



Sun Cluster Data Service for Oracle E-Business Suite Guide for Solaris OS

Sun Microsystems, Inc.
4150 Network Circle
Santa Clara, CA 95054
U.S.A.

Part No: 819-1087-10
August 2005, Revision A

Copyright 2005 Sun Microsystems, Inc. 4150 Network Circle, Santa Clara, CA 95054 U.S.A. All rights reserved.

This product or document is protected by copyright and distributed under licenses restricting its use, copying, distribution, and decompilation. No part of this product or document may be reproduced in any form by any means without prior written authorization of Sun and its licensors, if any. Third-party software, including font technology, is copyrighted and licensed from Sun suppliers.

Parts of the product may be derived from Berkeley BSD systems, licensed from the University of California. UNIX is a registered trademark in the U.S. and other countries, exclusively licensed through X/Open Company, Ltd.

Sun, Sun Microsystems, the Sun logo, docs.sun.com, AnswerBook, AnswerBook2, SunOS is a trademark or registered trademark of Sun Microsystems, Inc. in the United States and other countries. and Solaris are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and other countries. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. in the U.S. and other countries. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

The OPEN LOOK and Sun™ Graphical User Interface was developed by Sun Microsystems, Inc. for its users and licensees. Sun acknowledges the pioneering efforts of Xerox in researching and developing the concept of visual or graphical user interfaces for the computer industry. Sun holds a non-exclusive license from Xerox to the Xerox Graphical User Interface, which license also covers Sun's licensees who implement OPEN LOOK GUIs and otherwise comply with Sun's written license agreements.

U.S. Government Rights – Commercial software. Government users are subject to the Sun Microsystems, Inc. standard license agreement and applicable provisions of the FAR and its supplements.

DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

Copyright 2005 Sun Microsystems, Inc. 4150 Network Circle, Santa Clara, CA 95054 U.S.A. Tous droits réservés.

Ce produit ou document est protégé par un copyright et distribué avec des licences qui en restreignent l'utilisation, la copie, la distribution, et la décompilation. Aucune partie de ce produit ou document ne peut être reproduite sous aucune forme, par quelque moyen que ce soit, sans l'autorisation préalable et écrite de Sun et de ses bailleurs de licence, s'il y en a. Le logiciel détenu par des tiers, et qui comprend la technologie relative aux polices de caractères, est protégé par un copyright et licencié par des fournisseurs de Sun.

Des parties de ce produit pourront être dérivées du système Berkeley BSD licenciés par l'Université de Californie. UNIX est une marque déposée aux Etats-Unis et dans d'autres pays et licenciée exclusivement par X/Open Company, Ltd.

Sun, Sun Microsystems, le logo Sun, docs.sun.com, AnswerBook, AnswerBook2, SunOS sont des marques déposées ou enregistrées de Sun Microsystems, Inc. aux Etats-Unis et dans d'autres pays. et Solaris sont des marques de fabrique ou des marques déposées, de Sun Microsystems, Inc. aux Etats-Unis et dans d'autres pays. Toutes les marques SPARC sont utilisées sous licence et sont des marques de fabrique ou des marques déposées de SPARC International, Inc. aux États-Unis et dans d'autres pays. Les produits portant les marques SPARC sont basés sur une architecture développée par Sun Microsystems, Inc.

L'interface d'utilisation graphique OPEN LOOK et Sun™ a été développée par Sun Microsystems, Inc. pour ses utilisateurs et licenciés. Sun reconnaît les efforts de pionniers de Xerox pour la recherche et le développement du concept des interfaces d'utilisation visuelle ou graphique pour l'industrie de l'informatique. Sun détient une licence non exclusive de Xerox sur l'interface d'utilisation graphique Xerox, cette licence couvrant également les licenciés de Sun qui mettent en place l'interface d'utilisation graphique OPEN LOOK et qui en outre se conforment aux licences écrites de Sun.

CETTE PUBLICATION EST FOURNIE "EN L'ETAT" ET AUCUNE GARANTIE, EXPRESSE OU IMPLICITE, N'EST ACCORDEE, Y COMPRIS DES GARANTIES CONCERNANT LA VALEUR MARCHANDE, L'APTITUDE DE LA PUBLICATION A REpondre A UNE UTILISATION PARTICULIERE, OU LE FAIT QU'ELLE NE SOIT PAS CONTREFAISANTE DE PRODUIT DE TIERS. CE DENI DE GARANTIE NE S'APPLIQUERAIT PAS, DANS LA MESURE OU IL SERAIT TENU JURIDIQUEMENT NUL ET NON AVENU.



050510@11223



Contents

Preface	5
Installing and Configuring Sun Cluster HA for Oracle E-Business Suite	11
Installing and Configuring Sun Cluster HA for Oracle E-Business Suite	11
Sun Cluster HA for Oracle E-Business Suite Overview	12
Planning the Sun Cluster HA for Oracle E-Business Suite Installation and Configuration	13
Configuration Restrictions	14
Configuration Requirements	15
Installing and Configuring Oracle E-Business Suite	18
▼ How to Install and Configure Oracle E-Business Suite	18
Verifying the Installation and Configuration of Oracle E-Business Suite	22
▼ How to Verify the Installation and Configuration of Oracle E-Business Suite	23
Installing the Sun Cluster HA for Oracle E-Business Suite Packages	23
▼ How to Install the Sun Cluster HA for Oracle E-Business Suite Packages Using the Web Start Program	24
▼ How to Install the Sun Cluster HA for Oracle E-Business Suite Packages using the <code>scinstall</code> Utility	25
Registering and Configuring Sun Cluster HA for Oracle E-Business Suite	26
▼ How to Register and Configure Sun Cluster HA for Oracle E-Business Suite as a Failover Service	26
Verifying the Sun Cluster HA for Oracle E-Business Suite Installation and Configuration	32
▼ How to Verify the Sun Cluster HA for Oracle E-Business Suite Installation and Configuration	32
Upgrading Sun Cluster HA for Oracle E-Business Suite	33

▼ How to Remove and Reregister a Resource for an Oracle E-Business Suite Server Component	33
▼ How to Remove and Reregister Resources for Oracle E-Business Suite Listener Components	34
▼ How to Bring Online Resources for Sun Cluster Oracle E-Business Suite	35
Understanding the Sun Cluster HA for Oracle E-Business Suite Fault Monitor	36
Resource Properties	36
Probing Algorithm and Functionality	36
Debug Sun Cluster HA for Oracle E-Business Suite	37
▼ How to turn on debug for Sun Cluster HA for Oracle E-Business Suite	37
Index	39

Preface

Sun Cluster Data Service for Oracle E-Business Suite Guide for Solaris OS explains how to install and configure Sun™ Cluster HA for Oracle E-Business Suite on both SPARC® and x86 based systems.

Note – In this document, the term “x86” refers to the Intel 32-bit family of microprocessor chips and compatible microprocessor chips made by AMD.

This document is intended for system administrators with extensive knowledge of Sun software and hardware. Do not use this document as a planning or presales guide. Before reading this document, you should have already determined your system requirements and purchased the appropriate equipment and software.

The instructions in this document assume knowledge of the Solaris™ Operating System and expertise with the volume manager software that is used with Sun Cluster.

Note – Sun Cluster software runs on two platforms, SPARC and x86. The information in this document pertains to both platforms unless otherwise specified in a special chapter, section, note, bulleted item, figure, table, or example.

UNIX Commands

This document contains information about commands that are specific to installing and configuring Sun Cluster data services. The document does *not* contain comprehensive information about basic UNIX® commands and procedures, such as shutting down the system, booting the system, and configuring devices. Information about basic UNIX commands and procedures is available from the following sources:

- Online documentation for the Solaris Operating System
- Solaris Operating System man pages
- Other software documentation that you received with your system

Typographic Conventions

The following table describes the typographic changes that are used in this book.

TABLE P-1 Typographic Conventions

Typeface or Symbol	Meaning	Example
AaBbCc123	The names of commands, files, and directories, and onscreen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. <code>machine_name%</code> you have mail.
AaBbCc123	What you type, contrasted with onscreen computer output	<code>machine_name%</code> su Password:
<i>AaBbCc123</i>	Command-line placeholder: replace with a real name or value	The command to remove a file is <code>rm filename</code> .
<i>AaBbCc123</i>	Book titles, new terms, and terms to be emphasized	Read Chapter 6 in the <i>User's Guide</i> . Perform a <i>patch analysis</i> . Do <i>not</i> save the file. [Note that some emphasized items appear bold online.]

Shell Prompts in Command Examples

The following table shows the default system prompt and superuser prompt for the C shell, Bourne shell, and Korn shell.

TABLE P-2 Shell Prompts

Shell	Prompt
C shell prompt	machine_name%
C shell superuser prompt	machine_name#
Bourne shell and Korn shell prompt	\$
Bourne shell and Korn shell superuser prompt	#

Related Documentation

Information about related Sun Cluster topics is available in the documentation that is listed in the following table. All Sun Cluster documentation is available at <http://docs.sun.com>.

Topic	Documentation
Data service administration	<i>Sun Cluster Data Services Planning and Administration Guide for Solaris OS</i> Individual data service guides
Concepts	<i>Sun Cluster Concepts Guide for Solaris OS</i>
Overview	<i>Sun Cluster Overview for Solaris OS</i>
Software installation	<i>Sun Cluster Software Installation Guide for Solaris OS</i>
System administration	<i>Sun Cluster System Administration Guide for Solaris OS</i>
Hardware administration	<i>Sun Cluster 3.0-3.1 Hardware Administration Manual for Solaris OS</i> Individual hardware administration guides
Data service development	<i>Sun Cluster Data Services Developer's Guide for Solaris OS</i>

Topic	Documentation
Error messages	<i>Sun Cluster Error Messages Guide for Solaris OS</i>
Command and function reference	<i>Sun Cluster Reference Manual for Solaris OS</i>

For a complete list of Sun Cluster documentation, see the release notes for your release of Sun Cluster at <http://docs.sun.com>.

Related Third-Party Web Site References

Third-party URLs that are referenced in this document provide additional related information.

Note – Sun is not responsible for the availability of third-party web sites mentioned in this document. Sun does not endorse and is not responsible or liable for any content, advertising, products, or other materials that are available on or through such sites or resources. Sun will not be responsible or liable for any actual or alleged damage or loss caused or alleged to be caused by or in connection with use of or reliance on any such content, goods, or services that are available on or through such sites or resources.

Documentation, Support, and Training

Sun Function	URL	Description
Documentation	http://www.sun.com/documentation/	Download PDF and HTML documents, and order printed documents
Support and Training	http://www.sun.com/supporttraining/	Obtain technical support, download patches, and learn about Sun courses

Product Training

Sun Microsystems offers training in many Sun technologies through a variety of instructor-led courses and self-paced courses. For information about the training courses that Sun offers and to enroll in a class, visit Sun Microsystems Training at <http://training.sun.com/>.

Getting Help

If you have problems installing or using Sun Cluster, contact your service provider and provide the following information:

- Your name and email address (if available)
- Your company name, address, and phone number
- The model and serial numbers of your systems
- The release number of the Solaris Operating System (for example, Solaris 8)
- The release number of Sun Cluster (for example, Sun Cluster 3.0)

Use the following commands to gather information about each node on your system for your service provider.

Command	Function
<code>prtconf -v</code>	Displays the size of the system memory and reports information about peripheral devices
<code>psrinfo -v</code>	Displays information about processors
<code>showrev -p</code>	Reports which patches are installed
<code>SPARC: prtdiag -v</code>	Displays system diagnostic information
<code>scinstall -pv</code>	Displays Sun Cluster release and package version information

Also have available the contents of the `/var/adm/messages` file.

Installing and Configuring Sun Cluster HA for Oracle E-Business Suite

This chapter explains how to install and configure Sun Cluster HA for Oracle E-Business Suite.

This chapter contains the following sections.

- “Installing and Configuring Sun Cluster HA for Oracle E-Business Suite” on page 11
- “Sun Cluster HA for Oracle E-Business Suite Overview” on page 12
- “Planning the Sun Cluster HA for Oracle E-Business Suite Installation and Configuration” on page 13
- “Installing and Configuring Oracle E-Business Suite” on page 18
- “Verifying the Installation and Configuration of Oracle E-Business Suite” on page 22
- “Installing the Sun Cluster HA for Oracle E-Business Suite Packages” on page 23
- “Registering and Configuring Sun Cluster HA for Oracle E-Business Suite” on page 26
- “Verifying the Sun Cluster HA for Oracle E-Business Suite Installation and Configuration” on page 32
- “Upgrading Sun Cluster HA for Oracle E-Business Suite” on page 33
- “Understanding the Sun Cluster HA for Oracle E-Business Suite Fault Monitor” on page 36
- “Debug Sun Cluster HA for Oracle E-Business Suite” on page 37

Installing and Configuring Sun Cluster HA for Oracle E-Business Suite

Table 1 lists the tasks for installing and configuring Sun Cluster HA for Oracle E-Business Suite. Perform these tasks in the order that they are listed.

TABLE 1 Task Map: Installing and Configuring Sun Cluster HA for Oracle E-Business Suite

Task	For Instructions, Go To
Plan the installation.	“Sun Cluster HA for Oracle E-Business Suite Overview” on page 12 “Planning the Sun Cluster HA for Oracle E-Business Suite Installation and Configuration” on page 13
Install and configure Oracle E-Business Suite.	“How to Install and Configure Oracle E-Business Suite” on page 18
Verify installation and configuration.	“How to Verify the Installation and Configuration of Oracle E-Business Suite” on page 23
Install Sun Cluster HA for Oracle E-Business Suite Packages.	“How to Install the Sun Cluster HA for Oracle E-Business Suite Packages using the <code>scinstall</code> Utility” on page 25
Register and Configure Sun Cluster HA for Oracle E-Business Suite.	“How to Register and Configure Sun Cluster HA for Oracle E-Business Suite as a Failover Service” on page 26
Verify Sun Cluster HA for Oracle E-Business Suite Installation and Configuration.	“How to Verify the Sun Cluster HA for Oracle E-Business Suite Installation and Configuration” on page 32
Upgrading Sun Cluster HA for Oracle E-Business Suite.	“Upgrading Sun Cluster HA for Oracle E-Business Suite” on page 33
Understand Sun Cluster HA for Oracle E-Business Suite fault monitor.	“Understanding the Sun Cluster HA for Oracle E-Business Suite Fault Monitor” on page 36
Debug Sun Cluster HA for Oracle E-Business Suite.	“Debug Sun Cluster HA for Oracle E-Business Suite” on page 37

Sun Cluster HA for Oracle E-Business Suite Overview

Oracle E-Business Suite is a complete set of business applications that enables you to efficiently manage business processes using a unified open architecture. This architecture is a framework for multitiered, distributed computing that supports Oracle products. The tiers that compose Oracle E-Business Suite are the database tier, applications tier, and desktop tier. These tiers can be distributed as a logical grouping and can be grouped on one or more nodes.

TABLE 2 Oracle E-Business Suite Architecture

Desktop Tier	Application Tier	Database Tier
	Web Server	
	Forms Server	
Web Browser	Concurrent Server	Database Server
	Reports Server	
	Admin Server	
	Discoverer Server	

The distributed nature of Oracle E-Business Suite requires more than one Sun Cluster Data Service if all application and database tiers are to be managed by Sun Cluster.

[Table 3](#) lists the Oracle E-Business Suite components and their appropriate Sun Cluster Data Service that provides protection.

TABLE 3 Protection of Components

Component	Protected by
Database Server	Sun Cluster HA for Oracle (Database and Listener)
Web Server	Sun Cluster HA for Apache
Forms Server	Sun Cluster HA for Oracle E-Business Suite
Concurrent Manager Server	Sun Cluster HA for Oracle E-Business Suite
Concurrent Manager Listener	Sun Cluster HA for Oracle (Listener)
Reports Server	Sun Cluster HA for Oracle E-Business Suite

The Admin Server and Discoverer Server are not normally run within Sun Cluster and therefore are not protected by Sun Cluster HA for Oracle E-Business Suite.

Planning the Sun Cluster HA for Oracle E-Business Suite Installation and Configuration

This section contains the information you need to plan your Sun Cluster HA for Oracle E-Business Suite installation and configuration.

Configuration Restrictions

This section provides a list of software and hardware configuration restrictions that apply to Sun Cluster HA for Oracle E-Business Suite only.



Caution – Your data service configuration might not be supported if you do not observe these restrictions.

For restrictions that apply to all data services, see the *Sun Cluster Release Notes*.

- **Sun Cluster HA for Oracle E-Business Suite data service deployment** – Consists of three components, Forms Server, Concurrent Manager Server and Reports Server. These components are installed using the Rapid Wizard Installation tool (*rapidwiz*).

You can install Oracle E-Business Suite using *rapidwiz* onto a *single-node*, *two-node* or *multi-node* installation.

In a *single-node* installation, you install the Database, Web, Forms, Concurrent Manager, and Reports Server onto a single node.

In a *two-node* installation, one node contains the Database, Concurrent Manager and Reports server; and the other node contains the Forms and Web Server.

In a *multi-node* installation, you can specify any combination of up to five nodes to install the Database, Web, Forms, Concurrent Manager, and Reports Server.

- **Database Server** – Using *rapidwiz*, install the Database Server as a single database instance. The Database Server must be managed by Sun Cluster HA for Oracle as a failover service with Sun Cluster.
- **Web Server** – Using *rapidwiz*, install the Web Server (Apache) onto a node. If this will run in Sun Cluster, then the Web Server is managed by Sun Cluster HA for Apache and can be deployed as either a failover or scalable service within Sun Cluster.
- **Forms, Concurrent Manager and Reports Server** — Depending on how you install using *rapidwiz*, you can install the Forms, Concurrent Manager and Reports Server onto the same node or onto different nodes. However, all these components can be managed only by Sun Cluster HA for Oracle E-Business Suite as a failover service within Sun Cluster.
- **Installing Oracle E-Business Suite onto Cluster File Systems** — When installing Oracle E-Business Suite using *rapidwiz*, you must adhere to these restrictions.
The following tables show the mount points and acceptable file system types, for example, Local, Failover File System (FFS), or Global File System (GFS).

Mount Point	Filesystem Type
<dbname>DATA	FFS or GFS
<dbname>DB	Local, FFS or GFS
<dbname>ORA	Local, FFS or GFS

Mount Point	Filesystem type
<dbname>COMN_TOP	FFS or GFS
<dbname>APPL_TOP	FFS or GFS
<dbname>APPLCSF	FFS or GFS

Note – It is considered best practice when mounting Global File Systems to mount them with the /global prefix and to mount Failover File Systems with the /local prefix.

Configuration Requirements

These requirements in this section apply to Sun Cluster HA for Oracle E-Business Suite only. You must meet these requirements before you proceed with your Sun Cluster HA for Oracle E-Business Suite installation and configuration.



Caution – Your data service configuration might not be supported if you do not adhere to these requirements.

Oracle E-Business Suite components and their dependencies – You can configure the Sun Cluster HA for Oracle E-Business Suite data service to protect an Oracle E-Business Suite instance and its respective components. These components and their dependencies are described.

Note – In every case, the SUNW.HAStoragePlus resource manages the Oracle E-Business Suite File System Mount points and ensures that Oracle E-Business Suite is not started until these are mounted.

TABLE 4 Oracle E-Business Suite components and their dependencies (via → symbol)

Component	Description
Forms Server	→ <i>SUNW.HAStoragePlus</i> resource
Concurrent Manager Listener	→ <i>SUNW.HAStoragePlus</i> resource
Concurrent Manager Server	→ <i>SUNW.HAStoragePlus</i> resource → <i>Concurrent Manager Listener</i> resource → <i>Oracle Database Server</i> resource
Reports Server	→ <i>SUNW.HAStoragePlus</i> resource

As shown in [Table 4](#) the Concurrent Manager Server is dependent on the Oracle Database Server. If you choose the Rapid Install *single-node* or *two-node* installation method, then the Database and Concurrent Manager will be within the same node (Resource Group).

If you choose *multi-node*, then you might have installed the Database Server and Concurrent Manager Server on different nodes (Resource Groups). To preserve the dependency listed above, the Sun Cluster HA for Oracle E-Business Suite data service manages the start/restart dependencies between the Concurrent Manager Server and Database Server.

Each Oracle E-Business Suite component has a configuration and registration file in */opt/SUNWscebs/xxx/util*, where *xxx* is a three-character abbreviation for the respective Oracle E-Business Suite component. These files allow you to register the Oracle E-Business Suite components with Sun Cluster.

Within these files, the appropriate dependencies have been applied.

EXAMPLE 1 Oracle E-Business Suite configuration and registration files for Sun Cluster

```
# cd /opt/SUNWscebs
#
# ls -l cmg/util
total 16
-rwxr-xr-x  1 root  sys      1410 Jun 11 17:17 cmg_config
-rwxr-xr-x  1 root  sys       840 Jun 11 17:17 cmg_register
-rwxr-xr-x  1 root  sys     4105 Jun 11 17:17 copy_env
# ls -l frm/util
total 4
-rwxr-xr-x  1 root  sys       701 Jun 11 17:17 frm_config
-rwxr-xr-x  1 root  sys       619 Jun 11 17:17 frm_register
# ls -l rep/util
total 4
-rwxr-xr-x  1 root  sys       701 Jun 11 17:17 rep_config
-rwxr-xr-x  1 root  sys       619 Jun 11 17:17 rep_register
# more cmg/util/cmg*
:~::~~::~~::~~::~~::~
```


EXAMPLE 1 Oracle E-Business Suite configuration and registration files for Sun Cluster
(Continued)

```
cmg_config
::::::::::::
#
# Copyright 2003 Sun Microsystems, Inc. All rights reserved.
# Use is subject to license terms.
#
# This file will be sourced in by cmg_register and the parameters
# listed below will be used.
#
# These parameters can be customized in (key=value) form
#
#         RS - name of the resource for the application
#         RG - name of the resource group containing RS
#         HAS_RS - name of the HAStoragePlus SC resource
#         LSR_RS - name of the Concurrent Manager Listener SC resource
#         CON_HOST - name of the Concurrent Manager logical hostname
#         CON_COMNTOP - name of the Concurrent Manager COMMON_TOP directory
#         CON_APPSUSER - name of the Concurrent Manager application userid
#         APP_SID - name of the application SID
#         APPS_PASSWD - name of the password for the APPS userid
#         ORACLE_HOME - name of the Oracle home directory
#         CON_LIMIT - Minimum number of Concurrent Managers
#                     represented as a percentage i.e. 70 = 70%
#                     (Note - Omit the % sign)
#         MODE - Specifies if Oracle E-Business Suite is running
#               32|64-bit code and if the LD_PRELOAD pathname
#               will have a symlink in /usr/lib/secure
#               Default value = 32/Y
#               (Note - Refer to the Sun Cluster 3.1 Data Service
#               for Oracle E-Business Suite for more information)
#
RS=
RG=
HAS_RS=
LSR_RS=
CON_HOST=
CON_COMNTOP=
CON_APPSUSER=
APP_SID=
APPS_PASSWD=
ORACLE_HOME=
CON_LIMIT=
MODE=32/Y
::::::::::::
cmg_register
::::::::::::
#
# Copyright 2003 Sun Microsystems, Inc. All rights reserved.
# Use is subject to license terms.
#
```

EXAMPLE 1 Oracle E-Business Suite configuration and registration files for Sun Cluster
(Continued)

```
. `dirname $0`/cmg_config

scrgadm -a -j $RS -g $RG -t SUNW.gds \
-x Start_command="/opt/SUNWscebs/cmg/bin/start_cmg \
-R $RS -G $RG -C $CON_COMNTOP -U $CON_APPSUSER -P $APPS_PASSWD \
-S $APP_SID -H $CON_HOST -O $ORACLE_HOME -L $CON_LIMIT -M $MODE" \
-x Stop_command="/opt/SUNWscebs/cmg/bin/stop_cmg \
-R $RS -G $RG -C $CON_COMNTOP -U $CON_APPSUSER -P $APPS_PASSWD \
-S $APP_SID -H $CON_HOST -O $ORACLE_HOME -L $CON_LIMIT -M $MODE" \
-x Probe_command="/opt/SUNWscebs/cmg/bin/probe_cmg \
-R $RS -G $RG -C $CON_COMNTOP -U $CON_APPSUSER -P $APPS_PASSWD \
-S $APP_SID -H $CON_HOST -O $ORACLE_HOME -L $CON_LIMIT -M $MODE" \
-y Port_list=23/tcp -y Network_resources_used=$LSR_RS \
-x Stop_signal=9 \
-y Resource_dependencies=$HAS_RS,$LSR_RS
#
```

Installing and Configuring Oracle E-Business Suite

This section contains the procedures you need to install and configure Oracle E-Business Suite.

▼ How to Install and Configure Oracle E-Business Suite

Throughout the following next sections, references will be made to certain values for the deployment of Oracle E-Business Suite. The following list shows these values used in subsequent examples.

- *<dbname>* - PROD
- *<dbname>*COMN_TOP - /global/mnt10/d01
- *<dbname>*CON_APPSUSER - ebs
- *<Logical Hostname>* - lhost1

Note – For this section, follow the *Oracle Applications, Installing Oracle Applications* manual to install Oracle E-Business Suite.

- Steps**
1. Determine how Oracle E-Business Suite will be deployed in Sun Cluster.
 - a. Determine which installation method you will use with the Oracle rapid install program `rapidwiz`.
 - b. Determine which Cluster File System will be used by Oracle E-Business Suite.
 2. Depending on how Oracle E-Business Suite is deployed using `rapidwiz` ensure that each Logical Hostname used by `rapidwiz` is available.

Note – To do this, complete steps 1–9 in section “How to Register and Configure Sun Cluster HA for Oracle E-Business Suite as a Failover Service” on page 26.

3. Mount the Oracle E-Business Suite Cluster File Systems.

Note – If Failover File Systems will be used by the Oracle E-Business Suite instance, you must mount these manually.

4. Install Oracle E-Business Suite using `rapidwiz` onto a Global File System.

Note – For a discussion of the advantages and disadvantages of installing the software on local versus cluster files systems, see “Determining the Location of the Application Binaries” on page 3 of the *Sun Cluster Data Services Installation and Configuration Guide*.

- a. Run `rapidwiz` to build the `config.txt` file for the Oracle E-Business Suite deployment you have chosen, for example, `single-node`, `two-node`, or `multi-node`.
- b. Save the `config.txt` file for Oracle E-Business Suite, for example, `/var/tmp/config.txt`.
- c. Run `rapidwiz` for each Logical Hostname that you used when building the `config.txt` file, using the `-servername` parameter.

```
# rapidwiz -servername <Logical Hostname>
```

Note – After you install the Concurrent Manager using rapidwiz, amend the Concurrent Manager Listener listener.ora file so that it can listen on the Logical Hostname. This step needs to be completed before continuing with rapidwiz for the Web Server and Forms Server installation of Oracle E-Business Suite.

d. Amend the Concurrent Manager Listener listener.ora file so that it recognizes the Logical Hostname.

Note – The output from the following grep commands is used as input to subsequent commands.

```
# grep PROD.CON_COMNTOP /var/tmp/config.txt
PROD.CON_COMNTOP=/global/mnt10/d01/oracle/prodcomn
#
# su ebs
# cd /global/mnt10/d01/oracle/prodcomn/admin/scripts/PROD
#
# ./adalctl.sh stop
# ./adcmctl.sh stop apps/apps
#
# grep ORA_ENVFILE= adalctl.sh
ORA_ENVFILE="/global/mnt10/d01/oracle/prodora/8.0.6/PROD.env"
#
# grep TNS_ADMIN= /global/mnt10/d01/oracle/prodora/8.0.6/PROD.env
TNS_ADMIN="/global/mnt10/d01/oracle/prodora/8.0.6/network/admin/PROD"
#
# vi /global/mnt10/d01/oracle/prodora/8.0.6/network/admin/PROD/listener.ora
#
    Add LD_PRELOAD_32=/usr/lib/secure/libloghost.so.1
    and LHOSTNAME=<Logical Hostname>

    to the envs= parameter for the SID_NAME=FNDSM_<SID> enrt
```

The following code shows the contents of the listener.ora file after it has been modified. If autoconfig is used after listener.ora has been modified, you will need to reapply these changes, that is autoconfig will back out these changes so you will need to reapply them.

Note – The following text has been indented slightly so that it fits the page.

```
# more /global/mnt10/d01/oracle/prodora/8.0.6/network/admin/PROD/listener.ora
# $Header: admk80ln_ux.sql 115.7 2002/05/17 10:10:59 pkm ship      $
# LISTENER.ORA For Oracle Applications
# This file is automatically generated
APPS_PROD =
```

```

        (ADDRESS_LIST =
          (ADDRESS= (PROTOCOL= TCP)(Host= lhost1)(Port= 1626))
        )
SID_LIST_APPS_PROD =
  (SID_LIST =
    ( SID_DESC = ( SID_NAME = FNDSM_PROD )
      ( ORACLE_HOME = /global/mnt10/d01/oracle/prodora/8.0.6 )
      ( PROGRAM = /global/mnt10/d01/oracle/prodappl/fnd/11.5.0/bin/FNDSM )
      ( envs='LD_PRELOAD_32=/usr/lib/secure/libloghost.so.1, \
              LHOSTNAME=lhost1, \
              MYAPPSORA=/global/mnt10/d01/oracle/prodappl/APPSORA.env, \
              DISPLAY=clusterix1:0.0,PATH=/usr/bin:/usr/ccs/bin:/bin, \
              FNDSM_SCRIPT=/global/mnt10/d01/oracle/prodappl/fnd/11.5.0/bin/gsmstart.sh' )
    )
    ( SID_DESC = ( SID_NAME = FNDFS )
      ( ORACLE_HOME = /global/mnt10/d01/oracle/prodora/8.0.6 )
      ( PROGRAM = /global/mnt10/d01/oracle/prodappl/fnd/11.5.0/bin/FNDFS )
      ( envs='EPC_DISABLED=TRUE,NLS_LANG=AMERICAN_AMERICA.US7ASCII, \
              LD_LIBRARY_PATH=/usr/dt/lib:/usr/openwin/lib: \
              /global/mnt10/d01/oracle/prodora/8.0.6/lib, \
              SHLIB_PATH=/usr/lib:/usr/dt/lib:/usr/openwin/lib: \
              /global/mnt10/d01/oracle/prodora/8.0.6/lib, \
              LIBPATH=/usr/dt/lib:/usr/openwin/lib: \
              /global/mnt10/d01/oracle/prodora/8.0.6/lib' )
    )
  )
STARTUP_WAIT_TIME_APPS_PROD = 0
CONNECT_TIMEOUT_APPS_PROD = 10
TRACE_LEVEL_APPS_PROD = OFF
LOG_DIRECTORY_APPS_PROD = /global/mnt10/d01/oracle/prodora/8.0.6/network/admin
LOG_FILE_APPS_PROD = APPS_PROD
TRACE_DIRECTORY_APPS_PROD = /global/mnt10/d01/oracle/prodora/8.0.6/network/admin
TRACE_FILE_APPS_PROD = APPS_PROD

```

e. Create a symbolic link for libloghost.so.1.

To facilitate Oracle E-Business Suite working with a Logical Hostname the program libloghost.so.1 is supplied to interrupt the system call when retrieving the hostname and instead return the Logical Hostname.

Note – The interrupted system call is made only when the Concurrent Manager Listener is running and when the Concurrent Manager Server is started or stopped.

The library that contains the libloghost.so.1 program must reside in a secure library to prevent warning messages whenever such a system call is made.

To facilitate the library being within a secure directory, create the following symbolic link on all nodes within Sun Cluster that will host the Sun Cluster HA for Oracle E-Business Suite data service.

```
# cd /usr/lib/secure
#
# ln -s /opt/SUNWscebs/cmglib/32/libloghost.so.1 libloghost.so.1
```

If you do not want to have /opt/SUNWscebs/cmglib/32/libloghost.so.1 running from a secure library, you will need to do the following.

Amend the previous step (step 4d) to replace

```
/usr/lib/secure/libloghost.so.1
```

with

```
/opt/SUNWscebs/cmglib/32/libloghost.so.1. For example:
```

```
LD_PRELOAD_32=/opt/SUNWscebs/cmglib/32/libloghost.so.1
```

When registering the Concurrent Manager Resource, specify that you are not using a secure library. This is explained in step 13 in [“How to Register and Configure Sun Cluster HA for Oracle E-Business Suite as a Failover Service” on page 26](#)

Running /opt/SUNWscebs/cmglib/32/libloghost.so.1 outside of a secure library will cause similar warning messages to appear. You can ignore these.

```
ld.so.1: <cmd>: warning: /opt/SUNWscebs/cmglib/32/libloghost.so.1:
open failed: illegal insecure pathname
```

- f. Copy the <Logical_hostname>_<dbname>.dbc file to prefix the physical hostname of the Sun Cluster nodes, instead of the logical hostname. This is required for Client access. In this example, the logical hostname is lhost1 and the physical Sun Cluster nodes are clusterix1 and clusterix2.

```
# grep PROD.FRM_APPLTOP= /var/tmp/config.txt
PROD.FRM_APPLTOP=/global/mnt11/d01/oracle/prodappl
#
# cd /global/mnt11/d01/oracle/prodappl/fnd/11.5.0/secure
#
# cp lhost1_prod.dbc clusterix1_prod.dbc
# cp lhost1_prod.dbc clusterix2_prod.dbc
```

Verifying the Installation and Configuration of Oracle E-Business Suite

This section contains the procedure you need to verify the installation and configuration.

▼ How to Verify the Installation and Configuration of Oracle E-Business Suite

This procedure does not verify that your application is highly available because you have not yet installed your data service.

Before verifying the Installation and Configuration of Oracle E-Business Suite, ensure that the logical hostname and file systems are mounted. To do this, complete steps 1–9 in “How to Register and Configure Sun Cluster HA for Oracle E-Business Suite as a Failover Service” on page 26.

Note – For this section, follow the *Oracle Applications, Installing Oracle Applications* manual to install Oracle E-Business Suite Client. Ensure that Oracle E-Business Suite has been started.

Step ● Test that a client can access Oracle E-Business Suite, using a Windows Client.

`http://<logical_hostname>:8000/OA_HTML/US/ICXINDEX.htm`

Userid/Password `sysadmin/sysadmin`

Then double click on **Requests**

Then double click on **Run**

Select **OK** to "Single requests"

Enter **Active users** in the Name field

Select **OK** to submit the request

Click **Refresh Data** until "Active Users" is "Completed"

Click **View output**"

Installing the Sun Cluster HA for Oracle E-Business Suite Packages

If you did not install the Sun Cluster HA for Oracle E-Business Suite packages during your Sun Cluster installation, perform this procedure to install the packages. Perform this procedure on each cluster node where you are installing the Sun Cluster HA for Oracle E-Business Suite packages. To complete this procedure, you need the Sun Cluster Agents CD-ROM.

If you are installing more than one data service simultaneously, perform the procedure in “Installing the Software” in *Sun Cluster Software Installation Guide for Solaris OS*.

Install the Sun Cluster HA for Oracle E-Business Suite packages by using one of the following installation tools:

- Web Start program
- `scinstall` utility

Note – If you are using Solaris 10, install these packages *only* in the global zone. To ensure that these packages are not propagated to any local zones that are created after you install the packages, use the `scinstall` utility to install these packages. Do *not* use the Web Start program.

▼ How to Install the Sun Cluster HA for Oracle E-Business Suite Packages Using the Web Start Program

You can run the Web Start program with a command-line interface (CLI) or with a graphical user interface (GUI). The content and sequence of instructions in the CLI and the GUI are similar. For more information about the Web Start program, see the `installer(1M)` man page.

- Steps**
1. **On the cluster node where you are installing the Sun Cluster HA for Oracle E-Business Suite packages, become superuser.**
 2. **(Optional) If you intend to run the Web Start program with a GUI, ensure that your `DISPLAY` environment variable is set.**
 3. **Insert the Sun Cluster Agents CD-ROM into the CD-ROM drive.**
If the Volume Management daemon `vold(1M)` is running and configured to manage CD-ROM devices, it automatically mounts the CD-ROM on the `/cdrom/cdrom0` directory.
 4. **Change to the Sun Cluster HA for Oracle E-Business Suite component directory of the CD-ROM.**
The Web Start program for the Sun Cluster HA for Oracle E-Business Suite data service resides in this directory.

```
# cd /cdrom/cdrom0/components/SunCluster_HA_EBS_3.1
```
 5. **Start the Web Start program.**

```
# ./installer
```
 6. **When you are prompted, select the type of installation.**

- To install only the C locale, select Typical.
 - To install other locales, select Custom.
7. **Follow the instructions on the screen to install the Sun Cluster HA for Oracle E-Business Suite packages on the node.**
 After the installation is finished, the Web Start program provides an installation summary. This summary enables you to view logs that the Web Start program created during the installation. These logs are located in the `/var/sadm/install/logs` directory.
 8. **Exit the Web Start program.**
 9. **Remove the Sun Cluster Agents CD-ROM from the CD-ROM drive.**
 - a. **To ensure that the CD-ROM is not being used, change to a directory that does *not* reside on the CD-ROM.**
 - b. **Eject the CD-ROM.**

```
# eject cdrom
```

▼ How to Install the Sun Cluster HA for Oracle E-Business Suite Packages using the `scinstall` Utility

Use this procedure to install the Sun Cluster HA for Oracle E-Business Suite packages by using the `scinstall` utility. You need the Sun Cluster Agents CD-ROM to perform this procedure. This procedure assumes that you did not install the data service packages during your initial Sun Cluster installation.

If you installed the Sun Cluster HA for Oracle E-Business Suite packages as part of your initial Sun Cluster installation, proceed to [“Registering and Configuring Sun Cluster HA for Oracle E-Business Suite”](#) on page 26.

Otherwise, use this procedure to install the Sun Cluster HA for Oracle E-Business Suite packages. Perform this procedure on all nodes that can run Sun Cluster HA for Oracle E-Business Suite data service.

- Steps**
1. **Load the Sun Cluster Agents CD-ROM into the CD-ROM drive.**
 2. **Run the `scinstall` utility with no options.**
 This step starts the `scinstall` utility in interactive mode.
 3. **Choose the menu option, Add Support for New Data Service to This Cluster Node.**
 The `scinstall` utility prompts you for additional information.

4. **Provide the path to the Sun Cluster Agents CD-ROM.**

The utility refers to the CD as the “data services cd.”

5. **Specify the data service to install.**

The `scinstall` utility lists the data service that you selected and asks you to confirm your choice.

6. **Exit the `scinstall` utility.**

7. **Unload the CD from the drive.**

Registering and Configuring Sun Cluster HA for Oracle E-Business Suite

This section contains the procedures you need to configure Sun Cluster HA for Oracle E-Business Suite.

▼ How to Register and Configure Sun Cluster HA for Oracle E-Business Suite as a Failover Service

This procedure assumes that you installed the data service packages during your initial Sun Cluster installation.

If you did not install the Sun Cluster HA for Oracle E-Business Suite packages as part of your initial Sun Cluster installation, go to [“How to Install the Sun Cluster HA for Oracle E-Business Suite Packages using the `scinstall` Utility”](#) on page 25.

Note – Depending on how you installed Oracle E-Business Suite using `rapidwiz`, you might repeat some of the next steps. For example, if a two-node installation was performed you need two Failover Resource Groups (step 6), an additional SUNW.HAStoragePlus (step7), and Logical Hostname (step 8) resources, in separate resource groups.

Steps 1. **Become superuser on one of the nodes in the cluster that will host Oracle E-Business Suite.**

2. **Register the SUNW.gds resource type.**

```
# scrgadm -a -t SUNW.gds
```

3. Register the SUNW.HAStoragePlus resource type.

```
# scrgadm -a -t SUNW.HAStoragePlus
```

4. Register the SUNW.oracle_server and SUNW.oracle_listener resource type.

```
# scrgadm -a -t SUNW.oracle_server
# scrgadm -a -t SUNW.oracle_listener
```

5. Register the SUNW.apache resource type.

```
# scrgadm -a -t SUNW.apache
```

6. Create a failover resource group.

```
# scrgadm -a -g Oracle E-Business Suite-failover-resource-group
```

7. Create a resource for the Oracle E-Business Suite Disk Storage.

```
# scrgadm -a -j Oracle E-Business Suite-has-resource \
-g Oracle E-Business Suite-failover-resource-group \
-t SUNW.HAStoragePlus \
-x FilesystemMountPoints=Oracle E-Business Suite- instance-mount-points
```

8. Create a resource for the Oracle E-Business Suite Logical Hostname.

```
# scrgadm -a -L -j Oracle E-Business Suite-lh-resource \
-g Oracle E-Business Suite-failover-resource-group \
-l Oracle E-Business Suite-logical-hostname
```

9. Enable the failover resource group that now includes the Oracle E-Business Suite Disk Storage and Logical Hostname resources.

```
# scswitch -z -g Oracle E-Business Suite-failover-resource-group
```

10. Create a resource for the Oracle E-Business Suite Oracle Database.

Note – For detailed information about Sun Cluster HA for Oracle, refer to the *Sun Cluster Data Services Installation and Configuration Guide*.

```
# grep PROD.DBS_ORA816 /var/tmp/config.txt
PROD.DBS_ORA816=/global/mnt10/d02/oracle/proddb/8.1.7
#
# scrgadm -a -j Oracle E-Business Suite-ORACLE-resource \
-t SUNW.oracle_server \
-g Oracle E-Business Suite-failover-resource-group \
-x Connect_string=apps/apps -x ORACLE_SID=PROD \
-x ORACLE_HOME=/global/mnt10/d02/oracle/proddb/8.1.7 \
-x Alert_log_file=/global/mnt10/d02/oracle/proddb/8.1.7/ \
admin/PROD/bdump/alert_PROD
#
# scswitch -e -j Oracle E-Business Suite-ORACLE-resource
```

11. Create a resource for the Oracle E-Business Suite Oracle Listener.

Note – For detailed information about Sun Cluster HA for Oracle, refer to the *Sun Cluster Data Services Installation and Configuration Guide*.

In the example below, the `copy_env` script is used to copy and format the `PROD.env` file to `PROD_ha.env`, which is later used by the `User_env` extension property for the Oracle Listener resource.

```
# grep PROD.DBS_ORA816= /var/tmp/config.txt
PROD.DBS_ORA816=/global/mnt10/d02/oracle/proddb/8.1.7
#
# cd /opt/SUNWscebs/cm/utl
#
# ./copy_env /global/mnt10/d02/oracle/proddb/8.1.7 PROD
#
# scrgadm -a -j Oracle E-Business Suite-ORALSR-resource \
-t SUNW.oracle_listener \
-g Oracle E-Business Suite-failover-resource-group\
-x Listener_name=PROD\
-x ORACLE_HOME=/global/mnt10/d02/oracle/proddb/8.1.7 \
-x User_env=/global/mnt10/d02/oracle/proddb/8.1.7/PROD_ha.env
#
# scswitch -e -j Oracle E-Business Suite-ORALSR-resource
```

12. Create a resource for the Oracle E-Business Suite Concurrent Manager Listener.

In the example below, the `copy_env` script is used to copy and format the `PROD.env` file to `PROD_ha.env`, which is later used by the `User_env` extension property for the Concurrent Manager Listener resource.

```
# grep PROD.CON_ORA806= /var/tmp/config.txt
PROD.CON_ORA806=/global/mnt10/d01/oracle/prodora/8.0.6
#
# cd /opt/SUNWscebs/cm/utl
#
# ./copy_env /global/mnt10/d01/oracle/prodora/8.0.6 PROD
#
# scrgadm -a -j Oracle E-Business Suite-CMGLSR-resource \
-t SUNW.oracle_listener \
-x Listener_name=APPS_PROD\
-x ORACLE_HOME=/global/mnt10/d01/oracle/prodora/8.0.6 \
-x User_env=/global/mnt10/d01/oracle/prodora/8.0.6/PROD_ha.env
#
# scswitch -e -j Oracle E-Business Suite-CMGLSR-resource
```

13. Create a resource for the Oracle E-Business Suite Concurrent Manager Server.

```
# grep PROD.CON_COMNTOPTOP /var/tmp/config.txt
PROD.CON_COMNTOPTOP=/global/mnt10/d01/oracle/prodcomn      <- CON_COMNTOPTOP
#
# grep PROD.CON_806= /var/tmp/config.txt
PROD.CON_ORA806=/global/mnt10/d01/oracle/prodora/8.0.6    <- ORACLE_HOME
#
```

```
# cd /opt/SUNWscebs/cm/utl
```

Edit the cmg_config file and follow the comments with that file, for example

```
# These parameters can be customized in (key=value) form
#
#         RS - name of the resource for the application
#         RG - name of the resource group containing RS
#         HAS_RS - name of the HAStoragePlus SC resource
#         LSR_RS - name of the Concurrent Manager Listener SC resource
#         CON_HOST - name of the Concurrent Manager logical hostname
#         CON_COMNTOP - name of the Concurrent Manager COMMON_TOP directory
#         CON_APPSUSER - name of the Concurrent Manager application userid
#         APP_SID - name of the application SID
#         APPS_PASSWD - name of the password for the APPS userid
#         ORACLE_HOME - name of the Oracle home directory
#         CON_LIMIT - Minimum number of Concurrent Managers
#                     represented as a percentage i.e. 70 = 70%
#                     (Note - Omit the % sign)
#         MODE - Specifies if Oracle E-Business Suite is running
#               32|64-bit code and if the LD_PRELOAD pathname
#               will have a symlink in /usr/lib/secure
#               Default value = 32/Y
#               (Note - Refer to the Sun Cluster 3.1 Data Service
#               for Oracle E-Business Suite for more information)
#
```

The following is an example for Oracle E-Business Suite.

```
RS=ebs-cmg-res
RG=ebs-rg
HAS_RS=ebs-has-res
LSR_RS=ebs-cmglsr-res
CON_HOST=lhost1
CON_COMNTOP=/global/mnt10/d01/oracle/prodcomm
CON_APPSUSER=ebs
APP_SID=PROD
APPS_PASSWD=apps
ORACLE_HOME=/global/mnt10/d01/oracle/prodora/8.0.6
CON_LIMIT=70
MODE=32/Y
```

If /opt/SUNWscebs/cm/lib/32/libloghost.so.1 is not running as a secure library, then you must amend MODE=32/Y to MODE=32/N. Refer to step 4e in [“How to Install and Configure Oracle E-Business Suite” on page 18](#). After editing the cmg_config, register the resource.

```
# ./cmg_register
#
# scswitch -e -j Oracle E-Business Suite-CMG-resource
```

14. Create a resource for the Oracle E-Business Suite Forms Server.

```
# grep PROD.FRM_COMNTOP /var/tmp/config.txt
PROD.FRM_COMNTOP=/global/mnt11/d01/oracle/prodcomm      <- FRM_COMNTOP
#
# cd /opt/SUNWscebs/frm/utl
```

Edit the `frm_config` file and follow the comments with that file, for example

```
# These parameters can be customized in (key=value) form
#
#         RS - name of the resource for the application
#         RG - name of the resource group containing RS
#         LH - name of the LogicalHostname SC resource
#         HAS_RS - name of the HAStoragePlus SC resource
# FRM_COMNTOP - name of the Forms COMMON_TOP directory
# FRM_APPSUSER - name of the Forms application userid
#         APP_SID - name of the application SID
#
```

The following is an example for Oracle E-Business Suite.

```
RS=ebs-frm-res
RG=ebs-rg
LH=ebs-lh-res
HAS_RS=ebs-has-res
ADM_COMNTOP=/global/mnt11/d01/oracle/prodcomm
ADM_APPSUSER=ebs
APP_SID=PROD
```

After editing the `frm_config`, register the resource.

```
# ./frm_register
#
# scswitch -e -j Oracle E-Business Suite-FRM-resource
```

15. Create a resource for the Oracle E-Business Suite Report Server.

```
# grep PROD.ADM_COMNTOP /var/tmp/config.txt
PROD.ADM_COMNTOP=/global/mnt10/d01/oracle/prodcomm      <- ADM_COMNTOP
#
# cd /opt/SUNWscebs/rep/util
```

Edit the `rep_config` file and follow the comments with that file, for example:

```
# These parameters can be customized in (key=value) form
#
#         RS - name of the resource for the application
#         RG - name of the resource group containing RS
#         LH - name of the LogicalHostname SC resource
#         HAS_RS - name of the HAStoragePlus SC resource
# ADM_COMNTOP - name of the Admin COMMON_TOP directory
# ADM_APPSUSER - name of the Admin application userid
#         APP_SID - name of the application SID
#
```

The following is an example for Oracle E-Business Suite.

```
RS=ebs-rep-res
RG=ebs-rg
LH=ebs-lh-res
HAS_RS=ebs-has-res
ADM_COMNTOP=/global/mnt10/d01/oracle/prodcomm
ADM_APPSUSER=ebs
APP_SID=PROD
```

After editing the rep_config file, register the resource

```
# ./rep_register
#
# scswitch -e -j Oracle E-Business Suite-REP-resource
```

16. Create a resource for the Oracle E-Business Suite Web Server (Apache).

Note – For detailed information about Sun Cluster HA for Apache refer to the *Sun Cluster Data Services Installation and Configuration Guide*.

```
# grep PROD.WEB_COMNTOP /var/tmp/config.txt
PROD.WEB_COMNTOP=/global/mnt11/d01/oracle/prodcomm          <- WEB_COMNTOP
#
# cd /global/mnt11/d01/oracle/prodcomm/admin/scripts/PROD
# ln -s adapctl.sh apachectl
#
# vi adapctl.sh (Add/modify the following)
```

Note: The output has been realigned to fit the page

Find control_code (/control_code)

Modify

```
control_code="$1"
```

```
if test "$control_code" != "start" -a "$control_code" != "stop" \
-a "$control_code" != "status" ; then
printf "\n$program: You must either specify \
      'start', 'stop', 'status'\n\n"
printf "\n$program: You must either specify \
      'start', 'stop', 'status'\n\n" >> $LOGFILE
exit 1;
fi
```

To (Note: We've simply added a test to allow "configtest"

```
control_code="$1"
```

```
if test "$control_code" != "start" -a "$control_code" != "stop" \
-a "$control_code" != "status" \
-a "$control_code" != "configtest" ; then
printf "\n$program: You must either specify \
      'start', 'stop', 'status'\n\n"
printf "\n$program: You must either specify \
      'start', 'stop', 'status'\n\n" >> $LOGFILE
exit 1;
fi
```

```
# scrgadm -a -j Oracle E-Business Suite-WEB-resource \
```

```
-t SUNW.apache \
-g Oracle E-Business Suite-failover-resource-group\
-y Port_list=8000/tcp\
-x Bin_dir=/global/mnt11/d01/oracle/prodcomm/admin/scripts/PROD
#
# scswitch -e -j Oracle E-Business Suite-WEB-resource
```

17. Enable each Oracle E-Business Suite resource.

```
# scstat
# scswitch -e -j Oracle E-Business Suite-resource
```

Verifying the Sun Cluster HA for Oracle E-Business Suite Installation and Configuration

This section contains the procedure you need to verify that you installed and configured your data service correctly.

▼ How to Verify the Sun Cluster HA for Oracle E-Business Suite Installation and Configuration

Steps 1. Become superuser on one of the nodes in the cluster that will host Oracle E-Business Suite.

2. Ensure all the Oracle E-Business Suite resources are online with `scstat`.

```
# scstat
```

For each Oracle E-Business Suite resource that is not online, use the `scswitch` command as follows.

```
# scswitch -e -j Oracle E-Business Suite- resource
```

3. Run the `scswitch` command to switch the Oracle E-Business Suite resource group to another cluster node, such as `node2`.

```
# scswitch -z -g Oracle E-Business Suite-failover-resource-group -h node2
```

Upgrading Sun Cluster HA for Oracle E-Business Suite

Support for Oracle E-Business Suite v11.5.9 was introduced in Sun Cluster 3.1 9/04. Oracle E-Business Suite v11.5.9 introduces the hostname within some path names. If you are upgrading to Oracle E-Business Suite v11.5.9, you must upgrade Sun Cluster HA for Oracle E-Business Suite for use with Oracle E-Business Suite v11.5.9.

Upgrading Sun Cluster HA for Oracle E-Business Suite involves the following tasks:

1. Removing and reregistering resources for the following server components of Oracle E-Business Suite:
 - Concurrent Manager Server
 - Forms Server
 - Reports Server
2. Removing and reregistering resources for the following listener components of Oracle E-Business Suite:
 - Oracle Listener
 - Concurrent Manager Listener
3. Bringing online resources for Sun Cluster Oracle E-Business Suite

▼ How to Remove and Reregister a Resource for an Oracle E-Business Suite Server Component

Perform this task for each server resource that you must remove and reregister, namely:

- Concurrent Manager Server resource
- Forms Server resource
- Reports Server resource

Steps 1. Save the definition of the Oracle E-Business Suite sever resource.

```
# scrgadm -pvv -j resource > file1
```

2. Disable the Oracle E-Business Suite sever resource.

```
# scswitch -n -j resource
```

3. Remove the Oracle E-Business Suite sever resource.

```
# scrgadm -r -j resource
```

4. Configure and register the Oracle E-Business Suite server resource.

- a. Go to the directory that contains the configuration file and the registration file for the resource.

```
# cd /opt/SUNWscebs/prefixutil
```

- b. Edit the configuration file for the resource.

```
vi prefix_config
```

- c. Run the registration file for the resource.

```
# ./prefix_register
```

prefix denotes the server to which the file applies, as follows:

- *cmg* denotes the Concurrent Manager Server.
- *frm* denotes the Forms Server.
- *rep* denotes the Reports Server .

5. Compare the updated definitions to the definitions that you saved before you updated the resource.

Comparing these definitions enables you to determine if any existing extension properties have changed, for example, time-out values.

```
# scrgadm -pvv -j resource > file2  
# diff file1 file2
```

6. Amend any resource properties that were reset.

```
# scrgadm -c -j <resource>-x | y <resource>
```

▼ How to Remove and Reregister Resources for Oracle E-Business Suite Listener Components

This task removes and reregisters all the listener resources that you must remove and reregister, namely:

- Oracle Listener resource
- Concurrent Manager Listener resource

Note – These resources are instances of the `SUNW.oracle_listener` resource type. For information about this resource type, see *Sun Cluster Data Service for Oracle Guide for Solaris OS*.

- Steps** 1. Disable and remove the Sun Cluster Oracle E-Business Suite listener resources.

```
# scswitch -n -j resource  
# scrgadm -r -j resource
```

2. Create a resource for the Oracle E-Business Suite Oracle Listener.

In the following example, the `copy_env` script is used to copy the `PROD.env` file to `PROD_ha.env` and to format the `PROD_ha.env` file. The `PROD_ha.env` is specified for the `User_env` extension property of the Oracle Listener resource.

```
# grep PROD.DBS_ORA816= /var/tmp/config.txt
PROD.DBS_ORA816=/global/mnt10/d02/oracle/proddb/8.1.7
#
# cd /opt/SUNWscebs/cm/util
#
# ./copy_env /global/mnt10/d02/oracle/proddb/8.1.7 PROD
#
# scrgadm -a -j Oracle-E-Business-Suite-ORALSR-resource \
-t SUNW.oracle_listener \
-g Oracle-E-Business-Suite-failover-resource-group\
-x Listener_name=PROD\
-x ORACLE_HOME=/global/mnt10/d02/oracle/proddb/8.1.7 \
-x User_env=/global/mnt10/d02/oracle/proddb/8.1.7/PROD_ha.env
#
# scswitch -e -j Oracle-E-Business-Suite-ORALSR-resource
```

3. Create a resource for the Oracle E-Business Suite Concurrent Manager Listener.

In the following example, the `copy_env` script is used to copy the `PROD.env` file to `PROD_ha.env` and to format the `PROD_ha.env` file. The `PROD_ha.env` is specified for the `User_env` extension property of the Concurrent Manager Listener resource.

```
# grep PROD.CON_ORA806= /var/tmp/config.txt
PROD.CON_ORA806=/global/mnt10/d01/oracle/prodora/8.0.6
#
# cd /opt/SUNWscebs/cm/util
#
# ./copy_env /global/mnt10/d01/oracle/prodora/8.0.6 PROD
#
# scrgadm -a -j Oracle-E-Business-Suite-CMGLSR-resource \
-t SUNW.oracle_listener \
-x Listener_name=APPS_PROD\
-x ORACLE_HOME=/global/mnt10/d01/oracle/prodora/8.0.6 \
-x User_env=/global/mnt10/d01/oracle/prodora/8.0.6/PROD_ha.env
#
# scswitch -e -j Oracle-E-Business-Suite-CMGLSR-resource
```

▼ How to Bring Online Resources for Sun Cluster Oracle E-Business Suite

Step ● For each resource that you are bringing online, type the following command.

```
# scswitch -e -j <resource>
```

Understanding the Sun Cluster HA for Oracle E-Business Suite Fault Monitor

This section describes the Sun Cluster HA for Oracle E-Business Suite fault monitor's probing algorithm or functionality.

For conceptual information on fault monitors, see the *Sun Cluster Concepts Guide*.

Resource Properties

The Sun Cluster HA for Oracle E-Business Suite fault monitor uses the same resource properties as resource type `SUNW.gds`. Refer to the `SUNW.gds(5)` man page for a complete list of resource properties used.

Probing Algorithm and Functionality

- **Concurrent Manager Server**
 - Sleeps for `Thorough_probe_interval`
 - Test whether at least one `FND` (Concurrent Manager) process is running for `CON_APPSUSER`. If this fails, then the probe will restart the Concurrent Manager Server resource.
 - Test whether the probe can still connect to the Oracle Database. If this fails, then the probe will restart the Concurrent Manager Server resource.
 - Calculate the number of concurrent processes running as a percentage of the maximum number of concurrent processes allowed, and test whether that percentage is less than `CON_LIMIT`, when the Concurrent Manager Server resource was defined. If the percentage is less than `CON_LIMIT`, then the probe will restart the Concurrent Manager Server resource.
 - If all Concurrent Manager Server processes have died, `pmf` will interrupt the probe to immediately restart the Concurrent Manager Server resource.
 - If the Concurrent Manager Server resource is repeatedly restarted and subsequently exhausts the `Retry_count` within the `Retry_interval`, then a failover is initiated for the Resource Group onto another node.
- **Forms Server**
 - Sleeps for `Thorough_probe_interval`
 - Test whether the `f60srv` process is running for `FRM_APPSUSER`. If `f60srv` is found, then test whether `f60webmx` process is running. If `f60webmx` is not found, then the probe will retest after another iteration of the probe to determine whether `f60webmx` is still missing, because `f60srv` usually

restarts `f60webmx`. If after two successive probes, `f60webmx` is still missing or `f60srvm` is not found on any probe, then the probe will restart the Forms Server resource.

- If the Forms Server resource is repeatedly restarted and subsequently exhausts the `Retry_count` within the `Retry_interval` then a failover is initiated for the Resource Group onto another node.
- **Report Server**
 - Sleeps for `Thorough_probe_interval`
 - Test whether `rwmts60` process is running for `REP_APPSUSER`. If this fails, then the probe will restart the Forms Server resource.
 - If the Report Server resource is repeatedly restarted and subsequently exhausts the `Retry_count` within the `Retry_interval` then a failover is initiated for the Resource Group onto another node.

Debug Sun Cluster HA for Oracle E-Business Suite

Sun Cluster HA for Oracle E-Business Suite can be used by multiple Oracle E-Business Suite instances. However, it is possible to turn on debug for all Oracle E-Business Suite instances or a particular Oracle E-Business Suite instance.

Each Oracle E-Business Suite component has a `DEBUG` file in `/opt/SUNWscebs/xxx/etc`, where `xxx` is a three character abbreviation for the respective Oracle E-Business Suite component.

These files allow you to turn on debug for all Oracle E-Business Suite instances or for a specific Oracle E-Business Suite instance on a particular node with Sun Cluster. If you require debug to be turned on for Sun Cluster HA for Oracle E-Business Suite across the whole Sun Cluster, repeat this step on all nodes within Sun Cluster.

▼ How to turn on debug for Sun Cluster HA for Oracle E-Business Suite

Steps 1. Edit `/etc/syslog.conf` and change `daemon.notice` to `daemon.debug`.

```
# grep daemon /etc/syslog.conf
*.err;kern.debug;daemon.notice;mail.crit      /var/adm/messages
*.alert;kern.err;daemon.err                    operator
```

```
#  
Change the daemon.notice to daemon.debug and restart syslogd. The output  
below, from the command grep daemon /etc/syslog.conf, shows that  
daemon.debug has now been set.
```

```
# grep daemon /etc/syslog.conf  
*.err;kern.debug;daemon.debug;mail.crit          /var/adm/messages  
*.alert;kern.err;daemon.err                      operator  
#  
# pkill -1 syslogd  
#
```

2. Edit `/opt/SUNWscebs/xxx/etc/config`

Perform this step for the xxx component, where xxx is a three-character abbreviation for the Oracle E-Business Suite component, on each node of Sun Cluster as required. The following example shows turning on debug for the Concurrent Manager Server resource, for example, the cmg component.

Edit `/opt/SUNWscebs/cmg/etc/config` and change `DEBUG=` to `DEBUG=ALL` or `DEBUG=resource`

```
# cat /opt/SUNWscebs/cmg/etc/config  
#  
# Copyright 2003 Sun Microsystems, Inc. All rights reserved.  
# Use is subject to license terms.  
#  
# Usage:  
#     DEBUG=<RESOURCE_NAME> or ALL  
#  
DEBUG=ALL  
#
```

Note – To turn off debug, reverse the steps above.

Index

C

C locale, 25
commands
 node information, 9
 scrgadm, 26
 scstat, 31
 scswitch, 27
configuration
 requirements, 15-18
 restrictions, 14-15

D

directories, /var/sadm/install/logs, 25

F

fault monitor, 36-37
files, installation logs, 25

G

global zone, 24

I

installing
 Oracle E-Business Suite
 by using rapidwiz, 18

installing, Oracle E-Business Suite (Continued)

 create a symbolic link for
 libloghost.so.1, 20
 modifying the Concurrent Manager
 listener.ora file, 20
 Sun Cluster HA for Oracle E-Business Suite
 by using Web Start program, 24-25
 log files created, 25

L

local zones, 24
locales, 24
log files, installation, 25

O

Oracle E-Business Suite, 12-13

P

prtconf -v command, 9
prtdiag -v command, 9
psrinfo -v command, 9

R

registering
 Sun Cluster HA for Oracle E-Business Suite
 Concurrent Manager listener resource, 28
 Concurrent Manager resource, 28
 Forms Server resource, 29
 Oracle database resource, 27
 Report Server resource, 30
 Resource Types, 26
 Web Server (Apache) resource, 31
restrictions, zones, 24

Z

zones, 24

S

scinstall -pv command, 9
scripts
 cmg_register, 28
 copy_env, 27, 28
 frm_register, 29
 rep_register, 30
showrev -p command, 9
Sun Cluster HA for Oracle E-Business Suite
 installing
 by using Web Start program, 24-25

T

training, 9

V

/var/sadm/install/logs directory, 25
verifying
 Oracle E-Business Suite installation, 22-23
 Sun Cluster HA for Oracle E-Business
 Suiteinstallation, 32

W

Web Start program, 24-25