are run using the Pack Diagnostics link under Related Links on the Oracle E-Business Suite Instances page. For more information on using the Pack Diagnostics link, see: Running Pack Diagnostics Tests, page 10-1.

Patch Manager

Introduction

Patch Manager allows you to deploy patches across Oracle E-Business Suite instances from a single console. You can create a patch run definition and run it multiple times on multiple instances and you can copy a patch procedure and modify it to suit your business needs. Also, you can easily access details on patch runs, correct errors if necessary, and continue the patch runs.

Key Features

Patch Manager

- Automates the deployment patches across multiple Oracle E-Business Suite instances.
- Utilizes most common Oracle E-Business Suite Applications DBA (AD) Utilities.
- Utilizes patching best practices and reduces downtime.
- Integrates with Customization Manager to deploy custom packages.
- Supports downloading patches directly from My Oracle Support for deployment.
- Supports deployment of patches that were previously downloaded to a central location on the Oracle Management Server.
- Supports National Language Support (NLS) patches.
- Provides a complete history of all patch deployments.
- Provides a customizable patch deployment procedure.

- Leverages Oracle Enterprise Manager infrastructure for distributed processing.

With Patch Manager, you can

- View the readme of a patch with just one click.
- Schedule deployments based on the target's time zone.
- Schedule deployments of patches immediately or in the future.
- Perform a complete series of pre/post health checks when deploying patches.
- Track and monitor all patching deployments "Running", "Scheduled", "Saved" and "Succeeded" from a centralized console.
- Send and receive notifications for patch failures and completion.

For information on diagnostic tests for this feature, see: Diagnostic Tests for Patch Manager, page 10-10.

Patch Manager Home

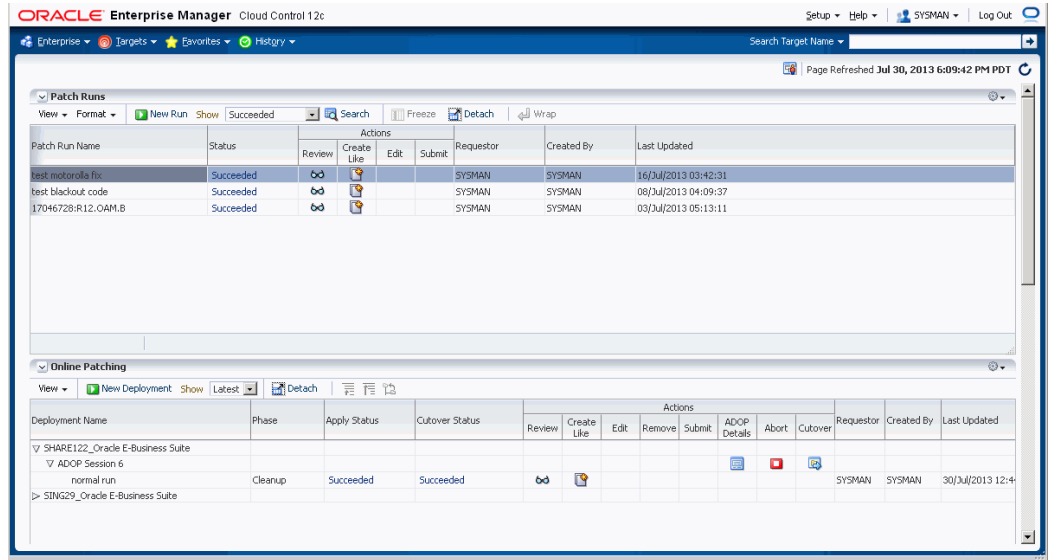
The Patch Manager home page provides an overview of the patch deployment procedures. This page contains one region for patch runs for Oracle E-Business Suite Release 12.1 and earlier, and other regions related to patch deployment procedures for Release 12.2. You can personalize the page using the Personalize Page icon, to hide, show, or reorder the regions on the page. For example, if you are patching Release 12.2 targets primarily, you can personalize the page to display the Online Patching region first and display the Abort Runs and Cutover Runs regions as well.

The shipped page has the following regions displayed by default:

- Patch Runs - used for targets on releases 12.1 and earlier
- Online Patching - used for Release 12.2 targets
- Patch Logs - used to access patching log files

Two other regions are available, but are hidden by default. Both of these pertain to Release 12.2 deployment procedures:

- Abort Runs
- Cutover Runs



Patch Runs

The Patch Runs region of the Patch Manager Home lists the patch runs and their statuses for Oracle E-Business Suite Release 12.1 and earlier.

You can perform various actions on a patch run depending on its status:

- Review - Review details of the patch run.
- Create Like - Copy an existing patch run, in order to change any aspect of the patch run or to run an identical run due to changes in the patch or target.
- Edit - If a patch run is in Saved status, you can edit it.
- Submit - If a patch run has been approved through the approval management system, it can be submitted from here.

To start a new patch run for Oracle E-Business Suite Release 12.1 and earlier, select "New Run". If a user has used the "Create Like" feature for the shipped "Patch Oracle E-Business Suite" deployment procedure then clicking "New Run" will prompt the user which deployment procedure they would like to use. Otherwise, clicking "New Run" will begin the patch run interview.

By default, all records are displayed in the table. To filter the records by status, use the "Show" list. You can also use the "Search" button to apply additional filters to control which records are displayed.

Online Patching

The Online Patching region displays patch deployments against Release 12.2 targets.

Note that with Release 12.2, the adop patching process in Patch Manager is broken down into two deployment procedures. The first deployment procedure runs the prepare, apply, finalize, and potentially actualize_all phases. The second deployment procedure executes the cutover, cleanup, and potentially fs_clone phases.

You can click the New Deployment to begin a new online patching interview. As with the "Patch Runs" region, if a user has used the "Create Like" feature on the deployment procedure, you will be prompted to specify which deployment procedure you want to use.

In this region you can filter by "Latest" or "All". These choices will show only the latest adop session or all of them.

The records in this region are displayed in a tree format with a parent - child - grandchild relationship. The parent is the target, the child is the adop session, and the grandchildren are the patch deployments. Patch Manager supports multiple patch deployments in a single adop session. If the deployment procedure has not started or has not run through the "prepare" phase then the deployment records will fall under "ADOP Pending Sessions".

Columns in the region are:

- Phase - The adop phase the deployment procedure is currently running or ran last.
- Apply Status - The status of the "Apply" deployment procedure.
- Cutover Status - The status of the "Cutover" deployment procedure.
- Review - Link to the review page displaying all interview information.
- Create Like - Allows for duplication of an interview.
- Edit - Allows for editing a saved interview.
- Remove - Allows for removal of a deployment record. Note that the record is not deleted, just removed from the display. The status of the record must be "Saved" or "Stopped" for this icon to be available.
- Submit - Allows for submission of a deployment procedure after the interview has been approved in the approval management system.
- ADOP Details - This icon opens a window showing the adop phases, applied patches, database editions, and file system details.
- Abort - Clicking this icon submits a deployment procedure that runs "adop phase=abort" on all nodes. Before the submission occurs there is a check to ensure the target Oracle E-Business Suite system is in a state that allows for abort (such as, the prepare phase has been run). The check also verifies that the session for which you are running abort is the latest adop session; this step is to ensure that the correct session is to be aborted.

- Cutover - This icon submits the cutover deployment procedure. It opens a window in which you can schedule the cutover. This feature also ensures the adop session for which you are running is actually the latest.
- Requestor - This is the user who requested the patch be applied.
- Created By - This is the user who created the interview.
- Last Updated - Timestamp indicating when the deployment procedure was last updated.

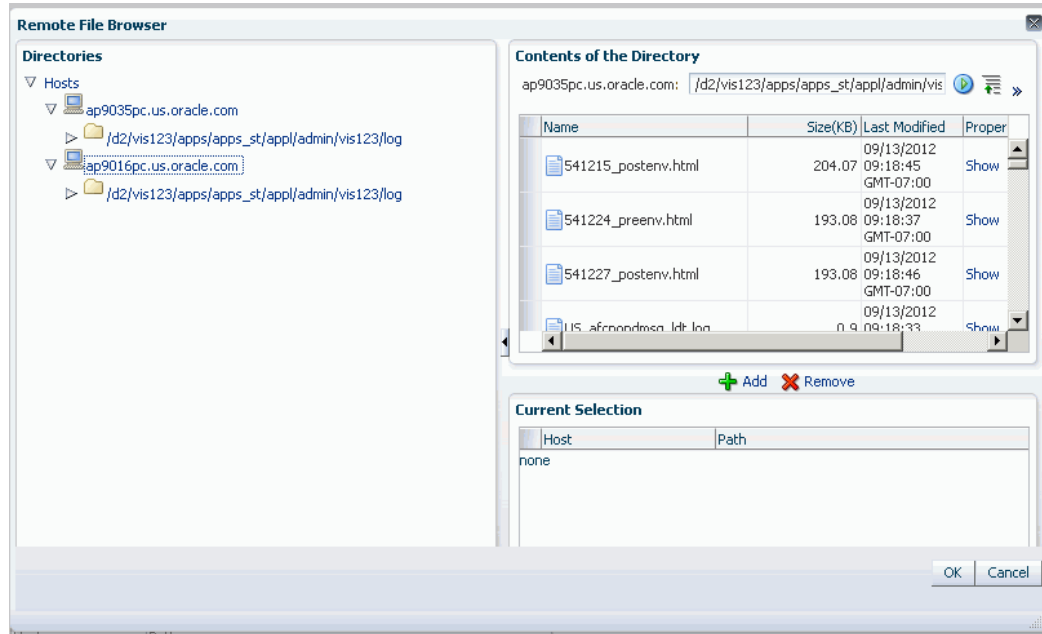
Patch Logs

File Name	View	Size(KB)	Host	Path
adpatch_9239090.log		10,121.42	ap9035pc.us.oracle.c	/d2/vis123/apps/apps_st/appl/admin/vis123/log/

The Patch Logs region allows you to access patching log files across all hosts of an Oracle E-Business Suite system.

To access log files:

1. First select an Oracle E-Business Suite target to which you have been granted access in Enterprise Manager.
2. After you choose a target, a list of hosts is displayed in a separate window along with the log file directory for each host.
3. From this window you can choose the log file(s) you want to view online or download to your computer as a ZIP file.



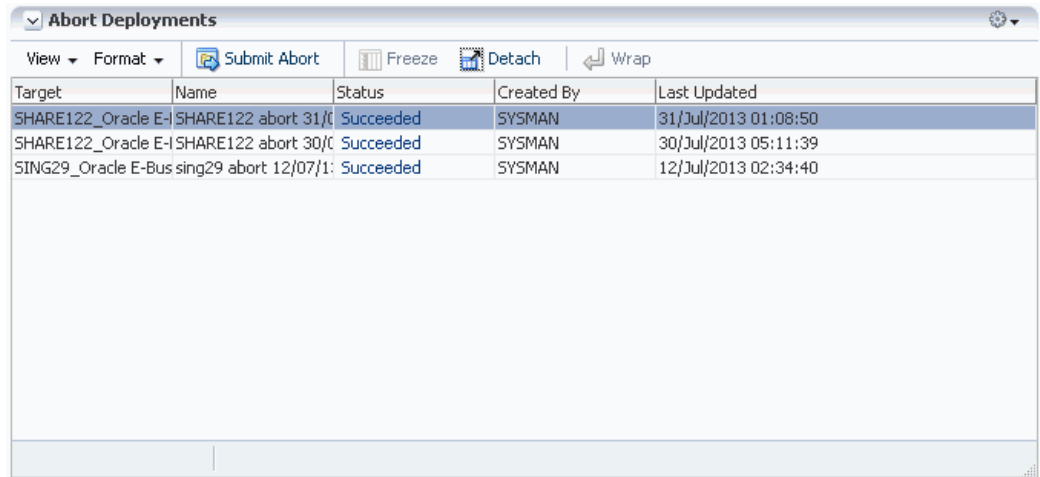
Prerequisites for viewing Patch Manager logs

To access the Patch Manager Log Viewer, you must have your preferred credentials set for the Oracle E-Business Suite Node target(s) of all middle tier hosts. To set these, the navigation in Enterprise Manager is Setup > Security > Preferred Credentials > Oracle E-Business Suite Node. These credentials are required in addition to the credentials needed to use Patch Manager.

In addition, you must have been granted the privilege to raise a Patch Manager request.

For more information, see: Setting Preferred Credentials for Change Management, page 5-11 and Privileges for Change Management, page 7-5.

Abort Deployments



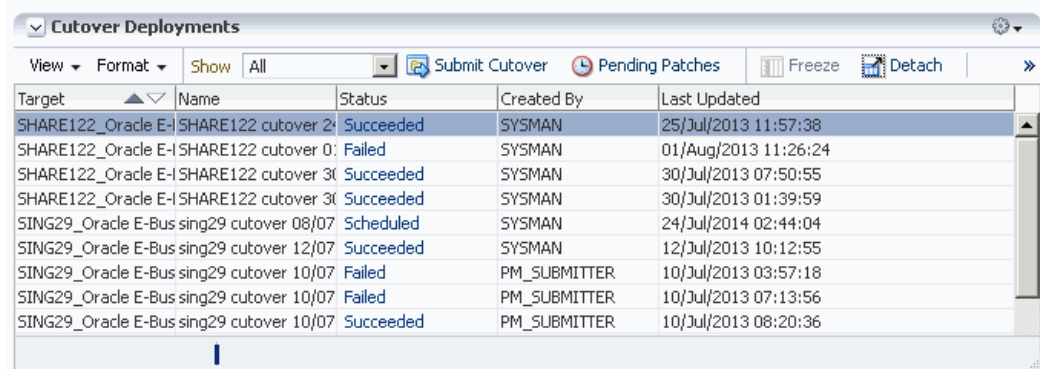
Target	Name	Status	Created By	Last Updated
SHARE122_Oracle E-B	SHARE122 abort 31/7/13	Succeeded	SYSMAN	31/Jul/2013 01:08:50
SHARE122_Oracle E-B	SHARE122 abort 30/7/13	Succeeded	SYSMAN	30/Jul/2013 05:11:39
SING29_Oracle E-Bus	sing29 abort 12/07/13	Succeeded	SYSMAN	12/Jul/2013 02:34:40

This region shows all of the executions of the "Abort an Oracle E-Business Suite Online Patch Cycle" deployment procedure.

You can submit a request to run an Abort operation using the Submit Abort icon. This action submits an Abort request like that in the Online Patching region. This action does not compare the adop session ID on the target EBS system against the adop session ID of any patch deployments from EM.

This region is hidden by default. To have this region appear on the Patch Manager home page, use the Personalize Page icon on the home page.

Cutover Deployments



Target	Name	Status	Created By	Last Updated
SHARE122_Oracle E-B	SHARE122 cutover 24/7/13	Succeeded	SYSMAN	25/Jul/2013 11:57:38
SHARE122_Oracle E-B	SHARE122 cutover 01/8/13	Failed	SYSMAN	01/Aug/2013 11:26:24
SHARE122_Oracle E-B	SHARE122 cutover 30/7/13	Succeeded	SYSMAN	30/Jul/2013 07:50:55
SHARE122_Oracle E-B	SHARE122 cutover 30/7/13	Succeeded	SYSMAN	30/Jul/2013 01:39:59
SING29_Oracle E-Bus	sing29 cutover 08/07/13	Scheduled	SYSMAN	24/Jul/2014 02:44:04
SING29_Oracle E-Bus	sing29 cutover 12/07/13	Succeeded	SYSMAN	12/Jul/2013 10:12:55
SING29_Oracle E-Bus	sing29 cutover 10/07/13	Failed	PM_SUBMITTER	10/Jul/2013 03:57:18
SING29_Oracle E-Bus	sing29 cutover 10/07/13	Failed	PM_SUBMITTER	10/Jul/2013 07:13:56
SING29_Oracle E-Bus	sing29 cutover 10/07/13	Succeeded	PM_SUBMITTER	10/Jul/2013 08:20:36

This region displays all executions of the "Cutover Oracle E-Business Suite" deployment procedure. This region is hidden by default. To have this region appear on the Patch Manager home page, use the Personalize Page icon on the home page.

You can submit a request to perform the cutover operation using the Submit Cutover

icon.

Records can be filtered by status using the "Show" list. The "Pending Patches" button displays all patches that have been applied but not cutover.

Running a Patching Procedure (Release 12.1 and earlier)

Oracle provides you with patching procedures that are best practices for patching Oracle E-Business Suite. Procedures created by Oracle cannot be edited, but they can be copied using the "Create Like" feature so that you can customize the procedure to fit your environment.

To run a patching procedure, or create a patch run, you can do one of the following:

- From the Change Management Page, choose "Patch Oracle E-Business Suite" or your customized patching procedure from the "Start a Patch" list and click the **Go** button.
- From the Patch Manager home page, select "New Run" in the Patch Runs region.

Note that you can also copy an existing patch run. From the Home page, select the patch run you wish to copy and click the **Create Like** icon.

Note: In the Patch Run interview you can use the **Back** button to go back to a previous step; however, entered values on the current page will be lost.

Prerequisites

The following are prerequisites to running a patching procedure:

1. To download an Oracle patch directly from My Oracle Support, the following property must be set in the Preferences page.
 - **Connect to My Oracle Support for Patches** - This box should be checked.
2. Patches are downloaded to the OMS when they are applied. Set the property **OMS Stage Directory Location** to the directory to which the patch should be downloaded.

Note: If a patch has already been downloaded to the OMS, it will not be downloaded again.

After a patch is on the OMS, it will then be moved to the target Oracle E-Business Suite system. The exception to this step is the case in which the system detects that an Oracle patch is already on the target; the system will not move the patch from the OMS to the

target again. Custom patches, described in the next chapter, will always be moved from the OMS to the target because a developer can change the patch.

3. The following preferences are set to directories under the APPL_TOP by default. In general, you should leave these set to the default locations. You can override the default locations, but ensure that the Target Patch Directory Location is not shared amongst multiple Oracle E-Business Suite instances. The Target Stage Directory Location can be shared if all users accessing it have read/write permissions for all files.
 - **Target Stage Directory Location** - The directory to which zipped patches are downloaded.
 - **Target Patch Directory Location** - The directory to which patches are unzipped and from where the patches are applied.

For more information, see: Setting Preferences, page 6-1.

4. As part of a queueing mechanism for patch runs, set the property **Minutes Patch Manager should wait for a down target**.

If a patch run is executing and detects that a target(s) that it is supposed to patch is in a blackout state, the patch run will wait this specified time before failing. Patch Manager will check every minute to see if the target has come out of the blackout state; if it has, Patch Manager will continue with the patch run. This property specifies in minutes the maximum length of time Patch Manager will wait before the patch run fails.
5. Patch Manager uses Preferred Credentials. These must be set prior to running a patch procedure. Navigate to Setup > Security > Preferred Credentials to set these. The Preferred Credentials that might be required are:
 - Oracle E-Business Suite Node credentials must be set to the applmgr account for middle tiers and Oracle account for database tiers.
 - Oracle E-Business Suite must have the "AppsDBCredSet" (the APPS schema) and "AppsSysDBCredSet" (the SYSTEM schema) set.

For more information, see: Setting Preferred Credentials for Change Management, page 5-11.

To create a Patch Run:

1. On the Patch Run Details page, enter the details below.

Patch Oracle Applications: Patch Run Details

Cancel Save Step 1 of 6 Next

* Patch Run Name

Description

* Justification

* Requester SYSMAN

Notification E-mail(s)

Notification purposes only: comma separated email addresses of users who could review/approve the request

Cancel Save Step 1 of 6 Next

- Patch Run Name - Enter a user-friendly name for the patch run. You can search on this name later on.
- Description
- Justification
- Requester - The default value is the user name with which you are signed in. You can change this to another name.
- Notification E-mail(s)- Enter the e-mail addresses of users who should be notified of the patch run request. These users could review and approve the request, as appropriate.

2. On the Target List page, enter the target system(s) to which the patch(es) will be applied.

Patch Oracle Applications: Target List

Cancel Save Back Step 2 of 6 Next

Applications Systems

Add

Applications System Name	Status	Applications Release	Workers	Database Version	Languages	Select Patch Nodes	Remove
amp1206-Oracle E-Business Suite	↑	12.0.4	2	11.2.0.1.0			

Remove All Test Credentials

Cancel Save Back Step 2 of 6 Next

To search for available targets, click the Add button under "Applications Systems". The List of Values (LOV) window displays the target names and their release levels. Select the desired targets from this window. Note: All targets selected must be at

the same release level.

Once selected, the system name will appear in the Target List with the following:

- Applications System Name - The name of the system.
- Status - The status of the system (Up or Down).
- Applications Release - The release level of the applications system.
- Workers - The number of workers available on the system. Note that you can change this value.
- Database Version - The release level of the database for the applications system.
- Languages - The languages installed on this system. Note: Newly installed languages may not show up yet if collections haven't run.
- Select Patch Nodes - Choose which nodes adpatch will run on.

Note: This option is to be used if your installation has a mix of shared and no-shared APPL_TOPs; for example, if you have ten middle tiers with eight of them sharing one APPL_TOP and the remaining two with their own file system.

- Remove - Click this icon to remove this applications system from the Target List.

You can click the **Remove All** button to remove all applications systems from the Target List.

Click the **Test Credentials** button to test the Preferred Credentials for the applications system.

3. In the Patch Details page, select the details for the patch(es) to be applied.

[Patch Run Details](#)
[Target List](#)
[Patch Details](#)
[Patch Options](#)
[Schedule](#)
[Review](#)

Patch Oracle Applications: Patch Details

[Cancel](#)
[Save](#)
[Back](#)
Step 3 of 6
[Next](#)

Target Stage Directory Location **%appl_top%/patch_stage**
 Target Patch Directory Location **%appl_top%/patches**
 OMS Stage Directory Location **/tmp**

Oracle E-Business Suite Updates

Consult README to determine any necessary steps. Click on the icon in the README column to view the README.

Patch ID	Product	Platform	Version	Description	Files	Can Be Re-Applied	Pause After Patching	README	Remove
7829071	Workflow	Generic Platform	Applications R12.0	1OFF:12.0.4:ORA-06502 PL/SQL: NUMERIC OR VALUE IN WF_ENGINE_UTIL.NOTIFICATION_SEND	p7829071_R12.OWF.A_R12_GENERIC.zip	<input type="checkbox"/>	<input type="checkbox"/>		

[Add Oracle Patch](#)
[Add Custom Patch](#)
[Check Prerequisites](#)

[Remove All](#)

[Cancel](#)
[Save](#)
[Back](#)
Step 3 of 6
[Next](#)

The following are shown on the Patch Details page: These are set in the Preferences page.

- Target Stage Directory Location - The directory to which zipped patches are downloaded.
- Target Patch Directory Location - The directory to which patches are unzipped, and from where the patches are applied.
- OMS Stage Directory Location

Important: You must have at least 'view' target privilege on the agent(s) of the target hosts. For example, say you are patching an Oracle E-Business Suite system that contains 3 middle tiers. You must have the 'view' privilege (or greater) on the agents of these 3 middle tiers.

Enter the Software Updates you wish to apply. Use the **Add Oracle Patch** to add a patch from Oracle, and use **Add Custom Patch** to add a custom patch created through Customization Manager.

Important: Before you deploy a custom patch in Patch Manager, you should run the Instance Comparison Report to compare the technology stack properties of the package with those of the instance to which the package is being deployed. Patch Manager does not stop the deployment of a patch if the technology stack properties are not compatible, so you should make your best judgement based on the Instance Comparison Reports.

To add an Oracle patch:

1. Select **Add Oracle Patch**.

2. In the Search and Select window, Patch Oracle E-Business Suite, if you are downloading a patch or patches from My Oracle Support, you can search based on the following criteria:

- Patch Number
- Platform - "Any" returns patches for all platforms, or Generic if patch is not port-specific.

If you are searching for a patch for a specific platform, your search results will return a Generic-platform patch if no platform-specific patch exists.

- Language - "All installed languages" will return the base (Generic or platform-specific) patch plus any language patches (if they exist) for every language installed on the selected targets. Choosing a specific language from the drop-down list will return its language patch if it exists plus the base patch.

You can also select **Simple Search** to search simply on the Patch Number.

The search results will include the following for each patch found:

- Patch Number
- Platform
- Version
- Language
- Description
- Included or Replaced By

If you plan to deploy patches from an OMS location, the Search window will provide a List of Values based on the patches located in the directory specified for OMS Stage Directory Location in the Preferences page.

Choose the desired patches and click **Select** to return to main window.

Note: You must retrieve the desired patch through the Search and Select: Add Oracle Patch window even if you have already downloaded the patch to the stage location (the process will not re-download the patch, however).

To add a custom patch:

1. Select **Add Custom Patch**.

2. In the Search and Select window, you can search based on the following criteria:

- Patch Number
- Patch Name
- Description
- Created By
- Version
- Language

The search results will include the following for each patch found:

- Patch Number
- Patch Name
- Version
- Language
- Description
- Created By

Choose the desired patches and click **Select** to return to main window. A listing of patches is given.

A Merge Patches check box appears at the top of the table if more than one patch has been selected.

Note: You should merge AD patches separately from non-AD patches.

The following appears for each patch in the table.

- Patch ID - The patch number.
- Product - The short name of the owning product.
- Platform - The platform for the patch.
- Version - The version to which the patch is valid.

- **Description** - The description of the patch.
- **Files** - The files to be downloaded for the patch.
- **Order** - The order the patches should be applied. Will only be displayed when you have more than one patch selected and don't have merge patches check box checked.
- **Can Be Re-applied** - You can check this box if the patch can be re-applied with no ill effects. In the case of testing, it might be necessary to apply the same patch repeatedly, in which case this box should be checked.
- **Pause After Patching** - Check this box if you will need to perform post-patching steps (such as running a script) immediately after this patch is applied. This option does not appear when the Merge Patches check box is checked.

Note that this option causes the Deployment Procedure job to halt with the status of "Failure" so that the job is paused for post-patching steps. Once you have performed your required tasks, select the **Retry** button within the EM Console.

- **README** - Click on this icon to review the README file for the patch.

Note: The README column is only available if "Connect to My Oracle Support for Patches" ("MOSEnabled") is enabled in the Preferences page. Because the README files are retrieved from My Oracle Support, the system must first be connected to My Oracle Support. Navigate to Preferences using the path Targets > Oracle E-Business Suite > Administer > Preferences.

- **Techstack Report** - Only applicable to custom patches. This report is described in the section on Instance Comparison Reports in Creating a Report, page 14-36.
- **Remove** - If you want to remove this patch from the list, click this icon.

Note: For a controlled-release patch, a password is necessary for downloading the patch. A column appears in which a password can be entered. Passwords expire after a set duration, so for scheduled deployments further in the future, make sure you have already downloaded the patch and staged it.

Finally, you can check for prerequisites for your patches using the **Check Prerequisites** button.

4. Specify Patch Options.

The screenshot shows the Oracle Enterprise Manager interface for configuring patch options. The top navigation bar includes 'Enterprise', 'Targets', 'Favorites', and 'History'. The main title is 'Patch Oracle Applications: Patch Options'. The page is divided into several sections with checkboxes for various options:

- Patching Procedure Options:**
 - ☐ Create Target Backup Before Patching
 - ☐ Create Target Backup After Patching
 - ☐ Enable HotPatch Mode
 - ☐ Disable Archive Mode
 - ☐ Pause Before AutoPatch Steps
 - ☐ Pause After AutoPatch Steps
 - ☐ Run AutoConfig
 - ☐ Pause After AutoConfig Test Mode Step
- AutoPatch Options:**
 - ☒ Enable Prerequisite Patch Checking
 - ☐ Disable JSP Compilation
 - ☐ Disable Invalid Objects Compilation
 - ☐ Enable Schema Validation
 - ☐ Disable File Generation
- AD Administration Options:**
 - ☐ Generate Message Files
 - ☐ Compile APPS Schema
 - ☐ Compile Menu Information
 - ☐ Compile Flexfields
 - ☐ Re-create Grants and Synonyms for APPS Schema
 - ☐ Relink Applications Programs
 - ☐ Generate Product JAR Files
 - ☐ Generate Reports Files
 - ☐ Generate Form Files
- Notifications:**
 - ☒ Action Required
 - ☒ Problems
 - ☐ Succeeded
 - ☐ Running
 - ☐ Suspended

At the bottom right, there are buttons for 'Cancel', 'Save', 'Back', and 'Next', along with the text 'Step 4 of 6'.

Specify details for how the patch should be applied.

For more information on many of these options, see: *Oracle E-Business Suite Patching Procedures* and *Oracle E-Business Suite Maintenance Utilities*.

Patching Procedure Options include the following:

- Create Target Backup Before Patching - Adds a pause after system is prepared for backup allowing for a manual backup.
- Create Target Backup After Patching - Adds a pause after patch is applied and database is brought back down to allow for a manual backup.
- Enable HotPatch Mode - Patch will be applied without shutting down the applications or database, disabling archive mode, or enabling maintenance mode.

In HotPatch mode, AutoPatch applies a patch regardless of whether the Oracle E-Business Suite system is in maintenance mode. Maintenance mode controls the system downtime period by managing user login sessions.

Note: In HotPatch mode, if the patch application fails, the process will still perform/execute the blackout steps in the "Patch Oracle E-Business Suite" procedure. The blackout

notifies other Enterprise Manager administrators that a maintenance procedure is being performed on the environment.

- Disable Archive Mode - Issues an 'alter database noarchivelog' command.
- Pause Before AutoPatch Steps - Adds a pause before AutoPatch (adpatch) is run to allow for any necessary manual preparation.

AutoPatch (adpatch) is the Oracle Applications DBA (AD) tool that applies patches to an Oracle E-Business Suite system.

- Pause After AutoPatch Steps - Adds a pause immediately after patch is applied to allow for any necessary manual activities.

Note: This option is not the same as the "Pause After Patching" option in the Patch Details page (Step 3). The "Pause after Patching" step, performed at the individual patch level, causes the Deployment Procedure job to halt so that manual steps can be done immediately after that patch is applied. The "Pause After AutoPatch Steps" option introduces a manual step into the Deployment Procedure which causes the Deployment Procedure to pause. This manual step can be used to do manual work or it can be modified in a custom procedure to run an automated script.

- Run AutoConfig - Run AutoConfig, the AD tool that manages configuration changes in an Oracle E-Business Suite system.
- Pause After AutoConfig Test Mode Step - Adds a pause after AutoConfig is run in test mode to allow for validation of changes.

AutoPatch Options include the following:

- Enable Prerequisite Patch Checking - Prevents you from applying a patch without first applying all required prerequisite patches.
- Disable JSP Compilation - Tells adpatch not to automatically compile out-of-date JSP files (nocompilejsp command).
- Disable Invalid Objects Compilation - Tells adpatch not to compile invalid objects (nocompiledb command).
- Enable Schema Validation - Tells adpatch to connect to all registered Oracle E-Business Suite schemas at the start of the patching process.

- Disable File Generation - Tells adpatch not to run commands normally found in generate driver (nogenerateportion command).

AD Administration Options are listed below. These tasks are done to manage database objects (database objects or data in the database related to Oracle E-Business Suite). For example, a patch might add new menu entries or change the setup of a flexfield.

- Generate Message Files - Creates new message files after the messages have been loaded into the database. The README should instruct you when this is necessary.
- Compile APPS Schema - Compiles the APPS schema.
- Compile Menu Information - Compiles menus.
- Compile Flexfields - Compiles flexfields.
- Recreate Grants and Synonyms for APPS Schema - Recreates grants and synonyms for the APPS schema.
- Relink Application Programs
- Generate Product JAR Files
- Generate Reports Files
- Generate Form Files

For the **Notifications** region, specify the statuses for which you would like to be notified.

5. Specify the Schedule for the patch application.

Patch Run Details Target List Patch Details Patch Options **Schedule** Review

Patch Oracle Applications: Schedule

Cancel Save Back Step 5 of 6 Next

Apply Patches ☒ Immediately
☐ Later

Grace Period ☒ Indefinite
☐ End After 0 Hours 0 Minutes

Blackout Length 1 Hours 0 Minutes
This is the amount of time the target system will have a blackout status in Enterprise Manager. Set this to a higher value for large patch runs.

Cancel Save Back Step 5 of 6 Next

You can choose to apply the patches immediately or at a later date.

If you choose Immediately as the schedule type to have the patches applied immediately.

If you choose Later, you can specify the time and date you wish to have the patches applied. Provide the Time Zone, Date and Time.

You can specify a Grace Period as well. If you choose an Indefinite Grace Period, then if for some reason the patches cannot be applied at the immediate time, the system will try to apply them as soon as possible, and will keep trying indefinitely. If you provide a defined Grace Period by specifying the system to end the Grace Period after your given hours and minutes, the system will not try to apply the patches after that amount of time.

The Blackout Length indicates the amount of time the target system will have a blackout status in Enterprise Manager. Set this length to a higher value for large patch runs.

6. Review your patch run.

Previous Schedule **Review**

Patch Oracle Applications: Review

Cancel Save Back Step 6 of 6 Finish

Patch Run Details

Patch Run Name **Demo Patch Run**
 Procedure **Patch Oracle E-Business Suite**
 Description
 Justification
 Priority **HIGH**
 Requester **SYSMAN**
 Notification E-mail(s)

Target List

Applications Systems

Applications System Name	Status	Applications Release	Workers	Database Version	Languages
amp1206-Oracle E-Business Suite	↑	12.0.4	2	11.2.0.1.0	

Patch Details

Target Stage Directory Location **%appl_top%/patch_stage**
 Target Patch Directory Location **%appl_top%/patches**
 OMS Stage Directory Location **/tmp**

Oracle E-Business Suite Updates

Patch ID	Product	Platform	Version	Description	Files	Can Be Re-Applied	Pause After Patching	README
7829071	Workflow	Generic Platform	Applications R12.0	1.OFF:12.0.4:ORA-06502 PL/SQL: NUMERIC OR VALUE IN WF_ENGINE_UTIL.NOTIFICATION_SEND	p7829071_R12.0WF-A_R12_GENERIC.zip	<input type="checkbox"/>	<input type="checkbox"/>	

The Review Page lets you review your patch run details, target list, patch details, patching options, and schedule.

Creating Patch Deployment Procedures for Oracle E-Business Suite Release 12.2

To create a Patch Deployment:

- On the Deployment Details page, enter the details below.
 - Patch Deployment Name - Enter a user-friendly name for the deployment procedure. You can search on this name later on.
 - Target System Name
 - Verify Credentials - Click this button to check your credentials. This feature ensures that valid preferred credentials are set for you. For information on preferred credentials, see: Setting Preferred Credentials for Change Management, page 5-11.
 - Oracle E-Business Suite Node credentials (all middle tiers, no database tier credentials are required)
 - System schema credentials
 - APPS schema credentials

- WLS domain credentials
- Description
- Justification - Enter a justification that can be used by an approver deciding to approve or reject this request for patching.
- Requester - The default value is the user name with which you are signed in. You can change this to another name.
- Notification Email(s) - Any users listed here will be notified when the patching deployment request is sent to approval management.

Note: These notifications are different from notifications sent regarding the status of a submitted deployment procedure.

ORACLE Enterprise Manager Cloud Control 12c Help Log Out

Deployment Details Patch Details Options Review

Patch Oracle E-Business Suite : Deployment Details Save Back Step 1 of 4 Next Cancel

* Patch Deployment Name Demo Patch Run Thu Aug 01 18:16:17 PDT 2013

* Target System Name SING29_Oracle E-Business Suite Verify Credentials

Description

* Justification This will be a high priority issue.

* Requestor SYSMAN

Notification Email(s)

2. In the Patch Details page, search for the patch to be applied.

ORACLE Enterprise Manager Cloud Control 12c Help Log Out

Deployment Details **Patch Details** Options Review

Patch Oracle E-Business Suite : Patch Details Save Back Step 2 of 4 Next Cancel

Patch Number Language

Created By Platform

Patch Search Results

Add	Patch Number	Platform	Language	Description	Created By
	14272509		American English		

Selected Patches

Remove	Order	Move		Patch Number	Platform	Language	Description
		Up	Down				
	1			14272509		American English	

You can search for a patch based on the following criteria:

- Patch Number
- Language
- Created By
- Platform

Note: You must retrieve the desired patch through the Search region even if you have already downloaded the patch to the stage location (the process will not re-download the patch, however).

The act of searching will search:

- Custom patches if a patch number greater than 11 characters has been entered or no patch number has been entered.
- Oracle patches if the patch number is less than 12 characters and the "Connect to My Oracle Support for Patches" preference is checked in the Preferences page. Since the target has already been chosen at this point in the interview process, the search will examine the target and search for only patches that are relevant with respect to languages and platform.
- Downloaded patches if the patch number is less than 12 characters and the "Connect to My Oracle Support for Patches" preference is unchecked in the

Preferences page.

Selecting the "Merge Patches" option will merge the patches when running adop later.

Selecting the "Check Prerequisites" option will connect to My Oracle Support (MOS), check the prerequisites for all the selected patches, and then check the target system to see if those patches have been applied. You must have "Connect to My Oracle Support for Patches" enabled in the Preferences page to use this option.

The patch application order can be modified by clicking the "Move Up" and "Move Down" arrows.

Note that this page does not require any patches be selected. With Release 12.2, an "empty" patching cycle is supported in Patch Manager where only prepare, finalize, cutover, and cleanup are run.

The following appears for each patch in the Patch Search Results Table:

- **Add** icon
- Patch Number - The patch number.
- Platform - The platform for the patch.
- Language
- Description
- Created By
- Replaced By
- Patch Name
- Product - The short name of the owning product.
- Release

Click on the Add icon to add a patch to your patch deployment. It will appear in the Selected Patches table.

The following appears for each patch in the table.

- Remove - If you want to remove this patch from the list, click this icon.
- Order - The order the patches should be applied. Use the Up and Down icons to change the order of the patches.
- Patch Number- The patch number.

Note: For a controlled-release patch, a lock icon appears next to the patch number. Click on the icon to enter a password. Passwords expire after a set duration, so for scheduled deployments further in the future, make sure you have already downloaded the patch and staged it.

- Platform - The platform for the patch.
- Language
- Description
- Readme
- Created By
- Replaced By
- Patch Name
- Product - The short name of the owning product.
- Release
- Files - The files to be downloaded for the patch.

3. Specify Patch Options.

ORACLE Enterprise Manager Cloud Control 12c Help Log Out

Deployment Details Patch Details **Options** Review

Patch Oracle E-Business Suite : Options Save Back Step 3 of 4 Next Cancel

Patch Application Deployment Procedure

* Start Options ☒ Start Immediately ☐ Schedule

Indefinite Grace Period ☒

Prepare

Pause After Prepare ☐

Apply

Pause After Apply ☐
Actualize All Objects ☐
Hotpatch ☐

Finalize

Finalize Mode ☒ Quick ☐ Full

Pause After Finalize ☐

Cutover Deployment Procedure

* Cutover Options ☒ Start Immediately ☐ Schedule ☐ No Cutover

Indefinite Cutover Grace Period ☒

Cutover

Restart Middle Tier ☒
Pause After Cutover ☐

Cleanup

Cleanup Mode ☒ Quick ☐ Full

FS Clone

Run Full File System Synchronization ☐

Notifications

Action Required ☒
Problems ☒
Succeeded ☐
Running ☐
Suspended ☐

With Oracle E-Business Suite Release 12.2 the adop patching process required two deployment procedures. The first deployment procedure runs the prepare, apply, finalize, and potentially actualize_all phases. The second deployment procedure executes cutover, cleanup, and potentially fs_clone.

On the options page you determine when each of these deployment procedures are executed. The first deployment procedure (that runs adop prepare, apply, finalize, and possibly actualize_all) can be started immediately upon submission or scheduled. If the "Schedule" option is selected, a date field is dynamically displayed. The grace period is the amount of time Enterprise Manager should wait if the Enterprise Manager job system cannot start the deployment procedure at the intended time.

Specify details for how the patch should be applied.

Patch Application Deployment Procedure

Specify the **Start Options**:

- Start Immediately

- Schedule
- Indefinite Grace Period

For the Prepare phase, specify **Pause After Prepare**. This option will stop execution of the deployment procedure after the adop prepare phase has been run. A user would then need to manually acknowledge the pause for Enterprise Manager to continue with the next step.

For the Apply phase, specify **Pause After Apply**. This option will stop execution of the deployment procedure after the adop apply phase has been run. A user would then need to manually acknowledge the pause for Enterprise Manager to continue.

For the Apply phase, specify **Actualize All Objects**. This option will run the adop actualize_all phase. If this option is chosen then the cleanup mode is switched to "full".

For the Apply phase, specify **Hotpatch**. This option will disable all other adop phases and run adop in hotpatch mode. This option is not supported unless specifically stated in the patch readme. A warning message is also displayed in Patch Manager when this option is chosen.

For the Finalize phase, specify the **Finalize Mode**. This option runs adop finalize phase in either Quick or Full mode.

Specify **Pause After Finalize**. This option stops the execution of the deployment procedure after the adop finalize phase has been run. A user would then need to manually acknowledge the pause for Enterprise Manager to continue.

Cutover Deployment Procedure

Specify the **Cutover Options**.

The Cutover deployment procedure has three options for execution:

- Start Immediately
- Schedule
- No Cutover

It can start immediately or be scheduled as above. In this case an immediate start means immediately after the "apply" deployment procedure executes. If a user schedules this deployment procedure and the apply deployment procedure is still running after the schedule date the apply deployment procedure will fail when it attempts to submit cutover. The cutover deployment procedure can also be skipped entirely with the "No Cutover" option. "No Cutover" may be useful on a development environment where ten developers are patching a single target and they only want to bounce the instance at midnight. Another example may be when a prerequisite patch was missed. In this situation a user could do a patch run

through finalize with the missed prerequisite then restart the original failed deployment procedure.

Check the **Indefinite Cutover Grace Period** box if you want Enterprise Manager to wait an indefinite amount of time if the Enterprise Manager job system cannot start the deployment procedure at the intended time.

For the Cutover phase, the **Restart Middle Tier** is selected by default. When cutover is run, this option controls whether the middle tier is restarted.

The **Pause After Cutover** option stops the execution of the deployment procedure after the adopt cutover phase has been run. A user would then need to manually acknowledge the pause for Enterprise Manager to continue.

For the Cleanup phase, choose whether you want the **Cleanup Mode** be run as Quick or Full.

For **FS Clone**, specify if you want to run a full file system synchronization.

Notifications

For the Notifications region, specify for which statuses you want notifications to be sent. Users will be notified of a given status if the box is checked and either of the "Apply" or "Cutover" deployment procedures fall into that status.

Statuses for notifications are:

- Action Required
- Problems
- Succeeded
- Running
- Suspended

4. Review your deployment procedure.

Patch Oracle E-Business Suite : Review

Deployment Details: Patch Deployment Name: Demo Patch Run Thu Aug 01 18:16:17 PDT, Target System Name: SING29_Oracle E-Business Suite, Description: This will be a high priority issue., Requestor: SYSMAN, Notification Email(s):

Patch Application Deployment Procedure

Start Option: Start Immediately, Indefinite Grace Period: ☒

Prepare: Pause After Prepare ☐

Apply: Pause After Apply ☐, Actualize All Objects ☐, Hotpatch ☐

Finalize: Finalize Mode: Quick, Pause After Finalize ☐

Cutover Deployment Procedure

Cutover Choice: Start Immediately, Indefinite Cutover Grace Period: ☒

Cutover: Restart Middle Tier ☒, Pause After Cutover ☐

Cleanup: Cleanup Mode: Quick

FS Clone: Run Full File System Synchronization ☐

Notifications: Action Required ☒, Problems ☒, Succeeded ☐, Running ☐, Suspended ☐

Selected Patches

Merge Patches: ☐

Patch Number	Order	Platform	Language	Description	Readme	Created By	Replaced By	Patch Name	Release	Product	Files
14272509	1		American English	bd							p14272509_R12.PER.C_R12_GENERIC.zip

The Review Page lets you review your deployment procedure details.

Copying a Patch Run

You might want to copy an existing patch run to change some aspect of it or to rerun it due to changes in the patch or target. To do this, select the patch run in the Patch Manager Home page and click the **Create Like** icon.

ORACLE Enterprise Manager Cloud Control 12c

Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Patch Manager Home Page Refreshed Sep 30, 2013 1:37:06 PM PDT

Patch Runs

View Format New Run Show All Search Freeze Detach Wrap

Patch Run Name	Status	Actions				Requestor	Created By	Last Updated
		Review	Create Like	Edit	Submit			
test save 3	Saved					SYSMAN	SYSMAN	19/Sep/2013 04:30:

The system will take you through the patch run creation pages as if you were creating a new patch run, but with most values copied from the original patch run. Please note the following:

- The Patch Run Name defaults to the original name prefixed with "Copy of" and appended with the date.

- The Requester field has a default value of the original requester's user name. Change this value as appropriate.
- The new patch run would be scheduled to run immediately by default, because the original run may have been scheduled for a now past date and time.

Extending Patch Manager Deployment

You can extend Patch Manager procedures using the Deployment Procedure Manager using the steps below. In these steps you create a copy of an existing procedure and extend it in the Deployment Procedure Manager.

1. Navigate to Enterprise menu > Provisioning and Patching > Procedure Library.
2. Extensions are supported for the following two patching procedures for Oracle E-Business Suite:
 - "Patch Oracle E-Business Suite" (for Release 12.1 and earlier)
 - "Patch Oracle E-Business Suite Online" (for Release 12.2)

Note: Extensions are not supported in the deployment procedures for cutover and abort.
3. Click the **Create Like** button.
4. Rename the copy of the original procedure as desired. You can make other updates here as well.
5. Save your new procedure.
6. Upon saving, the Deployment Procedure Manager Procedures tab appears. Your new procedure is listed first. You can select this procedure and click **Edit** to add steps, choose notifications, or make other changes. For example, you might want to add steps to a copy of the shipped Patch Oracle E-Business Suite procedure to automate the following steps: Pre-Patch Application Tier Backup, Post-Patch Database Tier Backup, or Post-Patch Application Tier Backup.

For more information on the Deployment Procedure Manager and provisioning in Enterprise Manager, refer to the Enterprise Manager documentation, including:

- *Oracle Enterprise Manager Lifecycle Management Administrator's Guide*
- Oracle Enterprise Manager online help

Logging, Health Checks, and Troubleshooting

This section describes logging, health checks, and troubleshooting features within Patch Manager.

How to Access Patch Logs

The primary way to access log files is using the log viewer in the Patch Logs region of the Patch Manager Home page. See: Patch Logs, page 13-5.

Alternatively, you can drill down into the steps within an online patching deployment procedure execution to see the logs.

How to Restart Failed Workers

For Oracle E-Business Suite Release 12.1 and earlier targets, use the following steps:

1. Navigate to your patch run using any method in "View a Patch Run".
2. Click on the Patch Run Name.
3. Click on the adpatch step (Apply Patch).
4. Select the check box for the failed target.
5. Click Update and Retry.
6. Change the parameter "restart_workers" to YES and click Retry.

Note: These steps are also listed in the AD Patch Log when you have a failed worker.

For Oracle E-Business Suite Release 12.2 and later targets, use similar steps to those above except navigate to your deployment and go to the adop apply phase step. Select the check box for the failed target, click Update and change the parameter "restart" to Yes and click Retry.

1. Navigate to your deployment and select the it.
2. Click on the adop apply phase.
3. Select the check box for the failed target.
4. Click Update and Retry.
5. Change the parameter "restart" to YES and click Retry.

How to Change the Patch Run Purge Policy

Enterprise Manager periodically purges Patch Manager deployment procedure execution data. As a result, older patch runs may not be accessible in Patch Manager. To change the purging frequency, run the following PL/SQL block connected to the repository as SYSMAN:

```
BEGIN
    MGMT_JOBS.drop_purge_policy('SYSPURGE_POLICY');
    MGMT_JOBS.register_purge_policy('SYSPURGE_POLICY', <number of days>,
null);
END;
```

Troubleshooting Patch Manager Deployment Failures

Access the log files is using the log viewer in the Patch Logs region of the Patch Manager Home page. See: Patch Logs, page 13-5.

To find errors using the Enterprise Manager Provisioning feature, do the following:

1. Find your patch run or deployment on the Patch Manager Home page.
2. Click on the status link for the patch run or deployment.
The Procedure Activity tab of the Deployment Procedure Manager in Provisioning appears.
3. For a patch run or deployment that failed, click on its Status link.
4. A list of Procedure Steps in the patch run or deployment is shown. Use the dropdown list to filter on the steps shown; for example, choose "Failed Steps" to see the steps that failed. More information on these steps is shown.

Health Checks

Patch Manager validates these servers shutting down and starting up: listener, Forms server, Apache web services, and Internal Concurrent Manager.

Customization Manager

Introduction

Customization Manager automates the process of packaging, releasing and reporting customizations for a single Oracle E-Business Suite instance or multiple Oracle E-Business Suite instances. It provides capabilities to integrate with third-party source control repositories to access customizations that need to be packaged. It also integrates with Patch Manager for deployment of custom patches to one or more Oracle E-Business Suite instances.

Customization Manager also provides a dashboard to manage custom applications across Oracle E-Business Suite instances. It provides capabilities to not only register and validate custom applications across instances, but also a drill down to the custom objects associated with any registered custom application on a given instance. Registration and validation of the custom application ensures that custom packages associated with the custom application can be deployed on the given Oracle E-Business Suite instance.

Key Benefits

- Automates creation of customization packages that are deployable with Patch Manager or standard Oracle E-Business Suite Applications DBA (AD) Utilities
- Provides repository to manage/catalog customizations.
- Validates custom code against software coding best practices using a standards checker.
- Integrates with most source control systems.
- Supports National Language Support (NLS) patches.
- Generates reports on customization packages or manifests in these formats: rich text

format (RTF) for Microsoft Word, PDF, or Microsoft Excel.

- Leverages Oracle Enterprise Manager infrastructure for distributed processing.
- Provides an interface to manage custom applications across the enterprise.

File Types

Customization Manager allows you to package custom files of a variety of file types, including the following:

- Oracle Application Object Library (FND) objects - menus, responsibility, concurrent programs, and so on
- Forms
- Reports
- Database objects - views, tables, triggers, packages, and so on
- Oracle Application Framework components

For more information on file types, see the appendix.

For more information on making customizations, see the *Oracle E-Business Suite Developer's Guide* and the *Oracle Application Framework Developer's Guide*.

Setup Steps for Customization Manager

- Ensure that the Preferred Credentials are set for each user as described in the section Setting Preferred Credentials for Change Management, page 5-11.
- Ensure that the Stage Directory is specified in the Preferences page. This property specifies the OMS stage directory for package creation. To set this, navigate to Targets > Oracle E-Business Suite > Administer > Preferences. For more information, see: Setting Preferences, page 6-1.

Major Features and Definitions

Package

A package is a fundamental unit of work of Customization Manager. A package consists of all the relevant objects that constitute a customization along with all the necessary metadata relevant for the given customization. A customization package can have one or more custom patches associated which can be deployed to promote customizations.

File Manifest

The file manifest contains a list of files to be included in a package.

File Metadata Repository

The File Metadata Repository stores metadata information of custom files used to create customization packages. This information can be used to manage and catalog customizations within the system.

Technology Stack Details

The Technology Stack Details for a package is a snapshot of the technology stack properties for the Oracle E-Business Suite instance where the package was compiled.

Reporting

Customization Manager provides several methods for generating reports on packages:

- Generate a Standard report on a single package.
- Compare two packages using a Comparison report.
- The Instance Comparison report can be used to compare a given package against an instance with respect to technology stack, files with versions, missing entries for file driver file, custom products involved, and so on. It can be used to assess the likely impact before actually applying the custom patch on the given instance

Reports can be generated in RTF for Microsoft Word, PDF, and Microsoft Excel.

Releasing a Package

Once a customization package is created and tested successfully, it might need to be shared with other users. This is possible by updating the package metadata and setting the package status as "Released".

Obsoleting a Package

For scenarios where the given customization is no longer valid, the customization package may be retired by updating the package metadata and setting the package status to "Obsoleted".

Diagnostic Tests

For information on diagnostic tests for this feature, see: Diagnostic Tests for Customization Manager, page 10-12.

Applications Standards Validation

Customization Manager has a standards checker to check that the files included in a custom package meet certain coding standards. This checker tests all code for standards compliance and cannot be turned on or off.

Some standards are mandatory and will result in failure when Customization Manager attempts to build the package. Other standards are recommended, and the standards checker will give a warning but the package will be built.

For example, Customization Manager mandates that each file included within a customization package has an Oracle-compliant source header present within the file. If a file in a package is missing this header, the package cannot be built.

Oracle-compliant Source Header

Each file included within a customization package is recommended to have an Oracle-compliant source header present within the file.

The following is an example of an Oracle-compliant header:

```
$Header: sample.txt 10.1 2012/04/06 09:38 lmathur ship $
```

The header contains the following elements:

- Filename
- Revision ID - This needs to be incremented every time a file is checked in
- Date and time of checkin
- Author
- Shipment state - ship/noship. For custom files, use the value **ship**.

Automatic Header Update and Insertion

This option can be enabled while defining or updating the "File Source Mapping" used for package creation. When the "Automatic header update" option is selected, Customization Manager takes care of querying the source control repository to derive the revision number and updates the Oracle-compliant header present within the file with the same, during the process of package creation.

It is important to ascertain that the correct "Version command" is provided to lookup/query the revision number from the given source control repository, except when using CVS or File System. This feature is not supported when the source repository is 'File System'. Also, for CVS there is no need to specify the version command as the header is always looked up from the \$Header string present within the file.

Important: When using the automatic header update feature with CVS, you must have a \$Header placeholder within each source file. The placeholder header must be embedded in the source file before the file is checked in into CVS.

Also ensure that you change the file name with the correct case within the \$Header before embedding the header in the file.

Important: When using Subversion, it is required to use Subversion client version 1.2 or above for automatic header update.

Automatic header update is supported for all file types. For binary files like forms, reports, and so on, you must provide a dummy placeholder for the header with enough appropriate offset (space). It is recommended to leave at least 40% extra offset (space) to accommodate incrementing revision numbers. During the process of package creation, the system uses this as a placeholder and updates it with the correct header. Again, the automatic header update option should be enabled and the correct version command should be specified within the file source mapping. The header is calculated based on the release and the version in the source control. For example, if you are building a package for Release 12 and the version of the file in the subversion repository is 29, then the header version calculated would be 120.29.

Automatic header insertion is supported only for selected file types when using Subversion as the source control system. In this case, Customization Manager inserts a valid Oracle compliant header into the source file during the process of package creation, even when there is no \$Header present in the file. The following file types are supported for automatic header insertion in case the file does not contain a proper \$Header:

- .css
- .drvx
- .htm
- .html
- .ildt
- .java
- .jlt
- .jsp
- .ldt

- .msg
- .odf
- .pdt
- .pkb
- .pkh
- .pks
- .pl
- .plb
- .pls
- .sh
- .slt
- .sql
- .tpl
- .wft
- .wfx
- .xdf

Adding a Header to Custom RTF Files

You can add a header to a custom RTF file by adding it to the file's "Comments" property. For example, in Microsoft Word, navigate to the File menu, select Properties, and enter the header in the Comments field as shown in the figure below.

demo.rtf Properties

General Summary Statistics Contents Custom

Title: Demonstration: Header Addition to RTF File

Subject:

Author:

Manager:

Company:

Category:

Keywords:

Comments: # \$Header: demo.rtf 120.15 2012/04/06 09:38
username noship \$

Hyperlink base:

Template: Normal.dot

☐ Save preview picture

OK Cancel

Uploading Existing Custom Patches

You can upload a custom patch to Customization Manager repository:

The upload option is provided to upload existing custom patches created in the Customization Manager repository. On upload, a package with status "Succeeded" is created. The status can move to status "Released" or "Obsoleted" as other customization packages. One or more NLS patches can be uploaded for a given package. Once uploaded, the patches can be deployed using Patch Manager. Also, attachments can be added for the uploaded packages.

Note: Reporting and update capabilities are not available for the uploaded packages.

Automatic File Driver File Generation and Update

A file driver file is a master file for adpatch to identify valid Oracle E-Business Suite files for a given product (including a custom product). It is required to have an entry

within the file driver file for selected file types like forms, reports, and so on. If not, then the following error is thrown during patching: "File in patch is not a known Oracle Applications file".

Customization Manager takes care of this file driver file requirement automatically. Customization Manager implicitly generates a file driver file for the relevant files in a package. During deployment with Patch Manager, these entries are automatically added to the custom product master file driver file. In case a user applies a patch manually with adpatch, he or she can run updateFileDriver.pl within the <package>/meta-inf folder **before** invoking adpatch.

Note that if you get the error "File in patch is not a known Oracle Applications file" while applying a custom patch built with Customization Manager, then it could be due to a missing entry in file driver file for the custom product for one or more custom files.

The file driver file for a custom product is located under:

```
$<custom_product_top>/admin/driver/<custom_product_short_name>file.drv
```

For example, if XXCO is the custom product, then you can find the file driver file under

```
$XXCO_TOP/admin/driver/xxcofile.drv
```

All custom files would require an entry in the respective file driver file depending on the custom product they belong, EXCEPT files which have destination path beginning with any of the following:

- admin
- sql
- mds
- lib
- patch
- help
- def

as well as any java file under destination path beginning with "java".

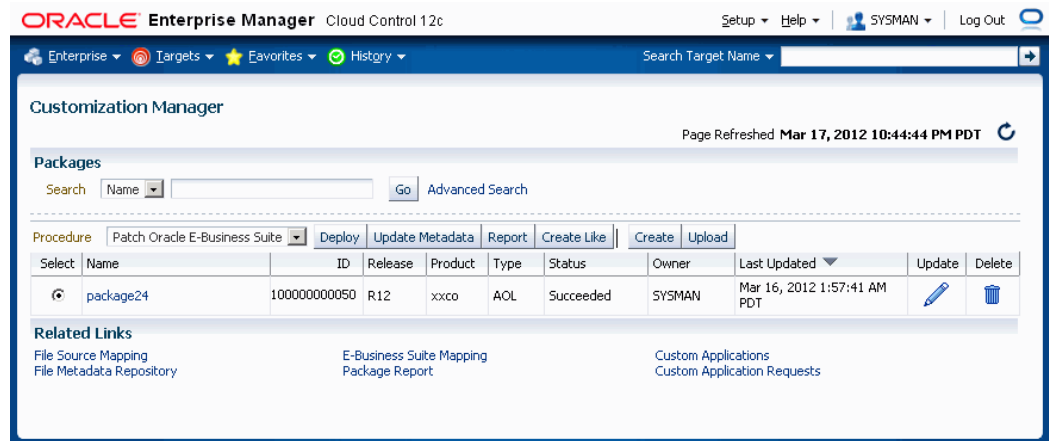
The usual format for an entry into the file driver file is:

```
<product> <subdirectory> <filename>
```

Sample entries are as below:

```
xxco      admin/sql XXCONLADD.sql
xxco      forms/<LANG> XXCOFORM.fmb
```

Customization Manager Main Page



The main page for Customization Manager lists packages that are registered in the system. For each package, the following is given:

- Name - The name of the package.
- ID - The ID of the package. This is always unique across packages.
- Release - The Oracle E-Business Suite release level for the package.
- Product - The owning product or custom application.
- Type - The type of package. Valid values include AOL, FORMS, PL/SQL, XML Publisher, OAF, and Others. This is purely for classification purposes and has no bearing on the functionality of the package.
- Status - The status of the package. Valid values include Saved, In Progress, Failed, Succeeded, Released, Pending Approval, and Obsolete. Note that some actions are restricted based on the status of a package.
- Owner - The owner of the package. Note that some actions are restricted based on the owner of a package.
- Last Updated - The date and time the package was last updated.
- Update - Use this icon to update a package.
- Delete - Use this icon to delete a package.

You can search for a package based on its name or ID, or click the "Advanced Search" link to perform a search on other criteria.

The following functions are available for a given package (depending on its status and ownership):

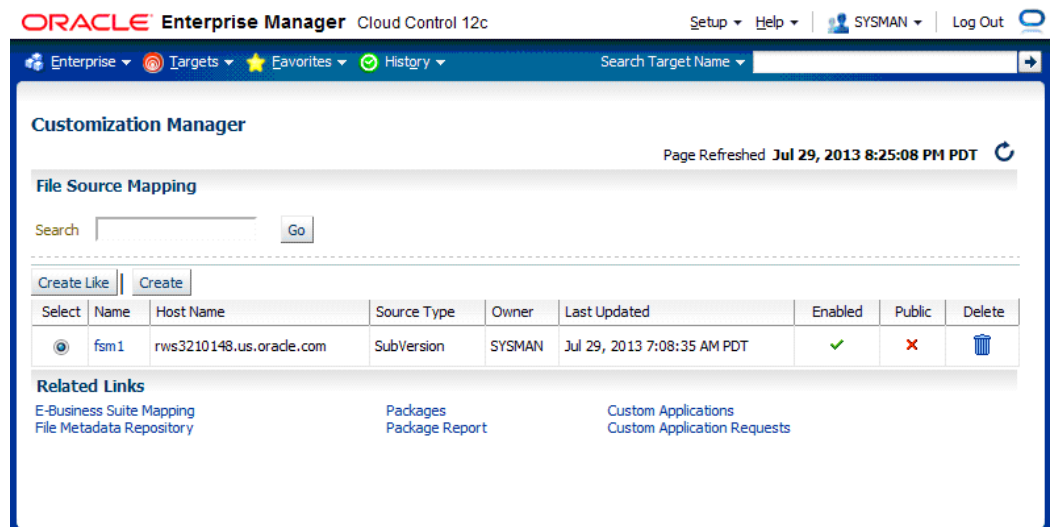
- Using the procedure specified, deploy the package as a patch job in Patch Manager using the **Deploy** button. Packages with statuses "Succeeded" or "Released" can be deployed.
- Update the package metadata using the **Update Metadata** button. Packages with the statuses Succeeded or Released only can be updated for metadata changes, provided they are owned by the user currently logged in.
- Run a report on the package using the **Report** button. Packages with statuses Succeeded, Released or Obsoleted can be used for reports.
- Create a copy of a package using the **Create Like** button.

You can also create a new package using the **Create** button or upload an existing package using the **Upload** button.

Use the Related Links at the bottom of the page to access the following features:

- File Source Mapping
- E-Business Suite Mapping
- Package Report
- File Metadata Repository
- Custom Applications
- Custom Application Requests

File Source Mapping



File Source Mapping captures all the required metadata for retrieving custom files from a source control or file system repository. Creating a File Source Mapping is usually performed once as a setup step. You may create one or more File Source mappings, if required.

The main File Source Mapping page allows you to search for a File Source Mapping by name. The table lists each mapping with the following:

- Name - The name given to the mapping. Click on the link to go to the Update File Source Mapping page.
- Host Name - The name of the host from where the source control or file system is accessible.
- Source Type - The type of the source control system. Valid values are: SubVersion, CVS, File System, or Others.
- Owner - The user who created this File Source Mapping.
- Last Updated - The date and time the mapping was last updated.
- Enabled - Specifies if the mapping is enabled or disabled. You can enable/disable a mapping in the Update File Source Mapping page.
- Public - Whether the given mapping is public. If a mapping is public, all users can view it, but only the owner and Super Administrators can edit it.
- Delete - Use the icon provided to delete a mapping. You can delete a mapping only

when no package is associated with it.

To create a File Source Mapping:

ORACLE Enterprise Manager Cloud Control 12c

Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Create File Source Mapping

* Indicates required field

* Name

* Host Name Preferred Credentials need to be set for this host

* Stage Path Location of the directory with write permissions from where files would be checked out

Source Control Type SubVersion

* Command `svn cat file:///usr/local/svn/%product_code%/%file_path%/%file_name% > %file_name`
Complete checkout command with required parameters. Command should checkout file in the current directory.

☐ Enable Automatic Header Update

Environment Script Script to be run before checkout to set environment parameters

Description

☐ Public

Test Checkout Command

Cancel Submit

Checkout Command Syntax

Describes the parameters used in the Checkout Command

Name	Description
%product_code%	Substitution variable for product code
%file_path%	Substitution variable for source path
%file_name%	Substitution variable for file name
%version%	Substitution variable for version
%lang_code%	Substitution variable for language
%user_name%	Substitution variable for user name
%password%	Substitution variable for password
%branch%	Substitution variable for branch
%tag%	Substitution variable for tag

Perform the following steps to create your File Source Mapping. Note that for the checkout command, you should follow the checkout command syntax provided on the page.

1. Enter the name for the file source mapping.
2. Enter the host name of the file source mapping. You can select the host from the list of values.
3. Enter the stage path. This should be a folder on the given host with read/write access which is used for temporary processing during checkout.
4. Select the source control type. Possible values are:
 - SubVersion
 - CVS
 - File System
 - Others

The source control type is used to default the checkout command. However, the checkout command can be modified based on your source control or file system configuration. If your source control system is not among CVS, SubVersion or File System, then you may choose "Others" and enter your checkout command.

5. Enter the complete command, with required parameters, to be used to check out files. The parameters that can be used to construct the checkout command are mentioned under the "Checkout Command Syntax: section. Oracle strongly recommends that you to test the checkout command by using the "Test Checkout

Command" option. It is also important to ascertain that the user provided within the "host" credentials has the correct permissions on the given host selected for checkout.

6. Optionally enter the environment script to be run before files are checked out, to set any environment parameters or preprocessing, if required.
7. Enter a description for your reference.
8. Mark the file source mapping as Public if desired.

If a file source mapping is marked as Public, any user can view it and use it to create a package. However, only the owner and Super Administrators can edit the file source mapping.

This feature is typically useful when you would want the system administrator to create one mapping and enable all developers to use them, without having them know the details of the source control system.

Note that a Super Administrator can see all transactions. A Super Administrator can access all file source mappings, Oracle E-Business Suite mappings, reports, and packages. A Super Administrator can also modify and delete them.

9. The "Test Command" feature allows you to test the checkout command and the version command provided on the remote checkout host. It is strongly recommended that you test the checkout command and version command to help prevent any failures during checkout while creating a package. Enter Test Checkout Command information

The screenshot shows a web-based form titled "Test Checkout Command". The form is organized into two main columns. The left column contains input fields for "Product", "Source Path", "File Name", "Version", and "Language" (which has a dropdown menu currently showing "Generic"). Below these fields are two buttons: "Preview" and "Test". The right column contains input fields for "Branch", "Tag", "User Name", and "Password". At the bottom of the form, there are two large, empty text areas labeled "Command Preview" and "Test Result".

Enter the following:

- Product
- Source Path
- File Name
- Version

- Language
- Branch - If your source control system requires it and if %branch% token is included within the checkout command.
- Tag - If your source control system requires it and if %tag% token is included within the checkout command.
- User Name - If your source control system requires it and a %user_name% token is included within the checkout command.
- Password - If your source control system requires it and a %password% token is included within the checkout command.

Use the **Preview** or **Test** button to preview or test the checkout command and version command. The results will be shown in the Command Preview or Test Results field.

To create a File Source Mapping using the "Create Like" option:

Select the "Create Like" button to create a file source mapping by copying the details from an existing file source mapping. This procedure can be used typically to create a mirror copy of the file source mapping or create another file source mapping with minor modifications without having to enter all the relevant details about the file source mapping.

To update a File Source Mapping:

You can update a File Source Mapping by clicking on its name listed in the main File Source Mapping page. You can only update the fields described below. It is not possible to update the host for a given file source mapping.

Note that you can check or uncheck the Enabled box to enable or disable a file source mapping.

1. Enter the source control type. Possible values are:
 - SubVersion
 - CVS
 - File System
 - Others
2. Enter the complete command, with required parameters, to be used to check out files.

3. Enter the stage path. The stage path is the location of the directory, with write permissions, to where the files would be checked out.
4. Optionally enter the environment script to be run before files are checked out, to set environment parameters.
5. Enter a description.
6. Mark the file source mapping as Public if desired. If it is marked as Public, all users can view the mapping. However, only the owner and Super Administrators can edit it.
7. The separate preview and test section is provided so that you can preview the checkout command and test it on the remote checkout host. It is strongly recommended that you test the checkout command before actually using it to create a package.

Enter the following:

- Product
- Source Path
- File Name
- Version
- Language
- Branch
- Tag
- User Name
- Password

Use the **Preview** or **Test** button to preview or test the checkout command. The results will be shown in the Command Preview or Test Results field.

Example of a File Source Mapping with Parameters

The following table provides information on the file source mapping parameters and sample values for each parameter.

Name	Description	Related User Interface Page	Sample Value
%product_code%	Substitution variable for the product code	Create/Update Package - File Listing	xxco
%file_path%	Substitution variable for source path	Create/Update Package - File Listing	patch/115/import
%file_name%	Substitution variable for file name	Create/Update Package - File Listing	Custom_Responsibilities.l dt
%version%	Substitution variable for version	Create/Update Package - File Listing	115.32
%lang_code%	Substitution variable for language	Create/Update Package - File Listing	US
%branch%	Substitution variable for branch	Create/Update Package - General	Prod13
%tag%	Substitution variable for tag	Create/Update Package - General	Release12c
%user_name%	Substitution variable for username	Create/Update Package - General	developer1
%password%	Substitution variable for password	Create/Update Package - General	welcome1

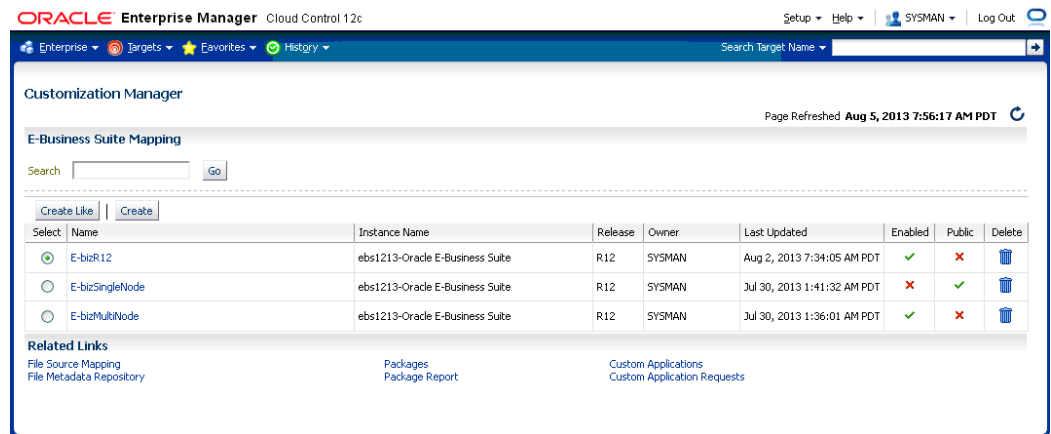
Here is the syntax of a checkout command with the parameters:

```
svn cat
file:///usr/local/svn/%product_code%/%file_path%/%lang_code%/%file_name%
--username %user_name% --password %password% > %file_name%
```

Here is the above checkout command with values substituted for the parameters:

```
svn cat
file:///usr/local/svn/xxco/patch/115/import/US/Custom_Responsibilities.l
dt --username developer1 --password <password> >
Custom_Responsibilities.ldt
```

E-Business Suite Mapping



Creating an E-Business Suite Mapping is an optional setup step. This mapping is used if Java or PLD file compilation is required. It is also used for report generation. The E-Business Suite Mapping indicates the Oracle E-Business Suite instance which would be used to compile Java or PLD files or used for report generation. Please note that all operations on this instance are read-only and using an instance for E-Business Suite mapping cannot cause any kind of change on the given instance via Customization Manager.

The main E-Business Suite Mapping page allows you to search for an E-Business Suite Mapping by name. The table lists each mapping with the following:

- Name - The name given to the mapping. Click on the link to go to the Update E-Business Suite Mapping page.
- Instance Name - The name of the Oracle E-Business Suite instance.
- Release - Release level of the Oracle E-Business Suite instance.
- Owner - The user who created this mapping.
- Last Updated - The date the mapping was last updated.
- Enabled - Specifies if the mapping is enabled or disabled. You can enable/disable a mapping in the Update E-Business Suite Mapping page.
- Public - Whether this E-Business Suite Mapping is available for all users. If a mapping is marked as Public, all users can view it, but only the owner and Super Administrators can edit it.
- Delete - Use the icon provided to delete a mapping. You can delete a mapping only when there are no packages associated with it.

Select the **Create** button to create a new mapping.

To create an E-Business Suite Mapping:

The screenshot shows the Oracle Enterprise Manager Cloud Control 12c interface. The top navigation bar includes 'Enterprise', 'Targets', 'Favorites', and 'History' menus, along with a search bar for 'Target Name'. The main content area is titled 'Create E-Business Suite Mapping'. It contains several fields: 'Name' (required), 'E-Business Suite Instance' (with a search icon and a note about preferred credentials), 'Public' (checkbox), 'Stage Path' (required, with a note about write permissions), 'Prepend Classpath' (with a note about classpath), and 'Description'. There are 'Cancel' and 'Submit' buttons at the top right and bottom right of the form.

Use the following steps to create an E-Business Suite Mapping.

1. Enter a name for the mapping.
2. Enter the name of the reference Oracle E-Business Suite instance. Options for this instance are automatically discovered by Oracle Application Management Pack for Oracle E-Business Suite.
3. Mark the mapping as Public, if desired.

If an E-Business Suite Mapping is marked as Public, any user can view it and use it to create a package, but only the owner and Super Administrators can edit it.

This feature is typically useful when you would want the system administrator to create one mapping and enable all developers to use them, without having them know the details of the source control or Oracle E-Business Suite system.

Note that a Super Administrator can see all transactions, including E-Business Suite mappings. A Super Administrator can access all file source mappings, E-Business Suite mappings, reports, and packages. A Super Administrator can also modify and delete them.

4. Enter the stage path. The stage path is the location of the directory with write permissions used for temporary processing during compilation and build process.
5. Enter the prepend classpath. This field is valid only with Java files; this classpath is prepended to these files when a package is built. This can be used to specify any third party libraries if you custom java files have dependencies on them.
6. Enter a description for the mapping.

To create an E-Business Suite Mapping using the "Create Like" option:

Select the **Create Like** button to create an E-Business Suite Mapping by copying the details from an existing E-Business Suite Mapping. This procedure can be used typically to create a mirror copy of the E-Business Suite mapping or create another E-Business Suite Mapping with minor modifications without having to enter all the relevant details about the E-Business Suite Mapping.

To update an E-Business Suite Mapping:

To update an E-Business Suite Mapping, click on its name in the main E-Business Suite Mapping page. Note that you cannot update the E-Business Suite Mapping name or the instance mapping here.

1. Check the Enabled box if you want the E-Business Suite Mapping to be active.
2. Check or uncheck the "Public" box depending on whether the mapping should be viewable by all users.
3. Enter the stage path. The stage path is the location of the directory with write permissions to where files would be compiled.
4. Enter the prepend classpath. This field is valid only with Java files; this classpath is prepended to the environment classpath during package compilation.
5. Enter a description for the mapping.

Creating a Package

Use the following procedures to create packages:

To create a package:

1. Enter general information for the package. The Package ID is an auto-generated unique number.

- Package Name - Enter a user-friendly name for the package.
- Product - Enter the owning product application. This product can be a custom product created in Oracle E-Business Suite (not in Customization Manager).
- Package Type - Enter the package type. This value is for your own classification and convenience for searching and cataloging. No validation is performed on this field.
- Description - Enter a description for your reference. This description becomes part of the package readme.
- File Source Mapping - Enter the File Source Mapping for this package. Select from the list of previously-defined mappings.
- Branch - Enter the branch for the source control system, if required. The branch will be substituted for the %branch% token within your checkout command.
- Tag - Enter the tag for the source control system, if required. The tag will be substituted for the %tag% token within your checkout command.
- User Name - Enter the user name to connect to the source control system, if required. The User Name will be substituted in the "%user_name%" parameter of the checkout command.
- Password - Enter the password for the above user name, if required. The password entered here would be substituted for the %password% token within your checkout command.
- Upload Manifest - If you have a file manifest in a comma-separated value (CSV) format on your computer, you can upload it here.

The following is an example of a file manifest:

```
#Product,SourcePath,FileName,Version,Type,DestPath,LangCode
xxco,java\r12\reporter\cpserver,XXCOCustomCp.java,115.1,java,java
/r12/reporter/cpserver,Generic
xxco,patch\115\import,XXCOConcprog.ldt,115.9,software
ldt,patch/115/import,US
xxco,patch\115\import,XXCOMenu.ldt,,software
ldt,patch/115/import,US
xxco,patch\115\import,XXCReqGroup.ldt,115.3,software
ldt,patch/115/import,US
xxco,patch\115\import,XXCResp.ldt,115.7,software
ldt,patch/115/import,US
xxco,patch\115\import,XXCOUser.ldt,115.6,software
ldt,patch/115/import,US
xxco,forms,XXCOFRM.fmb,,fmb,forms,US
```

2. Enter the file listing.

ORACLE Enterprise Manager Cloud Control 12c

Enterprise Targets Favorites History Search Target Name

General File Listing Submit

Create Package: File Listing

Remove Include Files

Select All Select None

Select	Product	Source Path	File Name	Version	Type	Destination Path	Language	Status
<input type="checkbox"/>					none		Generic	
<input type="checkbox"/>					none		Generic	
<input type="checkbox"/>					none		Generic	
<input type="checkbox"/>					none		Generic	
<input type="checkbox"/>					none		Generic	
<input type="checkbox"/>					none		Generic	
<input type="checkbox"/>					none		Generic	
<input type="checkbox"/>					none		Generic	
<input type="checkbox"/>					none		Generic	
<input type="checkbox"/>					none		Generic	

Add 10 Rows

Remove Include Files

Cancel Save Back Step 2 of 3 Next

You may add or remove file entries manually from the File Listing page. Alternatively, you may also include file entries from the File Metadata Repository using the **Include Files** button.

For each file, enter the following:

- **Product** - The owning product application. This product can be a custom product created in Oracle E-Business Suite (not in Customization Manager). This would be substituted in the "%product_code%" parameter in the checkout command.
- **Source Path** - The source directory for the file on the source control system or file system. This would be substituted in the "%file_path%" parameter in the checkout command.

- **File Name** - The name of the file. This would be substituted in the "%file_name%" parameter in the checkout command.
- **Version** - Optional. The version of the file. The version is only needed if the checkout command will use the version information. This would be substituted to the "%version%" parameter in the checkout command.
- **Type** - The type of the file. Ensure that correct type is selected for the file entry. The Oracle Applications DBA (AD) patch driver instructions are based on the type selected. For details, please refer to the appendix describing the file types.
- **Destination Path** - The destination path for the file in the Oracle E-Business Suite instance excluding the language subdirectory relative to the product top.
For common file types, a default destination path is provided automatically but this default value can be overridden.

The destination path must be an AD-compliant destination path according to Oracle E-Business Suite standards.

The destination path in the patch driver is automatically suffixed with the language code chosen with exception to "Generic".

Note: For "Generic" files, ensure that the destination path is entered correctly: For example,

```
Product: XXCO
Source Path: forms/US
File Name: IDC.fmb
Destination Path: forms
Language: US
```

The final destination path is "forms/US" but the values are entered separately.

- **Language** - Optional. The language code for the file. Select the language code as needed to generate the respective NLS patch.
- **Status** - The status can be one of the following:
 - **Valid** - Indicates that the entry is valid.
 - **Review** - Indicates that the entry needs to be reviewed.
 - **Duplicate** - Indicates that the entry is duplicated.
 - **Blank** - Indicates that one of the required fields is blank.

Important: Customization Manager strongly recommends that each file included within a customization package has an Oracle-compliant source header present within the file.

The following is a sample Oracle compliant header:

```
$Header: sample.txt 10.1 2012/04/06 09:38 lmathur  
noship $
```

The header contains the following elements:

- Filename
- Revision ID - This needs to be incremented every time a file is checked in
- Date and time of checkin
- Author
- Shipment state - ship/noship

3. Enter in additional information for your package.

ORACLE Enterprise Manager Cloud Control 12c Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

General File Listing **Submit**

Create Package: Submit

* Indicates required field

Cancel Save Back Step 3 of 3 Submit

E-Business Suite Information

Package creation requires EBS instance for compiling java and pld files.

* E-Business Suite Mapping Name Select a E-Business Suite mapping

Package Metadata

Instruction for applying the package.

Instructions

Will be a part of package readme.

Comments

Comment will be recorded in the package history for tracking changes made to the package.

Comments

Prerequisite Information

Prerequisite validation for R12 packages would work only when deployed using Patch Manager.

Remove

Select All | Select None

Select	Patch Number	Comments
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

Add Another Row

Mailing List

Used for sending notifications.

Remove

Select All | Select None

Select	Mailing Address	Success	Failure
<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add Another Row

Cancel Save Back Step 3 of 3 Submit

- Enter the E-Business Suite information (Conditionally required). The E-Business Suite mapping information is only required when the package contains at least one Java or PLD file. You can select the Oracle E-Business Suite Mapping from the list provided.
- Enter the Package Metadata. You can enter the instructions for package application here. These instructions will become part of the package readme.
- Enter Comments. These comments will be recorded as part of the package history for tracking changes made to the package.
- Enter Prerequisite Information.

For Release 11i packages, you can enter one or more prerequisite patch numbers that can be used for deployment validation with AD utilities.

For Release 12 (and higher) packages, enter in the prerequisite patch numbers that will be used in validation when the package is deployed through Patch

Manager. Note that this validation is done only if you use the **Check Prerequisites** button in the Patch Details page when creating a patch run in Patch Manager.

Note: Prerequisite information entered here for Release 12 packages is only used in deployment by Patch Manager.

- Enter Mailing List information.

You can enter e-mail addresses for people who should be sent notifications about the package's creation status on the event of success or failure. It is recommended to have e-mail notifications set so that the appropriate users can be notified about the package success or failure.

4. Click **Submit**.

To create a package using the "Create Like" option:

The screenshot shows the 'Create Package: General' form in the Oracle Enterprise Manager interface. The form is divided into two main sections: 'General' and 'File Listing'. The 'General' section contains fields for 'Package ID' (10000000000005), 'Package Name' (Copy of package1_Aug 05, 2013 0), 'Release' (R12), 'Product' (jcxco), 'Package Type' (AOL), and 'Description'. The 'File Listing' section contains fields for 'File Source Mapping' (SVNSource), 'Branch' (Prod13), 'Tag' (Release12C), 'User Name', 'Password', and 'Upload Manifest'. The form also includes a 'Cancel' button and a 'Next' button. The 'Package ID' field is marked as auto-generated. The 'Package Name' field is marked as required. The 'Release' field is marked as required. The 'Product' field is marked as required. The 'Package Type' field is marked as required. The 'Description' field is marked as required. The 'File Source Mapping' field is marked as required. The 'Branch' field is marked as required. The 'Tag' field is marked as required. The 'User Name' field is marked as required. The 'Password' field is marked as required. The 'Upload Manifest' field is marked as required. The form is titled 'Create Package: General' and has a 'Cancel' button and a 'Next' button. The form is part of a wizard with three steps: 'General', 'File Listing', and 'Submit'.

Customization Manager allows you to create a package by copying the details from an existing package. This procedure can be used typically to create a mirror copy of the package or create another package with minor modifications without having to enter all the relevant details about the package.

Note: If you are using a version of Mozilla Firefox higher than 5, the Create Like page is not loaded automatically. To work around this issue, click the **Refresh** button on the page.

To create a package using the Upload option:

The screenshot shows the 'Upload Package' interface. At the top, there's a navigation bar with 'Enterprise', 'Targets', 'Favorites', and 'History' menus, and a 'Search Target Name' field. The main form is titled 'Upload Package' and includes a 'Cancel' and 'Submit' button. The form fields are as follows:

- * Package Name: Text input field
- Release: Dropdown menu with '11i' selected
- * Product: Text input field
- Package Type: Dropdown menu with 'AOL' selected
- Description: Large text area

Below these fields is the 'Package Metadata' section with the instruction 'Instructions for applying the package.' and a text area for 'Instructions'.

The 'Select Patch For Upload' section includes the instruction 'You may upload related patches from your desktop.' and an 'Upload Patch' text input field with a 'Browse...' button next to it. Below this is an 'Upload' button.

At the bottom is the 'Uploaded Patches' section, which contains a table with the following columns: File Name, Language, Size, and Delete.

File Name	Language	Size	Delete

If you have any legacy custom patches, the same can be uploaded to the Customization Manager repository in context to a new customization package. Click the **Upload** button from the package search page to upload an existing custom patch. While uploading a custom patch, the following information is required:

- Package Name
- The release to which the custom patch belongs to.
- The custom product/application associated with the custom patch
- Package type: only for classification purposes
- Description for your reference
- Any specific instructions for applying the custom patch

You can upload one or more custom patches (NLS patches) to this customization package. However, it is important that all of them must be associated with the same unique patch number. Clicking the **Submit** button creates a customization package with the status "Succeeded". This customization package can now be deployed just like any other customization package and can be "Released" or "Obsoleted", when required.

Updating a Package

To update a package, find the package listing in the main Customization Manager page and select the icon in the Update column.

To update a package's definition:

1. Enter general information for the package. The Package ID is an auto-generated unique number and cannot be updated. The Package Name cannot be updated as well.
 - Release - Choose the release for the package.
 - Product - Enter the owning product application. This product can be a custom product created in Oracle E-Business Suite (not in Customization Manager).
 - Package Type - Enter the package type. This value is for your own classification and convenience for searching and cataloging. No validation is performed on this field.
 - Description - For your reference.
 - File Source Mapping - Enter the File Source Mapping for this package. Select from the list of previously-defined mappings.
 - Branch - Enter the branch for the source control system, if required. The branch will be substituted for the %branch% token within your checkout command.
 - Tag - Enter the tag for the source control system, if required. The tag will be substituted for the %tag% token within your checkout command.
 - User Name - Enter the user name to connect to the source control system, if required. The User Name and Password (below) will be substituted in the "%user_name%" and "%password%" parameters of the checkout command.
 - Password - Enter the password for the above user name, if required.
 - Upload Manifest - If you have a file manifest as a comma-separated value (CSV) format on your computer, you can upload it here.
2. You may add or remove file entries manually from the File Listing page. Alternatively, you may also include file entries from the File Metadata Repository using the **Include Files** button.

For each file, enter the following:

- Product - The owning product application. This product can be a custom

product created in Oracle E-Business Suite (not in Customization Manager).

- Source Path - The source directory for the file on the source control system or file system. This would be substituted in the "%file_path%" parameter in the checkout command.
- File Name - The name of the file. This would be substituted in the "%file_name%" parameter in the checkout command.
- Version - Optional. The version of the file. The version is only needed if the checkout command will use the version information. This would be substituted in the "%version%" parameter in the checkout command.
- Type - The type of the file. Ensure that correct type is selected for the file entry. type. The Oracle Applications DBA (AD) patch driver instructions are based on the type selected.
- Destination Path - The destination path for the file in the Oracle E-Business Suite instance excluding the language subdirectory. This must be an AD-compliant destination path according to Oracle E-Business Suite standards. The destination path in the patch driver is automatically suffixed with the language code chosen with exception to "Generic". The destination path for a file entry is defaulted to the source path, which may be modified if necessary.
- Language - Optional. The language code for the file. Select the language code as needed to generate the respective NLS patch.

3. Enter in additional information for the package.

- Enter the E-Business Suite mapping information (Conditionally required). The E-Business Suite mapping information is only required when the package contains at least one Java or PLD file. You may select the E-Business Suite Mapping from the list provided.
- Enter the Package Metadata. You can enter the instructions for package application here. These instructions will become part of the package readme.
- Enter Comments. These comments will be recorded as part of the package history for tracking changes made to the package. As a best practice, it is recommended to add comments describing the changes done to the package and other details. Any comments added are tracked with the package history information.
- Enter Prerequisite Information.

For Release 11*i* packages, you can enter one or more prerequisite patch numbers that can be used for deployment validation with AD utilities.

For Release 12 (and higher) packages, enter in the prerequisite patch numbers that will be used in validation when the package is deployed through Patch Manager. Note that this validation is done only if you use the **Check Prerequisites** button in the Patch Details page when creating a patch run in Patch Manager.

Note: Prerequisite information entered here for Release 12 packages is only used in deployment by Patch Manager.

- Enter in Mailing List information. You can enter e-mail addresses for people who should be sent notifications about the package's update status on the event of success or failure.

4. Click **Submit**.

Saving a Package

If, in the process of creating or updating a package definition, you want to save the package definition before submitting a request to have Enterprise Manager actually build the package, click the **Save** button on the File Listing page or the Submit page of the Create/Update process. Your package definition will be saved and it will appear on the main Customization Manager page with a status of Saved.

Searching for a Package

You can perform an Advanced Search for packages with the following criteria:

- Name
- ID
- Product
- Instruction Contains
- Prerequisite Patch
- Description Contains
- Owner
- Release
- Package Type

- Standards Check Results
- Status
- Language
- Public (Choose whether you want results with only Public packages, no Public packages, or either)
- Contains File
- Contains File with Version (Used in conjunction with "Contains File")
- Updated within (Days)
- File Source Mapping Name
- Branch
- Tag
- E-Business Suite Mapping Name
- Last Updated By

Viewing Package Details

View package details by selecting its name in the search results table on the main Customization Manager page.

Package Details

The following details are shown in this region:

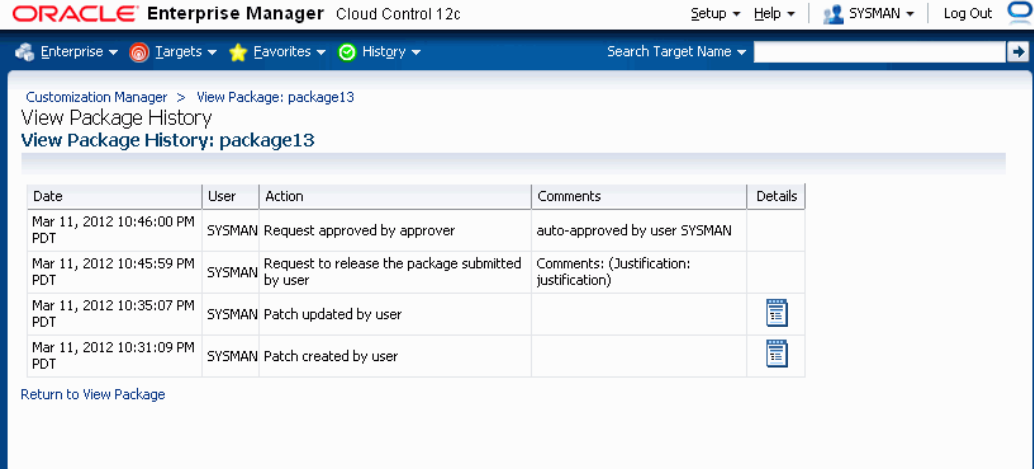
- Package ID
- Release
- Standard Checker Results - For detailed results, click on the link.
- Created - The date and time the package was created.
- Last Updated - The date and time the package was last updated.
- Last Updated By - The user who last updated the package.
- Status - The status of the package. Possible values are: In Progress, Succeeded,

Saved, Failed, Released, and Obsoleted.

- Product
- Package Type
- E-Business Suite Mapping Name – If applicable.
- File Source Mapping Name
- Owner
- Uploaded: Whether this package was created as a result of a patch upload.
- Public: Whether this package is shared across all users.

History Details (View Package History)

The package history provides a chronological view of all the important events in the lifecycle of a package.



ORACLE Enterprise Manager Cloud Control 12c



Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Customization Manager > View Package: package13

View Package History

View Package History: package13

Date	User	Action	Comments	Details
Mar 11, 2012 10:46:00 PM PDT	SYSMAN	Request approved by approver	auto-approved by user SYSMAN	
Mar 11, 2012 10:45:59 PM PDT	SYSMAN	Request to release the package submitted by user	Comments: (Justification: justification)	
Mar 11, 2012 10:35:07 PM PDT	SYSMAN	Patch updated by user		
Mar 11, 2012 10:31:09 PM PDT	SYSMAN	Patch created by user		

[Return to View Package](#)

Select the **History Details** button to go to the View Package History page, which provides high-level history tracking of the package, including the timestamp and user-entered comments for the following events:

- Creation of package
- Update of package
- Release of package

You can also drill down to the Oracle Enterprise job details for the package creation and any updates.

View Log

Use the **View Log** button to view the most recent Oracle Enterprise Manager job details for the package.

Download Log

Use the **Download Log** button to download the consolidated log for the package creation.

Description

Any description entered for the package is shown here.

Instructions

Instructions entered in the Package Metadata field are shown here.

Patch Downloads

For each patch generated, the following information is shown here:

- File Name - Click on the patch file name link to download the patch.
- Language - The language of the patch.
- Size - The size of the patch.
- Readme - Click on the icon to download the readme. The readme file is in HTML format and includes the package description and package metadata.

Typically, each customization package could be associated with one or more language patches.

Manifest

The file manifest is shown here. Details for each file include Product, Source Path, File Name, Language, Destination Path, Version, and Last Updated timestamp.

Use the **Download Manifest** button to download the manifest as a comma-separated values (CSV) file, viewable in Microsoft Excel.

You can search for a specific file by entering in the file name in the "Locate File" field and clicking **Go**. Wildcard characters "%" and "*" are supported here.

Technology Stack Details

The Technology Stack details for a package provide a snapshot of the technology stack properties for the Oracle E-Business Suite instance where the package was compiled. Patch Manager, when deploying the patch, checks the compatibility of the details specified here with the environment to which the package is being deployed. You can first check Technology Stack compatibility yourself by running "Instance Comparison" reports.

Attachments

You may add or remove any associated documentation like project plan, design documents, and so on. For each attachment, the following is listed:

- File Name
- Description
- Last Updated timestamp

You can remove an attachment from the package using the Delete icon. If the package is Released or Obsoleted, then the attachments cannot be deleted.

Prerequisite Information

Any prerequisite patches are listed here along with any comments.

Mailing List

View the e-mail addresses for people who should be sent notifications about the package, on the event of success or failure.

Package History

View the history of the package by clicking the **History Details** button. The package history captures a trail of all major actions upon the package with the comments captured.

Updating Package Metadata

The screenshot shows the Oracle Enterprise Manager interface with the 'Update Package Metadata' dialog open for 'package24'. The dialog has a title bar with 'ORACLE Enterprise Manager Cloud Control 12c' and navigation links like 'Setup', 'Help', 'SYSMAN', and 'Log Out'. Below the title bar is a search bar and navigation tabs: 'Enterprise', 'Targets', 'Favorites', and 'History'. The main content area is titled 'Update Package Metadata for Package: package24' and contains the following fields:

- Package ID:** 100000000050
- Package Name:** package24
- Release:** R12
- Product:** xxco
- Package Type:** AOL
- Status:** A dropdown menu currently showing 'Succeeded'.
- ☐ **Add file metadata to file repository**
- ☐ **Public**
Released/Obsoleted packages are 'Public' by default.
- Comments:** A text area for adding comments.

Below the comments field, a note states: 'Comment will be recorded in the package history for tracking changes made to the package'. There are 'Cancel' and 'Submit' buttons at the top right and bottom right of the dialog.

Package metadata can be updated to change the status of the package or to push the file entries metadata in the package to the File Metadata Repository. The "Update Package Metadata" page enables you to do the following:

- Change the status of the package. You can release or obsolete a package by changing its status to "Released" or "Obsoleted". Once a package is updated to the "Released" status, it can no longer be updated and becomes accessible to other users. Once a package is updated to the "Obsoleted" status, it can no longer be updated or deployed.

Note: With the Change Approval Framework, once an approver approves a request to release/obsolete a customization package from a user, the package is released/obsoleted. The user does not need to release/obsolete the package explicitly after the approval.

Tip: Add comments for future reference when you release or obsolete a package. For example, state the reason why you are obsoleting a package.

- Add file metadata entries to the File Metadata Repository.
- If you are the owner of the package or super administrator, you can mark the package as "Public" which entitles the package to be shared across all users for view/update.
- Add comments which are recorded in the package history for the above changes.

Standards Checker Results

The results of the standards checker can be accessed by clicking on the standards checker status.

The standard checker results can also be downloaded as a CSV format file by clicking the **Download Results** button.

To view details about the standard checker validations for a given file, click on the overall status against each file. The details about the standard checker validations include the standard name, result and the message.

In case the standard checker completes with "Error", the package processing is aborted and there are no patches generated.

Package Reports

Customization Manager offers powerful reporting capabilities to help you document, compare and track your customizations. You can generate three types of reports on packages:

- A Standard report gives you details on a single package, including technology stack requirements and the file manifest. You might use this to document customizations.
- A Comparison report allows you to compare two packages. For example, you might want to compare their technology stack snapshots or the versions of the files included in the packages.
- An Instance Comparison report allows you to compare the details of the package with that of an actual Oracle E-Business Suite instance. The details which are compared include custom application, file driver file entries, file manifest and versions, and the technology stack snapshot of a package to the technology stack properties of a given instance. By doing this comparison you can determine possible compatibility issues of the package with the instance and assess the possible impact/possible issues before actually applying the patch.

The technology stack compatibility information and the report is also available from the Patch Manager interview process by clicking the "Technology Stack Report" icon on the Patch Details page.

Important: Oracle strongly recommends that you generate an Instance Comparison report for each custom package and the instance where it is intended to be deployed to identify any technology stack incompatibilities before actually applying the patch.

Reports can be accessed from the Reports link on the Change Management dashboard, or from the Reports link under Related Links on the Package Search page.

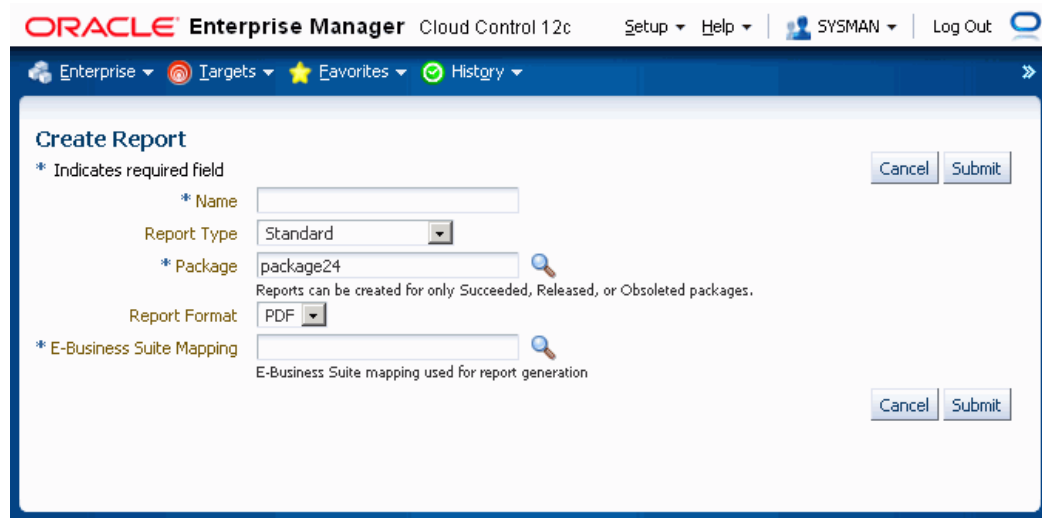
Creating a Report

To create a report, you can

- Select a package from the Package Search results page and click **Report**
- Click **Report** button on the View Package page, or
- Click the **Create** button on the Package Report page.

To create a Standard Report:

A Standard report gives you details on a single package, including technology stack requirements and the file manifest.



The screenshot shows the 'Create Report' dialog box in the Oracle Enterprise Manager interface. The dialog has a title bar with 'Enterprise', 'Targets', 'Favorites', and 'History' tabs. The main content area is titled 'Create Report' and contains several fields and buttons. The fields are: 'Name' (required, empty), 'Report Type' (dropdown menu showing 'Standard'), 'Package' (required, containing 'package24'), 'Report Format' (dropdown menu showing 'PDF'), and 'E-Business Suite Mapping' (required, empty). There are two 'Cancel' and 'Submit' buttons. A note below the 'Package' field states: 'Reports can be created for only Succeeded, Released, or Obsolete packages.' A note below the 'E-Business Suite Mapping' field states: 'E-Business Suite mapping used for report generation.'

1. Enter in a user-friendly name for your report.
2. Choose Standard for the Report Type.
3. Enter the package you want the report to be based on in the Package field. This package must have the status of Succeeded, Released, or Obsolete.
4. Enter the Report Format. Options are:
 - PDF (Portable Document Format)
 - RTF (Rich Text Format)
 - XLS (Microsoft Excel format)
5. Enter the Oracle E-Business Suite Mapping to be used for the report generation.

6. Click **Submit**.

To create a Comparison Report:

A Comparison report allows you to compare two packages. For example, you might want to compare technology stack requirements or versions of the files included in the packages.

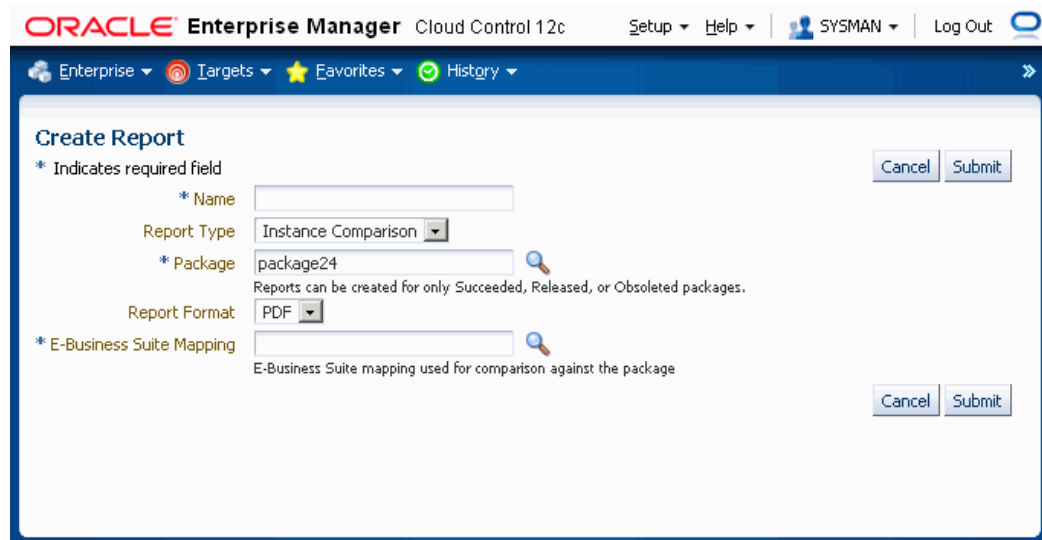
The screenshot shows the Oracle Enterprise Manager interface with the 'Create Report' dialog box open. The dialog has a title bar with 'Enterprise', 'Targets', 'Favorites', and 'History' tabs. The main content area is titled 'Create Report' and contains several fields and buttons. The fields are: 'Name' (text input), 'Report Type' (dropdown menu set to 'Comparison'), 'Primary Package' (text input with 'package24' entered), 'Secondary Package' (text input), 'Report Format' (dropdown menu set to 'PDF'), and 'E-Business Suite Mapping' (text input). There are two 'Cancel' and 'Submit' buttons at the bottom right. A note at the bottom states: 'E-Business Suite mapping used for report generation'.

1. Enter in a user-friendly name for your report.
2. Choose Comparison for the Report Type.
3. Enter the package name in the Primary Package field. This package must have the status of Succeeded, Released, or Obsolete.
4. Enter the package name in the Secondary Package field. This package must have the status of Succeeded, Released, or Obsolete.
5. Enter the Report Format. Options are:
 - PDF (Portable Document Format)
 - RTF (Rich Text Format)
 - XLS (Microsoft Excel format)
6. Enter the Oracle E-Business Suite Mapping to be used for the report generation. Please note that this instance would be only used to publish the report using BI Publisher.
7. Click **Submit**.

To create an Instance Comparison Report:

An Instance Comparison report allows you to compare the technology stack properties of a package to the technology stack properties of a given instance. By doing this comparison, you can tell if the package can be properly deployed on the instance.

In addition, the report lists any missing entries in the file driver file, and compares files and versions within the package to those of the instance.



The screenshot shows the Oracle Enterprise Manager interface with the 'Create Report' dialog box open. The dialog has a title bar with 'Enterprise', 'Targets', 'Favorites', and 'History' tabs. The main content area is titled 'Create Report' and contains several fields and buttons. At the top right are 'Cancel' and 'Submit' buttons. The fields are: 'Name' (required, empty text box), 'Report Type' (dropdown menu showing 'Instance Comparison'), 'Package' (required, text box containing 'package24'), 'Report Format' (dropdown menu showing 'PDF'), and 'E-Business Suite Mapping' (required, empty text box). Below the 'Package' field is a note: 'Reports can be created for only Succeeded, Released, or Obsolete packages.' Below the 'E-Business Suite Mapping' field is a note: 'E-Business Suite mapping used for comparison against the package'. At the bottom right are 'Cancel' and 'Submit' buttons.

1. Enter in a user-friendly name for your report.
2. Choose Instance Comparison for the Report Type.
3. Enter the package you want the report to be based on in the Package field. This package must have the status of Succeeded, Released, or Obsolete.
4. Enter the Report Format. Options are:
 - PDF (Portable Document Format)
 - RTF (Rich Text Format)
 - XLS (Microsoft Excel format)
5. Enter the Oracle E-Business Suite Mapping to be used for the report comparison. The Oracle E-Business Suite instance referred by this mapping would be the one which would be compared against the package. As a best practice, it is recommended to generate an instance comparison report for every instance where you intend to deploy the package, to identify any possible incompatibilities/issues before actually applying the package.

- Click **Submit**.

Viewing a Report

To access reports, navigate to the Change Management tab > Package Report, or to the Customization Manager home page > Package Report (under Related Links).

ORACLE Enterprise Manager Cloud Control 12c

Setup ▾ Help ▾ SYSMAN ▾ Log Out

Enterprise ▾ Targets ▾ Favorites ▾ History ▾ Search Target Name

Customization Manager

Page Refreshed Mar 17, 2012 11:28:39 PM PDT

Package Report

Search Go Advanced Search

Create

Name	Type	Primary Package	Secondary Package	E-Business Suite Mapping	Format	Status	Owner	Last Updated	Download	Details	Delete
report3R12	Comparison	package12	package17	E-bizR12_1		Succeeded	SYSMAN	Mar 14, 2012 2:09:49 AM PDT	report3R12.zip		
report2R12	Comparison	package16	package17	E-bizR12		Succeeded	SYSMAN	Mar 14, 2012 1:51:03 AM PDT	report2R12.zip		
report1R12	Standard	package16		E-bizR12		Succeeded	SYSMAN	Mar 14, 2012 1:47:17 AM PDT	report1R12.zip		
report4I1i	Instance Comparison	package1		E-biz311i		Succeeded	SYSMAN	Mar 7, 2012 10:53:54 PM PST	report4I1i.zip		
report1I1i	Standard	package1		E-biz311i		Succeeded	SYSMAN	Mar 7, 2012 10:49:28 PM PST	report1I1i.zip		
report3I1i	Comparison	package7	package5	E-biz311i		Succeeded	SYSMAN	Mar 7, 2012 10:47:16 PM PST	report3I1i.zip		
report2I1i	Comparison	package2	package4	E-biz111i		Succeeded	SYSMAN	Mar 7, 2012 10:15:33 PM PST	report2I1i.zip		

Related Links

File Source Mapping Packages Custom Applications
File Metadata Repository E-Business Suite Mapping Custom Application Requests

In the Package Report search results table, the following is shown for each report:

- Name - The name of the report.
- Type - The type of the report; either Standard, Comparison, or Instance Comparison.
- Primary Package - The primary package on which the report is based.
- Secondary Package (if any) - For Comparison reports, the second package used in the comparison.
- E-Business Suite Mapping - The E-Business Suite Mapping used in the report generation or comparison.
- Format - The format of the report; either PDF, RTF, or XLS.
- Status - The status of the report.
- Owner - The user who created the report.
- Last Updated - The Last Updated timestamp for the report.

- Download - Click on the link provided to download a ZIP file containing the report.
- Details - Click on the Details icon to view details on the report submission job. This link takes you to the Oracle Enterprise Manager Deployments Status page for the report submission.
- Delete - Click on the Delete icon for the report to delete the report.

Standard Report Output File

The Standard Report output file has three sections:

- Package Details - Information pertaining to the package's definition.
- Technology Stack Information - Properties and values of the technology stack of the instance mapped through the Oracle E-Business Suite Mapping for the package.
- File Manifest - The listing of the files in the package, including their respective product, source path, name, version, language, and type.

Comparison Report Output File

The Comparison Report output file has three sections:

- Package Details - Information pertaining to the packages' definitions.
- Technology Stack Information - This section shows a comparison of the values of the two packages' technology stack details.
- File Manifest - This section shows a comparison of the versions of each given file in the two packages.

Instance Comparison Report Output File

The Instance Comparison Report output file has six sections:

- Package Details - Information pertaining to the package's definition.
- Oracle E-Business Suite Instance Information - Basic information for the instance used in the report comparison. Information includes name, patch level for Applications DBA (AD), patch level for Oracle Application Object Library (FND), and the database release information.
- Missing custom products/applications.
- Missing entries in file driver file.

- File comparison to report missing files or version differences.
- Technology Stack Details - For each given property, this table lists the value for the package and the Oracle E-Business Suite instance, and how they compare to each other.

Searching for a Report

You can search for a report by its name on the main Package Report page, or click the Advanced Search link to search based on additional criteria, including:

E-Business Suite Mapping - The E-Business Suite mapping used for the report generation or comparison.

- Primary Package - The primary package for the report.
- Secondary Package - The secondary package, if any. The secondary package would be used in Comparison Reports.
- Type - The type of report; either Standard, Comparison, or Instance Comparison.
- Report Format - The format chosen for the report; either PDF, RTF, or XLS.

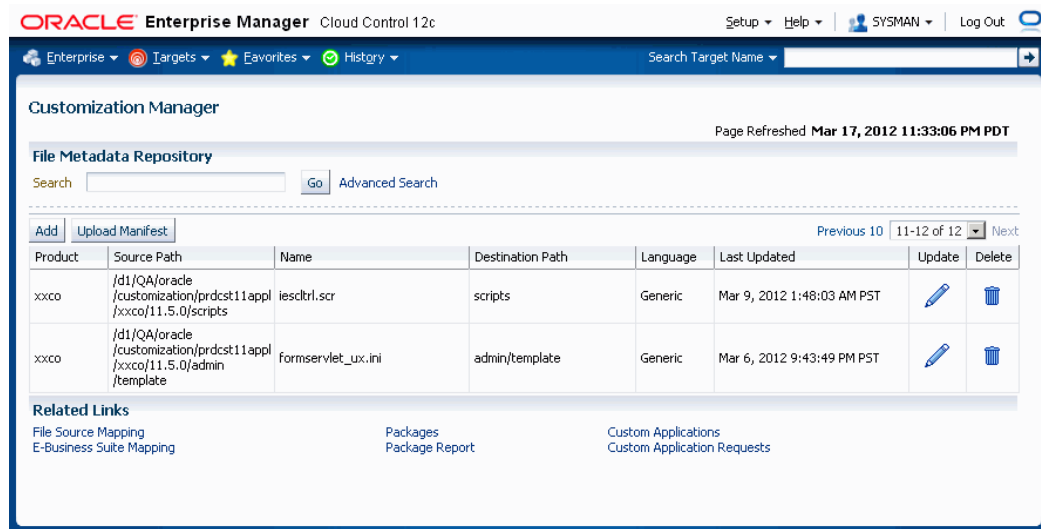
Releasing and Sharing a Package

After a package is released, it is implicitly shared with other users to deploy. Use the Update Package Metadata page to release a package. See: Updating Package Metadata, page 14-33.

Note: With the Change Approval Framework, once an approver approves a request to release a customization package from a user, the package is released. The user does not need to release the package explicitly after the approval.

Before you deploy a custom package in Patch Manager, you should run the Instance Comparison Report to compare the technology stack properties of the package with those of the instance to which the package is being deployed. Patch Manager does not stop the deployment of a patch if the technology stack properties are not compatible, so you should make your best judgement based on the Instance Comparison Reports.

Maintaining the File Metadata Repository



The File Metadata Repository stores metadata information on each file. It can be used as a cataloging repository for all custom files within your enterprise.

The File Metadata Repository is also aware of the objects within the custom files. This capability typically applies to SQL scripts and PL/SQL packages where the objects are tables, indexes, sequences, views, and so on.

The system can parse and discover objects within custom files when added to the File Metadata Repository. This can be initiated from the "Update Package metadata" screen on clicking the box "Add file metadata to file repository".

Examples of custom objects include:

- Tables
- Views
- Mviews and Mview logs
- Triggers
- PL/.SQL package names
- Indexes

You can view and updates objects populated for a give file. You can also search for files containing specified objects and include them during package creation or update.

Search capabilities are limited to:

- PL/SQL spec and body (all formats)
- SQL files
- Oracle Application Framework XML files
- XDF

The information on a file can be uploaded to the repository in one of three ways:

- By uploading a package's file manifest in CSV format to the repository.
- By adding metadata for an individual file manually to the repository.
- By updating the metadata for a file already in the repository.

You can add metadata to the repository using the "Add file metadata to file repository" option in the Update Metadata page.

The File Metadata Repository can be accessed from its link on the Change Management Dashboard under Customization Manager.

You can search for a file by entering the filename in the Search field on the main File Metadata Repository page. Alternatively, use Advanced Search to search for its file using one or more of the following: Filename, Product, Language, Source Path, Destination Path, or Object Name.

Also, during the package create/update flow, you can search for files or files referring to objects within the file metadata repository using the **Include Files** button.

To upload a file manifest:

1. Select the **Upload Manifest** button from the main File Manifest Repository page.
2. Select your file manifest file using the **Browse** button for the File Manifest field.
3. Optionally add a description.
4. Click **Submit**.

To upload an individual file:

1. Enter the name of the file.
2. Enter the product to which the file belongs.
3. Enter its source path.
4. Enter the destination path.

5. Enter the language for the file.
6. Optionally enter a description.
7. Click **Submit**.

To update the metadata for a file already in the File Metadata Repository:

1. Select the Update icon for the file in the Search results table in the main File Metadata Repository page.
2. Update the file name, product, source path, destination path, language, and/or description as desired.
3. Click **Submit**.

You can associate one or more customization objects to a given file in the Related Objects region. For instance, a PLS file might be associated with a PL/SQL procedure name as one of the objects. You might update a given file entry to associate one or more customization objects to it. This capability allows you to catalog and later search for customization objects using the Advanced Search option within the File Metadata Repository. However, there are currently no validation checks built into the system that use this information during package creation or deployment.

Managing Custom Applications

You can manage your custom applications via the dashboard. The common dashboard allows you to:

- View custom applications and instance associations
- Hide and unhide the custom applications within Customization Manager
- Register a new custom application
- Validate an already registered custom application
- If a validation request fails, run the Auto-Correct feature for the application

Navigation: The Custom Applications page is accessible from the Change Management Dashboard > Customization Manager region > Custom Applications link.

ORACLE Enterprise Manager Cloud Control 12c

Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Customization Manager

Page Refreshed Aug 5, 2013 9:00:41 AM PDT

Custom Applications

Search Go ☒ Show Hidden Custom Applications

Hide Unhide Add New Custom Application Go

Select	Application Short Name	Application Name	Hidden	Last Updated By	Last Updated On	Details
<input checked="" type="radio"/>	xxut	xxut	Yes	SYSMAN	Aug 5, 2013 9:00:38 AM PDT	Details
<input type="radio"/>	xxco	xxco	No	SYSMAN	Aug 5, 2013 8:59:44 AM PDT	Details

Related Links

[File Source Mapping](#)
[Packages](#)
[E-Business Suite Mapping](#)
[File Metadata Repository](#)
[Package Report](#)
[Custom Application Requests](#)

- A custom application "definition" is de-coupled from registration. Once an application is defined, it can be registered on one or more instances.
- A user must have the "Approve splice request" privilege to hide and unhide custom applications. By default, hidden custom applications will be invisible. A user can check "show hidden custom applications" box to view the hidden custom applications.

To define a new custom application:

1. Navigate to the Custom Applications page. Select "New Custom Application" from the Add drop-down list and click **Go**. The Define Custom Applications page appears.

ORACLE Enterprise Manager Cloud Control 12c Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Define Custom Applications

* Indicates required field

* Application Short Name
Only alphanumeric, lowercase characters are allowed. Can be prefixed with xx.

* Application Name
Description

Cancel Submit

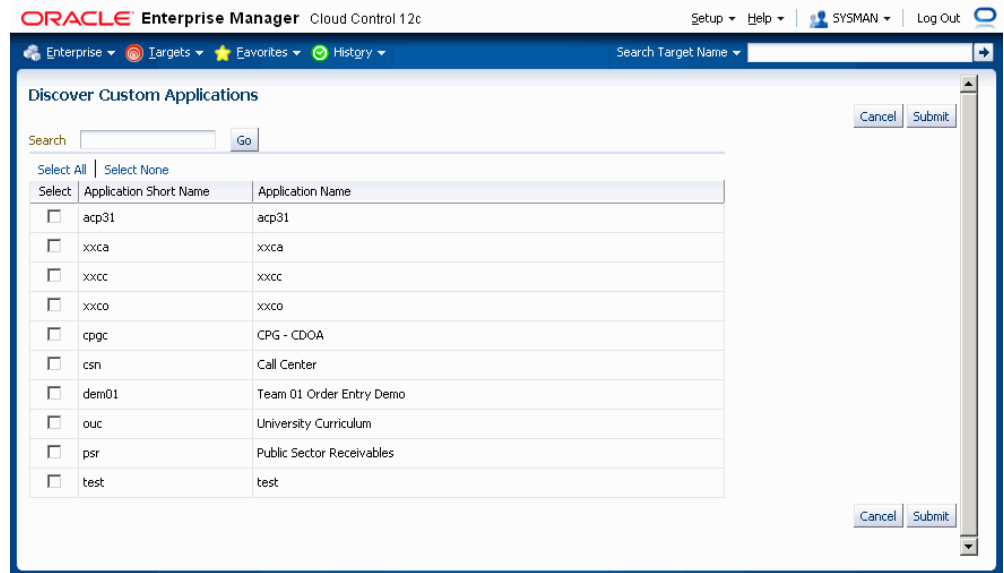
Cancel Submit

2. Specify an Application Short Name for your application. Note that only alphanumeric characters are allowed, and letters must be lowercase. The application short name is recommended to be prefixed with "xx".
3. Specify an Application Name for your application.
4. Optionally provide a description.
5. Click **Submit** to save your work.

Note that a custom application definition is not associated with any specific Oracle E-Business Suite instance but can be used to register the given custom application on one or more Oracle E-Business Suite instances.

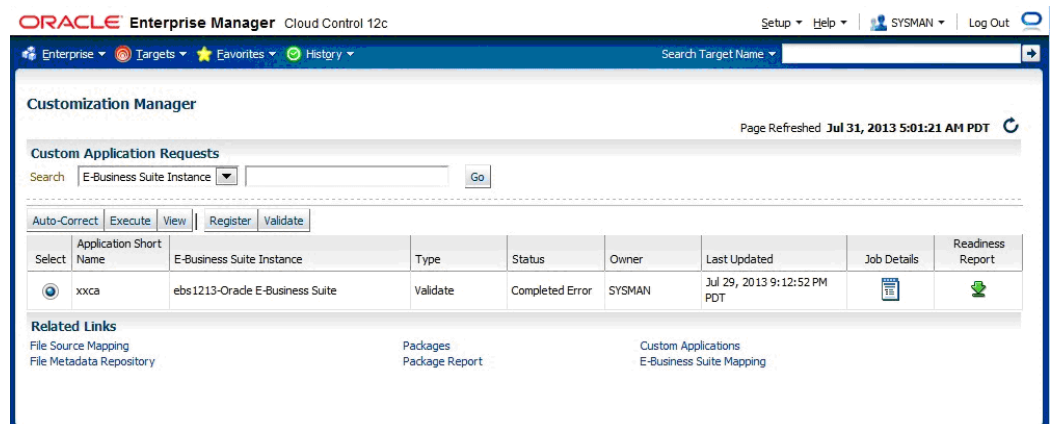
To discover an existing custom application:

1. Navigate to the Custom Applications page. Select "Existing Custom Application" from the Add drop-down list and click **Go**. The Discover Custom Applications page appears.



2. Select the custom application you wish to discover and click **Submit**. You can use the Search feature to narrow down the results the table.

To validate a custom application:



Existing registered applications can be validated.

For more information on validation, see: Validation of Custom Applications: Examples, page E-1.

1. Navigate to the Custom Applications page. Click the "Custom Application Requests" link under Related Links. The Custom Application Requests page appears. Select a request, and click the **Validate** button. Alternatively, you can also select the instance and click the **Validate** button from the custom application view details screen.

2. Enter in the Application Short Name for the application. You can use the LOV provided. Note that the Application Name defaults in.
3. Enter in the Oracle E-Business Suite instance. You can use the LOV provided. Note that the Preferred Credentials need to be set for this Oracle E-Business Suite instance.
4. Select "Generate Readiness Report for Online Patching" if desired. It reports Edition-Based Redefinition (EBR) violations in the specified custom schema that include objects not complying with the EBR rules about non-editioned objects (data storage objects such as tables and materialized views), and referencing editioned 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 for Release 12.2.
5. Click **Submit**. A job to validate the custom application will be submitted. Validation is based on certain standards and is provided by Oracle Applications DBA (AD) utilities.

To run Auto-Correct on a custom application request

If your request to validate a custom application fails, you can use the Auto-Correct feature to help you make the custom application conform to Oracle E-Business Suite standards.

Note: This feature can only be used on failed validation requests.

The user who submits the auto-correction request must have the splice request privilege.

The request must be approved for execution using Change Approval.

1. Navigate to the Custom Applications page. Click the "Custom Application Requests" link under Related Links. The Custom Application Requests page appears. Select a request and click the **Auto-Correct** button.

Note: If you choose a request that did not fail in the Validation step, you will receive the error "Only failed validation requests are shown for auto-correction."

ORACLE Enterprise Manager Cloud Control 12c Setup Help SYSMAN Log Out

Enterprise Targets Favorites History Search Target Name

Auto-Correct Custom Application: xxco

* Indicates required field

Application Short Name: xxco
 Application Name: xxco
 E-Business Suite Instance: sin122_Oracle E-Business Suite
Preferred Credentials need to be set for this E-Business Suite instance.

Custom Application's Schema Password:
Defaults to application short name.

Notification E-mail(s):
Notification purposes only: comma separated email addresses of users who could review/approve the request

* Justification:

☐ Run AutoConfig

TIP AutoConfig execution is necessary for the custom application to be available for patching. Please run AutoConfig manually if you do not choose to run it during custom application registration.

Cancel Submit

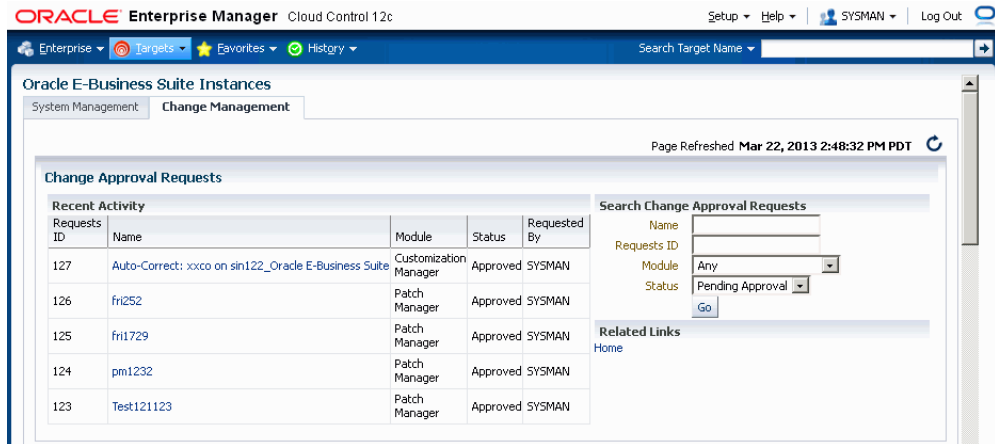
2.

In the Auto-Correct Custom Application page, enter the following:

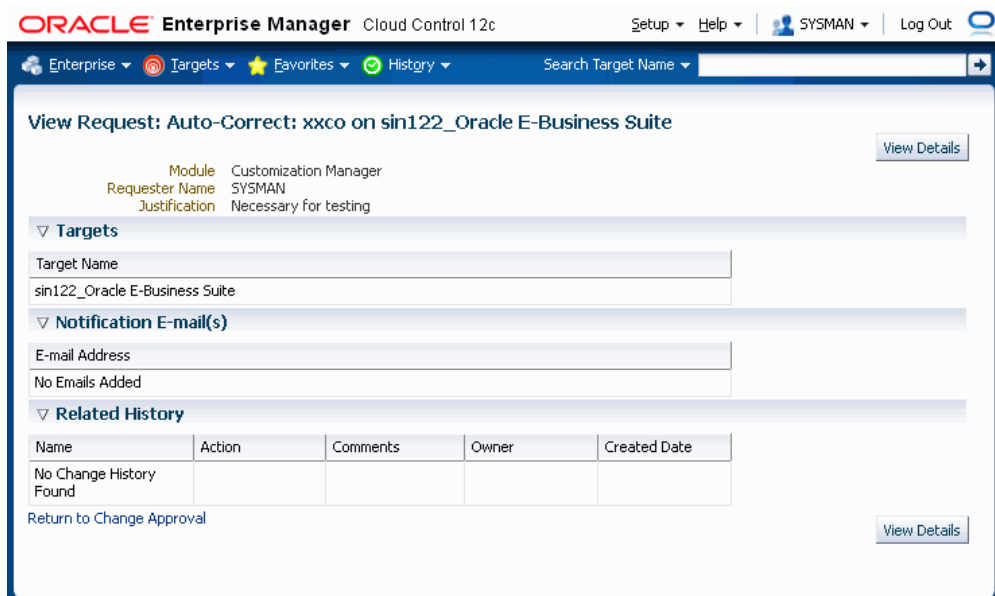
- Custom Application's Schema Password. If you do not enter a value, the application short name is used by default.
- Email addresses for users to be notified regarding this request. (Optional)
- Justification (Required)

3. Click **Submit**.

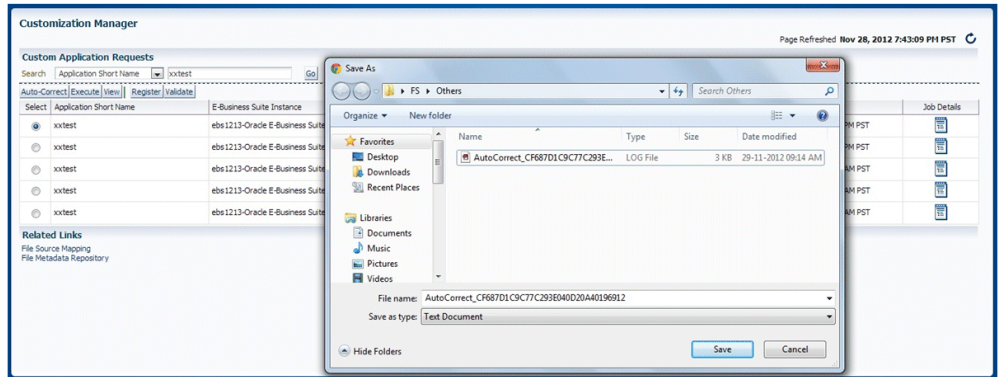
4. You can view your request in the Change Management dashboard, under Change Approval Requests.



- Click on the name of the request to view details.



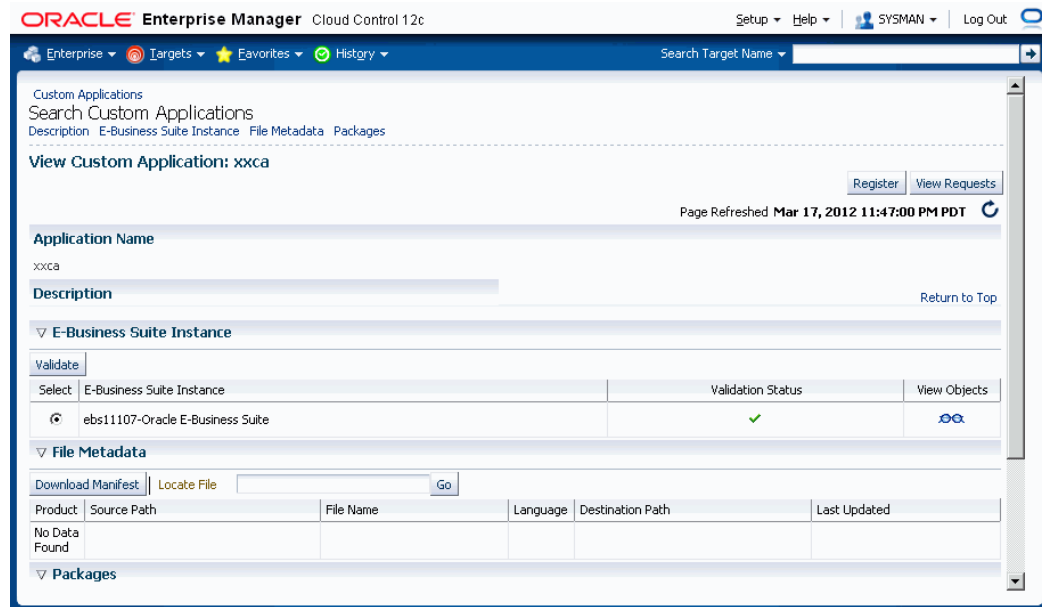
- You can download the splice log if the corresponding job for your request has been purged and no longer exists in the Enterprise Manager system.



To register a custom application on an Oracle E-Business Suite instance:

1. Navigate to the Custom Applications page. Click the "Custom Application Requests" link at the bottom of the page. The Custom Application Requests page appears. Select a request, and click the **Register** button. Alternatively, you can also click the **Register** button on the Custom Application details page.
2. Enter in the Application Short Name for the application. You can use the LOV provided. Note that the Application Name defaults in.
3. Enter in the Oracle E-Business Suite instance. You can use the LOV provided. Note that the required APPLSYS schema, APPS schema and system schema Preferred Credentials need to be set for this Oracle E-Business Suite instance.
4. Enter in an Application ID. Oracle recommends you use an application ID greater than 50000. Customization Manager automatically generates and defaults the recommended application ID.
5. Select "Run AutoConfig" if desired. AutoConfig execution is necessary for the custom application to be available for patching. Please run AutoConfig manually if you do not chose to run it during the custom application registration.
6. When change approval is enabled, enter e-mail addresses for Notification E-mail(s). In registering a custom application, you first submit a request to register the application. This request must then be approved (either automatically or manually, depending on your Change Approval Framework setup).
7. Enter a justification.
8. Click **Submit**. A request to register the custom application will be submitted.

To view details of custom application:



View details of a custom application by navigating to Custom Applications, selecting the application name, and clicking the **View** button. Details include:

- List of instances where custom application is present with status validated/not validated. If the status is not validated, it is recommended to use the **Validate** button to launch a validation request. A valid status ensures that custom patches for the given custom application can be applied on that instance.
- Custom objects associated with the given custom application which are present on the given instance can be viewed by clicking on the "View Objects" icon. Customization Manager automatically discovers and relates the following objects associated with a custom application:
 - Custom Forms
 - Profile Options
 - Request Sets
 - Custom Database Objects
 - Alerts
 - Audit Group Information
- All files in the File Metadata Repository for the given custom application.

- List of packages that have been created for the custom application.

To track details of a custom application request:

The screenshot shows the Oracle Enterprise Manager Cloud Control 12c interface. The top navigation bar includes links for Enterprise, Targets, Favorites, and History. The main content area is titled "Customization Manager" and displays "Custom Application Requests". A search bar shows "E-Business Suite Instance" with a "Go" button. Below the search bar are tabs for "Auto-Correct", "Execute", "View", "Register", and "Validate". A table lists the requests:

Select	Application Short Name	E-Business Suite Instance	Type	Status	Owner	Last Updated	Job Details	Readiness Report
<input checked="" type="radio"/>	xxca	ebs1213-Oracle E-Business Suite	Validate	Completed Error	SYSMAN	Jul 29, 2013 9:12:52 PM PDT		

Below the table, there are "Related Links" for File Source Mapping, File Metadata Repository, Packages, Package Report, Custom Applications, and E-Business Suite Mapping. The page was refreshed on Jul 31, 2013 5:01:21 AM PDT.

A custom application request can be used to register or to validate a custom application on a given instance.

1. Navigate to the Custom Applications page. Click the "Custom Application Requests" link at the bottom of the page. The Custom Application Requests page appears. Select a custom application request from the table and click **View**.
2. Details for the request will be shown.

The screenshot shows the "Validate Custom Application: xxca" dialog box. It contains the following information:

- Application Short Name: xxca
- Application Name: xxca
- E-Business Suite Instance: ebs1213-Oracle E-Business Suite
- Preferred Credentials need to be set for this E-Business Suite instance.
- ☒ Generate Readiness Report for Online Patching

There are "OK" buttons at the top right and bottom right of the dialog.

Tip: To debug or view logs of a custom application request, click on "Job Details" icon against the specific custom application request. This would navigate to the EM job log associated with the custom application request. Click and view details on the "DO_JOB" step to view the detailed log of the given custom application request. In case of a failure of a custom application request, a new request should be submitted after rectifying the errors/failures listed in the job details log.

To execute a job to register or validate a custom application when the change approval system is enabled:

1. Confirm that the request to execute the job to register or validate the custom application has been approved. To do this, navigate to the Custom Applications page. Click the "Custom Application Requests" link at the bottom of the page. The Custom Application Requests page appears. Approved requests will be listed with the Status "Approved".
2. Select an Approved custom application request from the table and click **Execute**.
3. At the Execute Custom Application Request page, ensure that the displayed information is correct and click **Submit**.

The screenshot shows the Oracle Enterprise Manager interface. The top navigation bar includes the Oracle logo, 'Enterprise Manager', 'Cloud Control 12c', and user 'SYSMAN'. Below this is a secondary navigation bar with 'Enterprise', 'Targets', 'Favorites', and 'History' tabs, along with a search bar. The main content area is titled 'Execute Custom Application Request: ut123'. It contains the following details:

- Application Short Name: ut123
- Application Name: ut123
- E-Business Suite Instance: sin122_Oracle E-Business Suite
- Application ID: 50002

Below these details is a text box for 'Custom Application's Schema Password' with a note: 'It is recommended to use application ID above 50000. Defaults to application short name.' There is a checkbox for 'Run AutoConfig' which is checked. A green tip icon and text state: 'TIP AutoConfig execution is necessary for the custom application to be available for patching. Please run AutoConfig manually if you do not choose to run it during custom application registration.' 'Cancel' and 'Submit' buttons are present at the top right and bottom right of the form.

The system will attempt to execute a job to register or validate the custom application. If the system cannot execute the job, details regarding the job will be shown.

Target Types

Target Types

The following table lists details of the individual target types shipped in the management pack.

Target Types

Target Type	Applicable Oracle E-Business Suite Release	Description
Oracle E-Business Suite	All releases	Target representing entire Oracle E-Business Suite instance.
Oracle Applications Service	All releases	Target representing all the services provided by Oracle E-Business Suite.
Concurrent Processing Service	All releases	Target representing the services provided by the concurrent processing infrastructure.
Forms-Based Applications Service	All releases	Target representing the services provided by Oracle Forms.
Self-Service Applications Service	All releases	Target representing the services provided by self-service applications.
Workflow Service	All releases	Target representing the service provided by the Oracle Workflow infrastructure.

Target Type	Applicable Oracle E-Business Suite Release	Description
Oracle E-Business Suite Node	All releases	Target representing an individual Oracle E-Business Suite node.
Oracle Concurrent Manager	All releases	Target representing the concurrent manager.
Internal Concurrent Manager	All releases	Target representing the internal concurrent manager.
Oracle E-Business Suite Workflow	All releases	Target representing all the members of the Oracle Workflow infrastructure.
Oracle Workflow Agent Listener	All releases	Target representing the Oracle Workflow agent listener.
Oracle Workflow Background Engine	All releases	Target representing the Oracle Workflow background engine.
Oracle Workflow Notification Mailer	All releases	Target representing the Oracle Workflow notification mailer.
Oracle Applications JVM Usage	12.1.X	Target representing the JVM that runs the oacore server. This is used to monitor parameters specific to Oracle E-Business Suite deployment.
Oracle E-Business Suite Custom Objects	All releases	Target representing the customizations in an Oracle E-Business Suite instance.
Oracle E-Business Suite Patch Information	All releases	Target representing the patching activities in an Oracle E-Business Suite instance.
HTTP Server for Oracle E-Business Suite 11i	11i	Target representing the HTTP Server in an Oracle E-Business Suite 11i instance.
JServ for Oracle E-Business Suite 11i	11i	Target representing the j2eecontainer in which the Oracle E-Business Suite 11i is deployed.

Target Type	Applicable Oracle E-Business Suite Release	Description
Forms Listener for Oracle E-Business Suite 11 <i>i</i>	11 <i>i</i>	Target representing the Forms listener in an Oracle E-Business Suite 11 <i>i</i> instance that is running in socket mode.
Forms Servlet for Oracle E-Business Suite 11 <i>i</i>	11 <i>i</i>	Target representing the Forms listener in an Oracle E-Business Suite instance that is running in servlet mode.
Reports Server for Oracle E-Business Suite 11 <i>i</i>	11 <i>i</i>	Target representing the Reports Server for Oracle E-Business Suite 11 <i>i</i> .
Discoverer for Oracle E-Business Suite 11 <i>i</i>	11 <i>i</i>	Target representing Discoverer for Oracle E-Business Suite 11 <i>i</i> .

Pre-validation for Discovery

Prevalidation Checks for Discovery

The following table lists the checks used in the prevalidation step of discovery.

Category	Sub category	Description	Applicable Releases of Oracle E-Business Suite
Apps Context File	Number of Context Files	A minimum of one (1) context file must be there.	For 11i and 12.1.X
		A minimum of two (2) context files must be there.	12.2 and above
	Context Name	Context name should not be empty.	All releases
		Context name must be same for both run and patch editions.	12.2 and above
	Edition Name	Edition name must be same for all nodes under an edition.	12.2 and above
	Duplicate Context Files	There should not be two context files for the same applications node.	11i and 12.1.X
		There should not be two context files for the same node under an edition.	12.2 and above

Category	Sub category	Description	Applicable Releases of Oracle E-Business Suite
	Number of nodes	Only one applications node per host.	11i and 12.1.X
		Only two applications nodes per host: One for the run edition and one for the patch edition.	12.2 and above
	EBS System Name	Oracle E-Business Suite system name must be the same in all context files.	For all releases
	Context variables	Mandatory context variables must be there.	All releases
DB ContextFile	WLS Admin Server	Must be up for the run edition.	12.2 and above
	Duplicate Context Files	There should not be two context files for the same database node.	All releases
	Context Name	Context name should not be empty.	All releases
	No of nodes	Only one database node per host.	All releases
	EBS System Name	Oracle E-Business Suite system name must be same in all context files.	All releases
	Context variables	Mandatory context variables must be there.	All releases
	Agent installation	EM Agents must be installed on all hosts.	All releases
	Agent Compatibility	Agent must be at the same release as OMS or one release lower (n-1).	All releases

Category	Sub category	Description	Applicable Releases of Oracle E-Business Suite
	OS User	Agent OS user and Oracle E-Business Suite OS user must be same or must be in the same OS user group.	All releases
	Preferred credentials	Preferred credential must be set for the host in which the run edition WLS admin server is running.	12.2 and above

Supported File Types in Customization Manager

Supported File Types

The following table lists the supported file types in Customization Manager. You can include files of only these types in your custom packages. The Object Action column lists the action that AutoPatch performs on files of the given type.

File Type Name	Source Extension	Description	Object Action
fmb	fmb	Oracle Forms	copy and genform
prt	prt	Oracle Reports driver	copy
rdf	rdf	Oracle Reports	copy and genrep
pld (Forms)	pld	Forms Library	compile to pll; copy and genfppl
pld (Reports)	pld	Reports Library	compile to pll; copy and genrppl
pdf	pdf	document file (Portable Document Format (PDF))	copy
pdf	pdf	XMLP PDF notrans	copy and load using XDOLoader

File Type Name	Source Extension	Description	Object Action
xls	xls	Microsoft Excel file	copy
mmb	mmb	menu file	copy
java	java	Java file	compile and deploy under \$JAVA_TOP
zip	zip	zipped file	copy
class	class	Java class file	copy
jpg	jpg	JPEG image file	copy
bmp	bmp	bitmap image file	copy
dbc	dbc	file used for database connection	copy
doc	doc	Microsoft Word document file	copy
dot	dot	Microsoft Word template file	copy
drv	drv	driver file	copy
fmx	fmx	compiled form	copy
software htm	htm	Hypertext Markup Language	copy
html	html	Hypertext Markup Language	copy
odf	odf	object definition file	copy
pkh	pkh	package header	copy and execute as APPS
plb	plb	package body	copy
RTF File	rtf	rich text format	copy
XMLP RTF notrans	rtf		copy and load using XDOLoader

File Type Name	Source Extension	Description	Object Action
sql	sql	SQL script	copy and execute as APPS
wft	wft	Workflow Text	copy and upload using WFLOAD
XML	xml	Extensible Markup Language file	copy
BC4J XML	xml	Oracle Application Framework - BC4J XML file customizations	compile and deploy under \$JAVA_TOP
dll	dll	dynamic link library	copy
mmx	mmx	a kind of menu file	copy
sym	sym	always accompanies a dll	copy
tif	tif	image file (Tagged Image File Format)	copy
sh	sh	Bourne or Korn shell script	copy
jlt	jlt	Java Loader Text - used by AKLOAD.java	copy
eex	eex	Oracle Discoverer	copy
dis	dis	Discoverer Export	copy
lct	lct	Application Object Library Generic Loader control file	copy
software ldt	ldt	used in software patches	copy and upload using FNDLOAD
force upload	ldt	used in software patches	copy and upload using FNDLOAD with CUSTOM_MODE=FORCE option

File Type Name	Source Extension	Description	Object Action
sqlj	sqlj	SQLJ file	copy
ini	ini	Java Parameter File	copy
xsl (non-dbdrv)	xsl	XML Style Sheets (not used in database driver)	copy
create_view	sql	Create or Replace View Script	copy and execute as APPS
create_trigger	sql	Create or Replace Trigger Script	copy and execute as APPS
create_type	sql	Create or Replace Type Script	copy and execute as APPS
create_index	sql	Create Index Script	copy and execute as APPS
seed_data	sql	Custom Seeded Data SQL script	copy and execute as APPS
create_synonym	sql	Create View Synonym Script	copy and execute as APPS
jsp	jsp	Java server page	copy
res	res	resource file to store WF messages and used by WF Resource Generator	copy
ps	ps	Postscript Pages	copy
properties	properties	Java Property Class	copy
pll (Forms)	pll	compiled Forms library	copy and run genfpll
pll (Reports)	pll	compiled Reports library	copy and run genrpll
ogd	ogd	Oracle Graphics	copy
env	env	environment file	copy

File Type Name	Source Extension	Description	Object Action
js	js	Javascript file	copy
rpt	rpt	Oracle Reports file	copy
jar	jar	Java archive file	copy
Pls	pls	PL/SQL package specification	copy and execute as APPS
Pks	pks	PL/SQL package specification	copy and execute as APPS
so	so	UNIX shared library	copy
Jpx	jpx	BC4J Substitution	copy
vsd	vsd	source file for gif files used in translations	copy
dtd	dtd	XML Document Type Definition	copy
xss	xss	Extensible Style Sheet definition	copy
wbmp	wbmp	bitmap file for wireless devices	copy
xgm	xgm	XML Gateway Mapping file	copy
xgd	xgd	XML Gateway Data definition file	copy
pl	pl	Perl Scripts	copy
pm	pm	Perl Modules	copy
drvx	drvx	database driver exception file	copy
pkb	pkb	package body	copy and execute as APPS
software css	css	used in software patches	copy

File Type Name	Source Extension	Description	Object Action
mac	mac		copy
cfg	cfg	configuration file	copy
txt	txt	plain text file	copy
uix	uix	user interface XML	copy
hct	hct	HRMS fast formula loader control file	copy
hdt	hdt	HRMS fast formula loader data file	copy
pdt	pdt	HRMS legislative loader data file	copy
wfx	wfx	Workflow XML loader files	copy
csv	csv	file from which user-needed data is imported	copy
ear	ear	an EJB .jar archive with XML contents in the META-INF	copy
xdf	xdf	XML files containing object definitions	copy and execute using FNDXDFCMP
JRAD/MDS File	xml	JRAD Files are xml extensions. These extensions should be used for Oracle Application Framework objects under the mds directory.	copy and load using XMLImporter
xlif	xlif	XLIF files are generated from xml files	copy
document gif	gif	used in document patches; image files	copy

File Type Name	Source Extension	Description	Object Action
document htm	htm	used in document patches; HTML files	copy
document ldt	ldt	used in document patches; navigation library files	copy and upload using FNDLOAD
document css	css	used in document patches; cascading stylesheet file	copy and execute using FNDGFU
tld	tld	tag library definition file	copy
xsd	xsd	XML Schema provides a means for defining the structure of XML documents	copy
XMLP XSL notrans	xsl	XML Publisher (XDO) non-translatable XSL templates	copy
interface ldt	n	Interface Repository loader file	copy
XMLP RTF template	rtf	XML Publisher (XDO) translatable templates	copy
XMLP xlf	xlf	xlf files generated from translatable XMLP templates	copy
xdf(AW) xlf	xlf	Analytic Workspaces XML files containing object definitions	copy
pkh (no n)	pkh	package definition	copy
wsdl	wsdl	Web Services Description Language File	copy
XMLP RTF notrans	rtf	XML Publisher (XDO) non-translatable RTF templates (recommended)	copy

File Type Name	Source Extension	Description	Object Action
XMLP PDF notrans	pdf	XML Publisher (XDO) PDF templates	copy
XMLP XML notrans	xml	XML Publisher (XDO) non-translatable XML templates	copy
XMLP XSD notrans	xsd	XML Publisher (XDO) non-translatable XML templates	copy
jspx	jspx	JSP document	copy
java_lib	jar	Java library (for compilation only)	Use jar only for compiling; jar is not included into the patch
package_spec	sql	package specification	copy and execute as APPS
package_body	sql	package body	copy and execute as APPS
create_table	sql	Create Table Script	copy and execute as APPS
alter_table	sql	Alter Table Script	copy and execute as APPS
create_sequence	sql	Create Sequence Script	copy and execute as APPS
alter_sequence	sql	Alter Sequence Script	copy and execute as APPS
create_table_owner	sql	Create Table Schema Owner Script	copy and execute as schema owner
alter_table_owner	sql	Alter Table Owner Script (run as schema owner)	copy and execute as schema owner
create_index_owner	sql	Create Index Owner Script	copy and execute as schema owner
sql_owner	sql	Generic SQL Owner Script (copy only)	copy and execute as schema owner

File Type Name	Source Extension	Description	Object Action
create_view_owner	sql	Create View Owner Script	copy and execute as schema owner
create_synonym_owner	sql	Create Synonym Owner Script	copy and execute as schema owner
plx	plx	Oracle Forms library file executable	copy
dat	dat		copy
ico	ico	icon file	copy
dmp	dmp		copy
exp	exp		copy
fdo	fdo		copy
frm	frm		copy
hlp	hlp	help file	copy
inc	inc		copy
inp	inp		copy
msb	msb	Message Dictionary file	copy
obd	obd	online help file	copy
cmd	cmd	NT Command File	copy
csb	csb	shell script file	copy
dbt	dbt	database text file	copy
def	def		copy
flt	flt		copy

File Type Name	Source Extension	Description	Object Action
fmt	fmt	Oracle Forms form source text file	copy
fpp	fpp		copy
fxp	fxp		copy
imp	imp		copy
mk	mk	make file	copy
mmt	mmt	menu text file	copy
pc	pc	Pro*C program	copy
Scr	scr	script file generated by the Oracle Scripting Script Builder" tool"	copy
MSI	xml	Manual Step File	copy
ttf	ttf	TrueType font definition file	copy
conf	conf	configuration file to be released along the product	copy
mdl	mdl	text file created by Oracle Warehouse Builder (OWB) metadata loader file for data import	copy
thtml	thtml	template toolkit for ISD	copy
uit	uit	custom renderer for the FWK header component	copy
mif	mif	XML file that contains schematic information about graphical representation of the structure (RMIM)	copy

File Type Name	Source Extension	Description	Object Action
coremif	coremif	XML file that contains schematic information about graphical representation of the structure (RMIM)	copy
xcfg	xcfg	ADF XML configuration file	copy
rts	rts	resource bundle file for java related tool is Tecate	copy
x2h	x2h	X2h format file for ISD	copy
ppp	ppp		copy
tag	tag		copy
ora	ora	Net8 configuration files (listener.ora, tnsnames.ora)	copy
inf	inf	used for applying updates to windows registry	copy
app	app	used to configure the apache single listener (modplsql)	copy
tcl	tcl	TCL scripts called by Oracle Enterprise Manager's Intelligent Agent for hosted Exchange products	copy
fdi	fdi		copy
clx	clx	spell-checking dictionary file in compressed lexicon format	copy
tlx	tlx	spell-checking dictionary file in text lexicon format	copy
Z	Z	Adaptive Lempel-Ziv compressed file	copy

File Type Name	Source Extension	Description	Object Action
tpl	tpl	template files	copy
amx	amx	standard XML file	copy
ftg	ftg		copy
rlt	rlt		copy
ctl	ctl	SQL*Loader file	copy
rsp	rsp	Rapid Install response file	copy
prc	prc	Palm Pilot application file	copy
odb	odb	Oracle Lite database file required from Mobile Applications	copy
llt	llt		copy
software gif	gif	image file (Graphics Interchange Format)	copy
msg	msg	FND Message Loader Text	copy
OAF Component	java	Oracle Application Framework customizations	compile and deploy under \$JAVA_TOP

Recommended Locations for Common File Types

The following table lists recommended locations for some commonly-used file types.

File Types	Description	Recommended destination path (relative to product top)
sql, package_spec, package_body, create_table, alter_table, create_sequence, alter_sequence, create_view, create_trigger, create_type, create_index, seed_data, create_synonym, pkh, plb, pls, pkb, create_table_owner, alter_table_owner, create_index_owner, sql_owner, create_view_owner, create_synonym_owner	SQL, PL/SQL files	patch/115/sql
software ldt	All Generic Loader (FNDLOAD) files	patch/115/import/<LANG>; for example, 'patch/115/import/US'
sh	Shell script	bin
xdf	XDF file	patch/115/xdx
pl	Perl script	bin
fmb	Forms	forms/<LANG>; for example, forms/US
rdf	Report	reports/<LANG>; for example, reports/US
html,xsl,xss,css	HTML and style sheets	html
jsp	JSP	html
XML Publisher templates	XML Publisher templates	patch/115/publisher/templates
java	Java files	java/<package path>; for example, java/test for the file oracle/apps/newprod/test/hello.java

File Types	Description	Recommended destination path (relative to product top)
JRAD/MDS file	Oracle Application Framework-related XML files	mds/<path>
gif	Image files	media
pm	Perl module	perl/<path>

Execution Sequence of SQL File Types

The following table lists the execution sequence of SQL file types.

File Type	Description	Order Of Execution
create_sequence	Create sequence script	1
create_table	Create table script	2
create_table_owner	Create table in custom schema	2
alter_table	Alter table script	3
alter_sequence	Alter sequence script	3
alter_table_owner	Alter table in custom schema	3
create_type	Create or replace type script	4
package_spec	Package specification	5
create_view	Create or replace view script	6
create_synonym	Create view synonym script	6
create_view_owner	Create view in custom schema	6
create_synonym_owner	Create synonym in custom schema	6

File Type	Description	Order Of Execution
package_body	Package body	7
seed_data	Custom seeded data SQL script	8
create_index	Create index script	9
create_index_owner	Create index in custom schema	9
create_trigger	Create or replace trigger script	10
sql	Generic	11
sql_owner	Run SQL in custom schema	11

For example, the type `create_sequence` will execute before the type `create_table` or `create_table_owner`. The types `create_table`/`create_table_owner` will execute in parallel before the types `alter_table`/`alter_sequence`/`alter_table_owner`.

Customization Manager Coding Standards

Customization Manager Coding Standards for Files

Customization Manager has a standards checker to check that the files included in a custom package meet certain coding standards. This checker tests all code for standards compliance.

Some standards are mandatory and will result in failure when Customization Manager attempts to build the package. Other standards are recommended, and the standards checker will give a warning but the package will be built.

Mandatory File Standards

The standards in the following table must be met. If a file does not meet these standards then Customization Manager will not build the package containing it.

Standard Name	Description
Header Check	Each file must have an Oracle-compliant source header present.
PLD File Location Standard	PLD files must be located somewhere under one of following directories: resource, plsql, graphs.
SQL using CONNECT Standard	SQL files using a "connect" statement must have a valid dbdrv hint provided within the file.
Java Destination Path Standard	For Java files within a package, the destination path must start with "java".

Standard Name	Description
Java Package Path Standard	For Java files within a package, the destination path for the Java file must match its package structure.

Other File Standards

The following table lists standards that if not met, will result in a Warning but the package will still be built.

Standard Name	Description
Java SOP Check	Java files must not use System.out.print
Java System.gc() Check	Java files must not use System.gc
SQL dual reference check	SQL files must not use System.dual, instead use dual
PERL module location	Perl module must be located anywhere under perl directory
PERL file location	Perl files must be located under one of following directories: bin, patch/[release]/bin,admin/template,admin/template/*.
SQL comment standard	SQL file should not have -- as comment
SQL file (!) check	SQL file should not have ! character
PLS (!) check	PLS file should not have ! character
JRAD halign check	JRAD XML files should not contain hAlign
Java package name check	All Java classes must be in packages beginning with: oracle.apps.[prod_name]
Java System.err Check Standard	Java files must not use System.err
SQL file location check	SQL files must be located under one of following directories: admin/sql,admin/template,admin/template/*,patch/ [some dir]/sql,sql

Standard Name	Description
DrvX file location check	DrvX files must be located under one of following directories: patch/[some dir]/driver, admin/template,admin/template/*
Driver File Location Standard	Driver files must be located under one of following directories: admin/driver,patch/[some dir]/driver, admin/template,admin/template/*
LCT File Location Standard	LCT files must be located under one of following directories: admin/import,patch/[some dir]/import,upgrade/[some dir]/import,admin/template,admin/template/*
LDT File Location Standard	LDT files must be located under one of following directories: admin/import,patch/[some dir]/import,help,,admin/template,admin/template/*
PKG File Location Standard	Package files must be located under one of following directories: admin/sql,patch/[some dir]/sql,admin/template,admin/template/*
RTF File Location Standard	RTF files must be located under : patch/115/publisher/templates
XSS Location Standard	XSS files must be located under one of following directories: html,admin/template,admin/template/*
HCT Location Standard	HCT files must be located under one of following directories: patch/[some dir]/import,admin/template,admin/template/*
HDT Location Standard	HDT files must be located under one of following directories: patch/[some dir]/import,admin/template,admin/template/*
PDT Location Standard	PDT files must be located under one of following directories: patch/[some dir]/import,admin/template,admin/template/*
JavaScript Location Standard	JavaScript files must be located under one of following directories: html,patch/[some dir]/html,upgrade/[some dir]/html,admin/template,admin/template/*
PrintStackTrace Check	Using printStackTrace is not recommended
Workflow Location Standard	Workflow files must be located under one of following directories: admin/import,patch/[some dir]/import,admin/template,admin/template/*

Standard Name	Description
XDF Location Standard	XDF files must be located under one of following directories: admin/xdp,patch/[some dir]/xdp,patch/[some dir]/xdp/aw/US
Absolute URL Check Standard	Check for absolute URLs
Report Printer Def File	Report printer files must be located under one of following directories: reports,admin/template,admin/template/*
Form Location Standard	Form files must be located under one of following directories: forms,admin/template,admin/template/*
JAR Location Standard	Jar files must be located under one of following directories: java/3rdparty,java/3rdparty/stdalone,admin/template,admin/templat e/,patch/115/jar/bpel
JSP Location Standard	JSP files must be located under one of following directories: html,html/jsp/[PROD],html/jsp/[PROD]/[MOD],html/jsp/[PROD]/[MOD]/[sub MOD],admin/template,admin/template/*
Dependency Files Location Standard	Dependency files must be located under one of following directories: java/make,admin/template,admin/template/*
Cmd file Location Standard	CMD files must be located under one of following directories: admin/template,admin/template/*,bin
XML Location Standard	XML files must be located under one of following directories: html,java,mds,patch/115/publisher/defs,admin/template,admin/tem plate/*,patch/115/manualsteps.
XGM Location Standard	XGM files must be located under one of following directories: patch/[some dir]/xml/US,admin/template,admin/template/*
XSL Location Standard	XSL files must be located under one of following directories: html,admin/xdp,xsl,patch/[some dir]/xdp,xsl,patch/[some
ForceViewCheck	One must use FORCE in CREATE statements in view creation scripts
Show Error Check	SQL scripts must not contain the Show errors command
Absolute URL Check	Having absolute URLs is not recommended

Standard Name	Description
Pkg Replace Check	Use CREATE OR REPLACE PACKAGE for package creation. Do not omit OR REPLACE
Pkg Create IS Check	Package creation must not use IS. Instead should always use AS
Xml Parse Standard	XML files should be well-formed
Control M Standard	Text files should not have control M [^M] character
SQL NoLogging Check	Using NOLogging in SQL scripts is not recommended
SQL Serveroutput Check	Using set serveroutput on in SQL scripts is not recommended
Wfx File Naming Standard	WFX filename must end in s, e, or a, ie. [s e a].wfx.
16.3 File Naming Standard	Filename should adhere to the 16.3 naming standard
Set Scan Off Standard	Package creation scripts containing ampersand must have SET SCAN OFF
Drop Table check	Drop table should not be used in SQL/PLSQL files as it can result in loss of data
SQL Max Line LengthStandard	No line in a SQL file should be longer than 255 characters
FNDSLOAD Check Standard	FNDSLOAD is obsolete. No dbdrv: hints should refer to FNDSLOAD
Drop Column check	Drop Column should not be used in SQL/PLSQL files
Long Raw check	LONG or LONG RAW columns should not be used
Insert Column check	INSERT SQL statements, should explicitly list the columns about to insert
FNDLOAD/FNDLOADS O syntax check	FNDLOAD/FNDLOADSO must have correct syntax

Standard Name	Description
Admin Dbdrv none check	All files under [PROD_TOP]/admin must have only dbdrv: none
NLADD Sql Check	There should be no [PROD]NLADD.sql files in R12 patches
FNDLOAD ldt phase	dbdrv: FNDLOAD ldt files must have correct phase
Menu file location	Menu files must be located under one of following directories: resource,admin/template,admin/template/*
WFX file location check	WFX files must be located under one of following directories: patch/[some dir]/xml,admin/template,admin/template/*
Create single line check	In SQL files, CREATE command must occur on one line only.
SQL exit check	SQL files must end with exit
Package SpecBody Same file	The package specification and body should be in different files
SQL Absolute path Check	SQL files should not have absolute path in a @ or @@ statements
Calling SQL script check	Use start or @ when calling a SQL script within a SQL script. Do not use @@.
Applsypub Schema Check	Custom scripts are not allowed to modify APPLSYSPUB schema
Custom File Naming Standard	All files involved in the package must be for a product prefixed with xx""
Pkg body creation Standard	Package body creation scripts should not be in pkh files
Pkg spec creation Standard	Package Spec creation scripts should not be in pkb and plb files
Mview Build deferred Standard	Materialized Views must be created with BUILD DEFERRED option

Standard Name	Description
Mview Parallel Standard	Materialized Views should not be created with parallel command
Mview prebuilt Standard	Materialized Views must not be created with ON PREBUILT TABLE option
Report Location Standard	Report files must be located under one of following directories: reports,admin/template,admin/template/*
Import stmt Check	Java import statements must reference fully qualified Class names
Language check in destination path	The destination path for a file entry in the package creation process should not have the language code as a suffix. The language should be specified separately.
JRAD XML file type	During the package creation process, if an XML file is included with the file type as 'JRAD XML' (File type ID is 1005), then the destination path should start with 'mds'.
Control-M characters in PLD files	If a PLD file contains a control-M character, then some issues may arise while applying a patch containing this PLD file.
SQL whenever sqlerror exit failure rollback	A SQL Script should contain "WHENEVER SQLERROR EXIT FAILURE ROLLBACK;".
Java file empty catch block	An empty <code>catch</code> Block finds instances where an exception is caught, but nothing is done.
Avoid returning from a finally block	In Java code, one should avoid returning from a <code>finally</code> block - this can discard exceptions. There should be no return statement from a <code>finally</code> block.
Avoid catching null pointer exception	Java code should never catch a null pointer exception. A <code>catch</code> block may hide the original error, resulting in other more subtle errors.
Java throwing exception in finally block	In Java, throwing exception in a <code>finally</code> block is confusing. It may mask an exception or a defect in the code, and it can also make code cleanup unstable.
Java catching throwable	In Java, one should avoid catching <code>throwable</code> . This action is dangerous because such a catch can catch other things like <code>OutOfMemoryError</code> .

Standard Name	Description
Java class should not extend error	Errors are system exceptions. Classes should not extend them.
Java files must have rcs_id	All Java files must have the following for source control ID: <pre>public static final String RCS_ID = \$Header\$</pre>
Java class name check	All Java files should have a class with a name that is the same as that of the file name.
Java empty if check	There should be no empty <code>if</code> statements in Java code. An empty <code>if</code> statement finds instances where a condition is checked but nothing is done about it.
Java empty while check	There should be no empty <code>while</code> statements in Java code.
Java empty finally block	There should be no empty <code>finally</code> blocks in Java code. Avoid empty <code>finally</code> blocks; these can be deleted.
Java if without braces	In Java, <code>if</code> statements must use curly braces. Avoid using <code>if</code> statements without curly braces.
Java while without braces	In Java, <code>while</code> statements must use curly braces. Avoid using <code>while</code> statements without using curly braces. Formats without curly braces are error-prone.
Java switch must have default label	In Java files, <code>switch</code> statements should have a default label.
Java empty synchronized	There should be no empty <code>synchronized</code> blocks.
Java empty static initializer	There should be no empty <code>static</code> initializer blocks.
JRAD files language must be US English	In a JRAD XML file, the language of the XML file should be US English and specified as <code>"xml:lang = 'en-US'"</code>
Java Parameter (INI) extension and location standard	Java Parameter files should follow these standards: <pre>-Identified by file extension: .ini -Location standard: 1.\$<PROD_TOP>/admin/template 2.\$<PROD_TOP>/admin/template/*</pre>

Standard Name	Description
JDBC TimeStamp Compliance	The proper column bind type should be used when sending/fetching DATE columns. Do not use <code>Types.TIMESTAMP</code> or <code>OracleTypes.TIMESTAMP</code> .
Do not use ~FILE or ~PATH in .drv files	~FILE and ~PATH cannot be used in a <code>dbdrv:</code> command in a .drv file, even within <code>checkfile</code> . A .drv file is not loaded into the database.
dbdrv: fdcmp should not be called	The database driver should not call <code>fdcmp</code> .
Files with .drv extension must contain 'dbdrv: command'	For each driver exception (.drv) file the line <code>dbdrv: command</code> must exist. The command must be in all lowercase. The line <code>dbdrv: none</code> commands fail also.
No drv files should contain XDOLoader	For all new patches containing Oracle XML Publisher files, the <code>dbdrv</code> command should be added to the file directly instead of using a separate drv file.
No drv files should contain dbdrv: PYLOAD	PYLOAD should not be in any automatically generated database driver.
dbdrv: FFXBCP must have correct syntax	dbdrv: FFXBCP must have correct syntax: <pre>exec ff bin FFXBCP bin &phase=last(+#) &ui_apps 0 Y(-S -U -SU)</pre>
dbdrv: FFXMLC must have correct syntax	FFXMLC command must contain the following syntax: <pre>exec ff bin FFXMLC bin (&phase=dat(+#)) &ui_apps 0 [yY]</pre>
dbdrv: FNDLIBR must have correct syntax	FNDLIBR command must contain the following syntax: <pre>exec fnd bin FNDLIBR bin <phase> FND FNDPCBWV &ui_apps SYSADMIN 'System Administrator' SYSADMIN</pre>
dbdrv: java htmlLoad.class must have correct syntax	Java <code>htmlLoad.class</code> command must contain the following syntax: <pre>exec java oracle/apps/per htmlLoad.class java -username &un_apps -password &pw_apps -database &jdbc_db_addr -file <.html file></pre>

Standard Name	Description
dbdrv: java UnzipFile.class must have correct syntax	<p>Java UnzipFile.class command must contain the following syntax:</p> <pre>exec java oracle/apps/ad/jri UnzipFile.class java</pre> <p>The file must also have the .zip extension.</p>
dbdrv: LoadMap.class must have correct syntax	<p>The syntax for LoadMap.class must be as follows:</p> <pre>exec java oracle/apps/ecx/loader LoadMap.class java &phase=dat &un_apps &pw_apps &jdbc_db_addr &fullpath_prod_path_file</pre>
JRAD XML files must have file-version attribute	<p>JRAD XML files must have a file-version attribute to indicate the version of the file. Following is a sample definition of file-version.</p> <pre><page xmlns:jrad='http://xmlns.oracle.com/jrad' xmlns:oa='http://xmlns.oracle.com/oa' xmlns:ui='http://xmlns.oracle.com/uix/ui' version='9.0.3.7.0_428' xml:lang='en-US' file-version='\$Header: AkTestAttachLinkPG.xml 115.0 2003/02/10 18:18:10 tmak noship \$' xmlns='http://xmlns.oracle.com/jrad'></pre> <p>Note that the file-version attribute must have the correct filename and a version.</p>
Translation standard for JRAD files	In JRAD xml files the encoding should be UTF-8 and specified as: "encoding = 'UTF-8'"
Do not end comments with the '-' character	Do not end comments with the '-' character, as this is the default Sql*Plus line continuation character. For lines with a series of '-', end the line with a '+' sign.

Customization Manager Coding Standards for Database Objects

The following table lists the standards which are applicable only for Oracle E-Business Suite Release 12.2 Online Patching.

Object Type	Description	File Types
Table	A column type should not be ROWID.	.xdf, .odf
Table	A column type must not be LONG.	.xdf, .odf

Object Type	Description	File Types
Table	A column type must be a built-in type or a user-defined type owned by a non-editioned user.	.xdf
Table	A base column name should be unique within the table within the first 27 bytes.	.xdf, .odf
Table	A base column name may use the # character only to distinguish the column versions; for example, <col_name>#<version>.	.xdf, .odf
Table	A table must be owned by an Oracle E-Business Suite product schema, not APPS.	.xdf
Table	A table name must not use the '#' character.	.xdf, .odf
Materialized View (MV)	Create/alter Materialized View definition using XDF	.sql, .pkb, .pkh
Constraint	Create/alter constraint definition using XDF or ODF	.sql, .pkb, .pkh, .pls
Index	Create/alter the index definition using ODF or XDF.	.sql, .pkb, .pkh, .pls
Table	Create/alter the table definition using ODF or XDF.	.sql, .pkb, .pkh, .pls
Table	Do not modify application-managed tables in an online patch.	.xdf, .odf
Constraint	A constraint name must contain an underscore ('_').	.xdf
Index	An index name must contain an underscore ('_').	.xdf, .odf
Trigger	A table trigger must be created on editioning view, not on the table.	.sql, .pkb, .pls
Table	DML statements must access tables via a table synonym or the editioning view.	All code
VPD	A VPD policy must be created on the editioning view or table synonym, not on the table.	.sql

Object Type	Description	File Types
Synonym	A table synonym must point to the editioning view, not to the table.	.sql, .pkb, .pls
Synonym	Do not install synonyms in non-editioned schemas	.xdf, .odf

Validation of Custom Applications: Examples

Validation of Custom Applications: Examples

The following table lists examples of issues that might be discovered in validating a custom application. Recommended solutions are also provided. These examples apply only to Oracle E-Business Suite Release 11*i*.

Because the list of issues and its corresponding recommendations will vary for one instance to another, please run requests to validate existing custom applications to generate release-specific and instance-specific recommendations. See: Managing Custom Applications, page 14-44.

The example custom application 'xxcust' used in this table corresponds to a case-sensitive custom application shortname.

The example custom application ID '50001' used in this table corresponds to the custom application ID.

Issue	Recommendation for Release 11i
The file \$APPL_TOP/admin/xxcustprod.txt does not exist.	<p>Create or replace file \$APPL_TOP/admin/xxcustprod.txt. The contents should be :</p> <pre> %%% Single-product product data file format 11.5.A xxcust 50001 END_OF_PRODUCT_ABBREVIATIONS -999 50001 xxcust XXCUST APP No No No No Yes Yes 50001 XXCUST XXCUST 0 1.0.0 1.0.0 none none none none END_OF_PRODUCTS Release 11.5.0 11.5.0 R115 R115_ additional-this-mpl XXCUST 11.5.0 END_OF_RELEASE 0.0.0 </pre>
The file \$APPL_TOP/admin/xxcustterr.txt does not exist.	<p>Create or replace file \$APPL_TOP/admin/xxcustterr.txt with file :</p> <pre> %%% Single-product territory data file format 11.5.A R115 0 usaeng US AMERICAN EN US American_English appltape.txt appltape.txt WE8ISO8859P1 Yes Standard Data_Group none none none none none c xxcust xxcust END_OF_PRODUCT_NAMES END_OF_LANGUAGE_INFO </pre>
The entry for xxcust is missing in FND_APPLICATION_TL	<p>Update FND_APPLICATION_TL with the following sql:</p> <pre> INSERT INTO FND_APPLICATION_TL (APPLICATION_ID, LANGUAGE, APPLICATION_NAME, CREATED_BY, CREATION_DATE, LAST_UPDATED_BY, LAST_UPDATE_DATE, LAST_UPDATE_LOGIN, DESCRIPTION, SOURCE_LANG) VALUES (50001, 'US', 'xxcust', 1000, sysdate, 1000, sysdate, 1000, 'xxcust', 'US'); </pre>

Issue	Recommendation for Release 11i
The entry for product xxcust is missing from FND_PRODUCT_INSTALLATIONS	<p>Insert the information about product xxcust in FND_PRODUCT_INSTALLATIONS with following SQL:</p> <pre> INSERT INTO FND_PRODUCT_INSTALLATIONS (APPLICATION_ID, ORACLE_ID, LAST_UPDATE_DATE, LAST_UPDATED_BY, CREATI ON_DATE, CREATED_BY, LAST_UPDATE_LOGIN, PRODUCT_VERSION, STATUS, INDUSTRY, TABLESPACE, INDEX_TABLESPACE, TEMPO RARY_TABLESPACE, SIZING_FACTOR, INSTALL_GROUP_NUM, DB_STATUS, PATCH_LEVEL) VALUES (50001, 50001, sysdate, 1000, sysdate, 1000, 1000, '11.5.0', 'I', 'C', <tablespace>, <index tablespace> ,<temporary tablespace>, 100, 0, 'I' , NULL); </pre> <p>Please replace <tablespace>, <index tablespace>, <temporary tablespace> with appropriate values.</p>

Issue	Recommendation for Release 11i
The database is missing user xxcust	<p>Create database user xxcust</p> <p>Give appropriate grants to the user by running the necessary SQL statements:</p> <ul style="list-style-type: none"> <li>• grant create session, alter session to xxcust <li>• grant create type to xxcust <li>• grant create database link to xxcust <li>• grant create any outline, alter any outline, drop any outline to xxcust <li>• grant analyze any to xxcust <li>• grant create sequence, create table to xxcust <li>• grant create cluster to xxcust <li>• grant CREATE TRIGGER to xxcust <li>• grant create materialized view, query rewrite to xxcust <li>• grant unlimited quota on all tablespaces with which user xxcust is associated. <p>Please use APPS_TS_TX_DATA as the main tablespace for user xxcust</p> <p>Please use APPS_TS_TX_IDX as the index tablespace for user xxcust</p>
The entry for product xxcust is missing from FND_ORACLE_USERID	<p>Insert entry for the product xxcust in FND_ORACLE_USERID with the SQL:</p> <pre>INSERT INTO FND_ORACLE_USERID (ORACLE_ID,ORACLE_USERNAME, LAST_UPDATE_DATE, LAST_UPDATED_BY, CREATION_DATE, CREATED_BY, LAST_UPD ATE_LOGIN, DESCRIPTION, ENABLED_FLAG, READ_ONLY_FLAG, ENCRYPTED_ORACLE_PASS WORD, CONCURRENT_BATCH_QUEUE_ID, INSTALL_GROUP_NUM) VALUES (50001, 'XXCUST', sysdate, 1000, sysdate, 1000, 1000, 'XXCUST Account' , 'N', 'A', NULL, NULL, 0);</pre>

Issue	Recommendation for Release 11i
Entry for the product xxcust in \$APPL_TOP/admin/topfile.txt does not exist	Edit \$APPL_TOP/admin/topfile.txt to insert the given below entry at the end: xxcust <XXCUST_TOP> Please replace <XXCUST_TOP> with appropriate value.
Environment variable XXCUST_TOP not defined	Run AutoConfig to generate the environment variable XXCUST_TOP
Directory \$APPL_TOP/xxcust/11.5.0 does not exist.	Create directory \$APPL_TOP/xxcust/11.5.0
Directory \$APPL_TOP/xxcust/11.5.0 /log does not exist.	Create directory \$APPL_TOP/xxcust/11.5.0/log
Directory \$APPL_TOP/xxcust/11.5.0 /out does not exist.	Create directory \$APPL_TOP/xxcust/11.5.0/out
Directory \$APPL_TOP/xxcust/11.5.0 /mesg does not exist.	Create directory \$APPL_TOP/xxcust/11.5.0/mesg
Directory \$APPL_TOP/xxcust/11.5.0 /sql does not exist.	Create directory \$APPL_TOP/xxcust/11.5.0/sql
Directory \$APPL_TOP/xxcust/11.5.0 /admin does not exist.	Create directory \$APPL_TOP/xxcust/11.5.0/admin
Directory \$APPL_TOP/xxcust/11.5.0 /admin/driver does not exist.	Create directory \$APPL_TOP/xxcust/11.5.0/admin/driver
Directory \$APPL_TOP/xxcust/11.5.0 /admin/sql does not exist.	Create directory \$APPL_TOP/xxcust/11.5.0/admin/sql

Issue	Recommendation for Release 11i
File \$APPL_TOP/xxcust/11.5.0 /admin/driver/xxcustfile.d rv does not exist.	Create file \$APPL_TOP/xxcust/11.5.0/admin/driver/xxcustfile.drv with following contents: # Dummy xxcustfile.drv
File \$APPL_TOP/xxcust/11.5.0 /sql/XXCUSTNLINS.sql does not exist.	Create file \$APPL_TOP/xxcust/11.5.0/sql/XXCUSTNLINS.sql with following contents: commit;exit;
File \$APPL_TOP/xxcust/11.5.0 /admin/sql/XXCUSTNLADD.sql does not exist.	Create file \$APPL_TOP/xxcust/11.5.0/admin/sql/XXCUSTNLADD.sql with following contents: commit;exit;

Known Product Limitations

Known Product Limitations

1. Use of the native Oracle Enterprise Manager patch mechanism to apply core technology patches (Developer Forms, Application Server, Database or other standalone technologies) against Oracle E-Business Suite managed targets should NOT be done under any circumstances.

While Enterprise Manager can be used to apply such patches to standalone installations of Developer Forms, Application Server and the RDBMS products, when these components are part of an Oracle E-Business Suite environment (installed at the same time via the Rapid Install Wizard), they must not be patched using Oracle Enterprise Manager.

Failure to acknowledge this caveat could result in unrecoverable system status.

2. Start and Stop features present in some of the Enterprise Manager console pages should NOT be used against individual Oracle E-Business Suite sub-targets. One example is starting and stopping the Oracle E-Business Suite database. While Oracle Enterprise Manager has no problems starting and stopping individual standalone product services, doing the same with Oracle E-Business Suite components will produce unexpected and inconsistent results. The one exception to this rule is that the Oracle Application Management Pack for Oracle E-Business Suite's administration feature can be used to start and stop the application tier service from the Enterprise Manager console.
3. The only mechanisms for cloning an Oracle E-Business Suite system from within the Oracle Enterprise Manager Cloud Control console are those provided in the cloning chapter of this guide. Alternatively, for more information on cloning, refer to the following Oracle E-Business Suite documents on My Oracle Support: Knowledge Document 230672.1, "Cloning Oracle Applications Release 11*i* with Rapid Clone", and Knowledge Document 406982.1, "Cloning Oracle Applications Release 12 with Rapid Clone".

4. Creating copies of the out-of-box cloning procedures is not supported. The "Create Like" feature is provided for customers to extend the cloning functionalities based on their own specific business needs.
5. In discovery and monitoring, Oracle Application Management Pack for Oracle E-Business Suite does not support multiple Oracle E-Business Suite instances with the same name across different hosts on a given Oracle Management Server; that is, instances are differentiated only by the Oracle System Identifier (SID) and not the CONTEXT_NAME values.
6. Metric collection errors will be reported for the target type oracle_apps_jvm if the setup needed to monitor Applications JVM Usage is not done after discovery. To fix the issue, you can either set up the metric collection or disable the metric collection; see: Monitoring JVM Usage, page 8-24.
7. If you have changed your APPS password, you should change it for the plug-in in two places: for the named credentials and target monitoring properties (if the Monitoring Configuration has the password). After changing the password, wait at least 15 minutes for it to propagate to the targets.

Third-Party Product License Information

Third-Party Product License Information

This section includes third-party license information for certain third-party products that are part of Oracle Application Management Pack for Oracle E-Business Suite Release 12.1.0.2.0. Oracle acknowledges that the following third-party proprietary and open source software are used in the provided programs covered by this documentation.

Apache Software Foundation

Notice

Apache POI

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This product includes software developed by The Apache Software Foundation (<http://www.apache.org/>).

Unit testing support is provided by JUnit, under the Common Public License Version 1.0:

<http://www.opensource.org/licenses/cpl.php>

See <http://www.junit.org/>

A single resource file of the POI scratchpad component HDGF is taken from VSDump, and is under the GNU General Public License version 3 (GPL v3):

<http://gplv3.fsf.org/>

Since this is a data file, and has no compiled version (the original file is distributed in both source and binary versions of POI), there should be little difference in licencing requirements compared to the ASL. For those wishing to avoid this component, the HDGF part of the POI scratchpad should be omitted.

See http://www.gnome.ru/projects/vsdump_en.html

The Office Open XML experimental support had additional dependencies, with their own licensing:

- XML Beans - <http://xmlbeans.apache.org/>
Apache Licence Version 2.0 - <http://www.apache.org/licenses/LICENSE-2.0>
- DOM4J - <http://www.dom4j.org/>
BSD Licence - <http://www.dom4j.org/license.html>
- Jaxen - <http://jaxen.org/>
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- OpenXml4J - <http://www.openxml4j.org/>
BSD Licence or Apache Licence Version 2.0 -
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Index

A

- Administration of Oracle E-Business Suite, 8-14
- AD Patch Log, 13-30
- amp.properties
 - replaced by Preferences, 2-5
- APPS password
 - changing, F-2
- AutoConfig, 4-1
- Availability Status charts, 8-7

C

- Change approval framework, 7-5, 12-2
- Change Management dashboard, 12-2
- Changing the APPS password, F-2
- Cloning, 11-1
 - custom steps in deployment, 11-38
 - diagnostic tests, 10-3
 - for Oracle E-Business Suite Release 12.2, 11-31
 - multi node to single node, 11-8
 - scale-down and scale-up, 11-19
 - single node to single node, 11-8
 - upgrade considerations, 2-4
- Coding standards, D-1
- Command line discovery, 4-10
- Compliance
 - standards, 8-19
 - summary, 3-2
- Concurrent processing
 - dashboard, 8-32
 - metrics, 8-42
- Configuration, 8-16

- comparing configurations, 8-17
 - of all members, 8-16
- Configuration Topology Viewer, 8-2
- Configuring monitoring, 9-1
- Creating a package, 14-19
- Creating a report (Customization Manager), 14-36
- Credentials
 - named, 5-1
 - preferred, 5-8, 5-11, 12-4
- Custom applications
 - managing, 14-44
 - validation, E-1
- Customization Manager
 - coding standards, D-1, D-10
 - creating a package, 14-19
 - creating a report, 14-36
 - custom applications
 - validating, E-1
 - diagnostic tests, 10-12
 - E-Business Suite Mapping, 14-17
 - features, 14-1, 14-2
 - File Metadata Repository, 14-42
 - File Source Mapping, 14-11
 - file types
 - recommended locations, C-12
 - supported, C-1
 - file validation, 14-4
 - obsoleting a package, 14-33
 - package details, 14-30
 - package reports, 14-35, 14-39, 14-41
 - registering source control, 14-11
 - releasing a package, 14-33, 14-41

- saving a package, 14-29
- sharing a package, 14-41
- standards checker, 14-4, D-1
- updating a package, 14-27
- updating package metadata, 14-33

D

- Deleting an Oracle E-Business Suite instance, 4-16
- Deployment Procedure Manager (Oracle Enterprise Manager), 13-29
- Diagnostic tests, 10-1, 12-5
 - cloning, 10-3
 - Customization Manager, 10-12
 - Patch Manager, 10-10
 - user monitoring, 10-15
- Discovery, 4-6
 - customizing, 4-7
 - Discovery Wizard, 4-2
 - log for troubleshooting, 4-7
 - multiple Oracle E-Business Suite targets, 4-6
 - preparatory steps, 4-1
 - prevalidation, B-1
 - rediscovery, 4-16
 - restrictions, 4-7
- Discovery Wizard, 4-2

E

- E-Business Suite Mapping, 14-17

F

- File Metadata Repository, 14-42
- File Source Mapping, 14-11
 - parameters, 14-15

H

- HTTPS/SSL targets
 - monitoring, 8-26

I

- Installation, 2-1, 2-2

J

- JVM usage

- monitoring, 8-24

K

- Known product limitations, F-1

M

- Metrics, 8-3
 - concurrent processing, 8-42
 - current activity, 8-20
 - incidents, 8-11
 - performance, 8-8
 - thresholds, 8-4
 - usage, 8-9
- Monitoring, 8-1
 - availability computation, 9-2
 - configuration, 9-1
 - current activity, 8-20
 - HTTPS/SSL targets
 - configuration, 8-26
 - JVM usage, 8-24
 - metrics, 8-3
 - topology, 8-2
 - user sessions, 8-21

N

- Named credentials, 5-1
- Notifications
 - setup, 12-4

O

- Obsoleting a package, 14-33
- Oracle Application Management Pack for Oracle E-Business Suite
 - overview, 1-1
- Oracle Applications Manager, 8-30
- Oracle E-Business Suite Release 12.2
 - coding standards, D-10
 - Patch Manager deployment procedure, 13-20
- Oracle E-Business Suite system home page, 8-5

P

- Package details, 14-30
- Package reports, 14-35, 14-39, 14-41
- Patch Manager
 - deployment procedure, 13-20

- diagnostic tests, 10-10
- extending deployment, 13-29
- features, 13-1
- patch run, 13-8
- restarting failed workers, 13-30
- troubleshooting, 13-31
- upgrade considerations, 2-4
- Patch run, 13-8
 - copying, 13-28
- Preferences, 2-5, 6-1
- Preferred credentials, 5-8, 5-11, 12-4
- Prevalidation in discovery, B-1
- Privileges, 7-1, 7-7
 - Change Management, 7-5, 12-2
- Provisioning Manager (Oracle Enterprise Manager), 13-29

R

- Releasing a package, 14-33, 14-41
- Roles, 7-1, 7-7

S

- Saving a package, 14-29
- Services, 8-12
 - starting and stopping, 8-14
- Sharing a package, 14-41
- Smart Clone, 11-1
 - custom steps in deployment, 11-38
 - multi node to single node, 11-8
 - scale-down and scale-up cloning, 11-19
 - single node to single node, 11-8
- SQL file types
 - execution sequence, C-14
- Standards checker, 14-4, D-1
- System Management page, 3-2
- System requirements, 2-2

T

- Target types, A-1
- Topology, 8-2

U

- Updating a package, 14-27
- Updating package metadata, 14-33
- Upgrading, 2-3

- cloning considerations, 2-4
 - Patch Manager considerations, 2-4
- User monitoring, 8-21
 - diagnostic tests, 10-15
- User session monitoring, 8-21

