**Oracle**® **Solaris Cluster Data Service for Oracle E-Business Suite up to Release 12.1 Guide**

**ORACLE**®

Oracle Solaris Cluster Data Service for Oracle E-Business Suite up to Release 12.1 Guide

**Part No: E40123**

# Contents

# Using This Documentation

- **Overview** – Describes how to install and configure the Oracle Solaris Cluster data service for Oracle E-Business Suite software up to release 12.1.
- **Audience** – Technicians, system administrators, and authorized service providers
- **Required knowledge** – Advanced experience troubleshooting and replacing hardware

## Product Documentation Library

Documentation and resources for this product and related products are available at `http://www.oracle.com/pls/topic/lookup?ctx=E56676-01`.

## Feedback

Provide feedback about this documentation at `http://www.oracle.com/goto/docfeedback`.

# Installing and Configuring Oracle Solaris Cluster HA for Oracle E-Business Suite up to Release 12.1

This chapter explains how to install and configure Oracle Solaris Cluster HA for Oracle E-Business Suite up to release 12.1 (HA for Oracle E-Business Suite up to release 12.1).

For Oracle E-Business Suite software starting with release 12.2, follow procedures in *Oracle Solaris Cluster Data Service for Oracle E-Business Suite as of Release 12.2 Guide* .

This chapter contains the following sections.

- "HA for Oracle E-Business Suite up to Release 12.1 Overview" on page 10
- "Overview of Installing and Configuring HA for Oracle E-Business Suite up to Release 12.1" on page 11
- "Planning the HA for Oracle E-Business Suite up to Release 12.1 Installation and Configuration" on page 11
- "Installing and Configuring Oracle E-Business Suite up to Release 12.1" on page 24
- "Verifying the Installation and Configuration of Oracle E-Business Suite up to Release 12.1" on page 29
- "Installing the Oracle Solaris Cluster HA for Oracle E-Business Suite up to Release 12.1 Package" on page 35
- "Registering and Configuring HA for Oracle E-Business Suite up to Release 12.1" on page 36
- "Verifying the HA for Oracle E-Business Suite up to Release 12.1 Installation and Configuration" on page 45
- "Upgrading HA for Oracle E-Business Suite up to Release 12.1" on page 46
- "Understanding the HA for Oracle E-Business Suite up to Release 12.1 Fault Monitor" on page 47
- "Debugging HA for Oracle E-Business Suite up to Release 12.1" on page 49

# HA for Oracle E-Business Suite up to Release 12.1 Overview

The HA for Oracle E-Business Suite up to release 12.1 data service provides a mechanism for orderly startup and shutdown, fault monitoring, and automatic failover of the Oracle E-Business Suite up to release 12.1.

Oracle E-Business Suite up to release 12.1 is a complete set of business applications that enables you to efficiently manage business processes by using a unified open architecture. This architecture is a framework for multi tiered, distributed computing that supports Oracle products. The tiers that compose Oracle E-Business Suite up to release 12.1 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 1**       Oracle E-Business Suite up to Release 12.1 Architecture

| Desktop Tier | Application Tier | Database Tier |
|---|---|---|
| | Web Server | |
| | Forms Server | |
| Web Browser | Concurrent Server | Database Server |
| | Admin Server | |
| | Discoverer Server | |

The distributed nature of Oracle E-Business Suite up to release 12.1 requires more than one cluster data service if all application and database tiers are to be managed by the cluster.

The following tables list the Oracle E-Business Suite up to release 12.1 components and the corresponding Oracle Solaris Cluster data service that provides high availability to that component.

**TABLE 2**       Protection of Components

| Component | Protected by |
|---|---|
| Database Server | HA for Oracle (Database and Listener) |
| Web Server | HA for Oracle E-Business Suite up to release 12.1 |
| Forms Server | HA for Oracle E-Business Suite up to release 12.1 |
| Concurrent Manager Server | HA for Oracle E-Business Suite up to release 12.1 |
| Concurrent Manager Listener | HA for Oracle E-Business Suite up to release 12.1 |

The Admin Server and Discoverer Server are not normally run within Oracle Solaris Cluster and therefore are not protected by HA for Oracle E-Business Suite up to release 12.1.

# Overview of Installing and Configuring HA for Oracle E-Business Suite up to Release 12.1

The following table summarizes the tasks for installing and configuring HA for Oracle E-Business Suite up to release 12.1 and provides cross-references to detailed instructions for performing these tasks. Perform the tasks in the order that they are listed in the table.

**TABLE 3**      Tasks for Installing and Configuring HA for Oracle E-Business Suite up to Release 12.1

| Task | Instructions |
| --- | --- |
| Plan the installation | "Planning the HA for Oracle E-Business Suite up to Release 12.1 Installation and Configuration" on page 11 |
| Install and configure the Oracle E-Business Suite up to release 12.1 software | "How to Install and Configure Oracle E-Business Suite up to release 12.1" on page 24 |
| Verify the installation and configuration | "How to Verify the Installation and Configuration of Oracle E-Business Suite up to Release 12.1" on page 29 |
| Install HA for Oracle E-Business Suite up to release 12.1 packages | "How to Install the Oracle Solaris Cluster HA for Oracle E-Business Suite up to Release 12.1 Package" on page 35 |
| Register and configure HA for Oracle E-Business Suite up to release 12.1 resources | "How to Register and Configure HA for Oracle E-Business Suite up to Release 12.1" on page 37 |
| Verify the HA for Oracle E-Business Suite up to release 12.1 installation and configuration | "How to Verify the HA for Oracle E-Business Suite up to Release 12.1 Installation and Configuration" on page 45 |
| Upgrade the HA for Oracle E-Business Suite up to release 12.1 data service | "How to Upgrade to the New Version of HA for Oracle E-Business Suite up to Release 12.1" on page 46 |
| Tune the HA for Oracle E-Business Suite up to release 12.1 fault monitor | "Understanding the HA for Oracle E-Business Suite up to Release 12.1 Fault Monitor" on page 47 |
| Debug HA for Oracle E-Business Suite up to release 12.1 | "How to Turn on Debugging for HA for Oracle E-Business Suite up to Release 12.1" on page 49 |

# Planning the HA for Oracle E-Business Suite up to Release 12.1 Installation and Configuration

This section contains the information you need to plan your HA for Oracle E-Business Suite up to release 12.1 installation and configuration.

For Oracle E-Business Suite software starting with release 12.2, follow procedures in *Oracle Solaris Cluster Data Service for Oracle E-Business Suite as of Release 12.2 Guide* .

# Configuration Restrictions

The configuration restrictions in the subsections that follow apply only to HA for Oracle E-Business Suite up to release 12.1.

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

## Restriction for the Supported Configurations of HA for Oracle E-Business Suite up to Release 12.1

The HA for Oracle E-Business Suite up to release 12.1 data service can be configured as a failover service or, when using Concurrent Parallel Processing, as a scalable service.

Oracle E-Business Suite up to release 12.1 can be deployed in the global zone. Oracle E-Business Suite up to release 12.1 is installed by using `rapidwiz` onto a *single-node*, *two-node* or *multi-node* installation.

- In a single-node installation, you install the Database, Web, Forms, and Concurrent Manager Servers onto a single node.
- In a two-node installation, one node contains the Database and Concurrent Manager Servers, and the other node contains the Forms and Web Servers.
- In a multi-node installation, you can specify any combination of up to five nodes to install the Database, Web, Forms, and Concurrent Manager Servers.
- The following are the components of an Oracle E-Business Suite up to release 12.1 configuration:

  - **Database Server** – Using `rapidwiz`, install the Database Server as a single database instance. The Database Server must be managed by Oracle Solaris Cluster HA for Oracle as a failover service in the cluster.
  - **Web Server** – Using `rapidwiz`, install the Web Server (Apache) onto a node. If this will run in the cluster, then the Web Server is managed by Oracle Solaris Cluster HA for Apache and can be deployed as either a failover or scalable service in the cluster.
  - **Forms and Concurrent Manager Server** – Depending on how you install using `rapidwiz`, you can install the Forms and Concurrent Manager Servers onto the same node or onto different nodes. All of these components are managed by HA for Oracle E-Business Suite up to release 12.1 as a failover service in the cluster.

- **Parallel Concurrent Processing** – HA for Oracle E-Business Suite up to release 12.1 support for Parallel Concurrent Processing requires a minimum of Oracle E-Business Suite

up to release 12.1. When using `rapidwiz`, you must specify the physical hostnames that will be used within the Parallel Concurrent Processing deployment.

- **Clustered Oracle Process Manager and Notification (OPMN)** – OPMN is supported with at least Oracle E-Business Suite up to release 12.1. When you use the `rapidwiz` installer, you must install an OPMN instance as a single Web Entry Point (an HTTP_Server) using a logical host. Other OPMN instances must provide just OC4J services (oafm, forms, and oacore) and must specify the physical hostnames. Refer to MOS Note 380489.1 for more information about setting up a single Web Entry Point OPMN instance.

The following example shows Clustered OPMN OC4J instances on physical servers `pcastor3` and `pcastor4`, in addition to a single Web Entry Point OPMN instance using logical host `ebiz.lh` that can fail over between physical servers `pcastor3` and `pcastor4`.

```
-bash-3.00$ ./adopmnctl.sh @cluster status

You are running adopmnctl.sh version 120.4.12000000.3
Checking status of OPMN managed processes in a cluster...

Processes in Instance: PROD_pcastor4.pcastor4.sfbay.com
------------------+-------------------+---------+---------
ias-component     | process-type      |     pid | status
------------------+-------------------+---------+---------
OC4J              | oafm              |   11020 | Alive
OC4J              | forms             |   10892 | Alive
OC4J              | oacore            |   10672 | Alive
HTTP_Server       | HTTP_Server       |     N/A | Down

Processes in Instance: PROD_pcastor3.pcastor3.sfbay.com
------------------+-------------------+---------+---------
ias-component     | process-type      |     pid | status
------------------+-------------------+---------+---------
OC4J              | oafm              |   29657 | Alive
OC4J              | forms             |   29535 | Alive
OC4J              | oacore            |   29413 | Alive
HTTP_Server       | HTTP_Server       |     N/A | Down

Processes in Instance: PROD_ebiz-lh.ebiz-lh.sfbay.com
------------------+-------------------+---------+---------
ias-component     | process-type      |     pid | status
------------------+-------------------+---------+---------
OC4J              | oafm              |     N/A | Down
OC4J              | forms             |     N/A | Down
OC4J              | oacore            |     N/A | Down
HTTP_Server       | HTTP_Server       |   16905 | Alive
```

To implement clustered OPMN within Oracle Solaris Cluster, perform the following steps.

1. Ensure that each OPMN instance is deployed using a shared file system.

2. Install or clone the AppsTier Services for the OPMN OC4J instances where each OPMN OC4J instance uses the hostname of the node within the global cluster or the zone node of a zone cluster.

3. Install or clone the AppsTier Services for the OPMN Web Entry Point instance so that a logical host is used, regardless if the deployment of the OPMN Web Entry Point is within the global cluster or zone cluster. Using the example above, the OPMN Web Entry Point instance `PROD_ebiz-lh.ebiz-lh.sfbay.com` is deployed using a logical host (`ebiz-lh`) and can fail over between physical hosts `pcastor3` and `pcastor4`.

4. Follow Metalink note-id 380489.1, section and subsection 3.1.1 for a Single Web Entry Point. When you use the example above, each OPMN instance context file should define the following context variable as follows.

```
<oc4j_cluster_nodes oa_var="s_oc4j_cluster_nodes">pcastor3.sfbay.com:6200,
pcastor4.sfbay.com:6200,ebiz-lh.sfbay.com:6200</oc4j_cluster_nodes>
<webentryhost oa_var="s_webentryhost">ebiz-lh</webentryhost>
<login_page oa_var="s_login_page">http://ebiz-lh.sfbay.com:8000/OA_HTML
/AppsLogin</login_page>
<externURL oa_var="s_external_url">http://ebiz-lh.sfbay.com:8000</externURL>
```

Refer to Metalink note-id 380489.1 for a description of these context variables and other context variables that can be changed.

5. When installing or cloning the AppsTier for the OPMN instances, ensure that the OPMN Web Entry Point instance uses different port numbers that are used by the OPMN OC4J instances for ONS-related variables. For example:

- `ons_localport`
- `ons_remoteport`
- `ons_requestport`

Failing to use different port numbers for the ONS-related variables prevents the OPMN Web Entry Point instance from starting.

## Restriction for the Location of Oracle E-Business Suite up to Release 12.1 Files

The Oracle E-Business Suite up to release 12.1 files are the data files that are created when you install Oracle E-Business Suite up to release 12.1 using the `rapidwiz` installer.

The Oracle E-Business Suite up to release 12.1 files must be placed on shared storage as either a cluster file system or a highly available local file system. The following tables show the mount points and acceptable file system types.

| Mount Point | Filesystem Type |
|---|---|
| *dbname*DATA | Cluster file system or highly available local file system. |
| *dbname*DB | Local, cluster file system or highly available local file system. |
| *dbname*ORA | Local, cluster file system or highly available local file system. |

| Mount Point | Filesystem type |
|---|---|
| *dbname*COMN_TOP | Cluster file system or highly available local file system. |
| *dbname*APPL_TOP | Cluster file system or highly available local file system. |
| *dbname*APPLCSF | Cluster file system or highly available local file system. |

# Configuration Requirements

The configuration requirements in this section apply only to HA for Oracle E-Business Suite up to release 12.1.

**Caution -** If your data service configuration does not conform to these requirements, the data service configuration might not be supported.

## Determine Which Oracle Solaris Zone Oracle E-Business Suite up to Release 12.1 Will Use

Oracle Solaris zones provide a means of creating virtualized operating system environments within an instance of the Oracle Solaris OS. Oracle Solaris zones allow one or more applications to run in isolation from other activity on your system. For complete information about installing and configuring Oracle Solaris zones, refer to *Introduction to Oracle Solaris Zones* .

You must determine which Oracle Solaris zone Oracle E-Business Suite up to release 12.1 will use. Oracle E-Business Suite can run within the global zone configuration.

## Running the AutoConfig Command

When you are required to run the `AutoConfig` command and your database tier or application tier uses a logical host, you must ensure that the logical host interpositioning is in place for the `AutoConfig` command. See Step 7 in "How to Install and Configure Oracle E-Business Suite up to release 12.1" on page 24 for instructions on setting the `customSID_app-logical-host.env` file for the application tier. For the database tier you must manually set the environment variables `LD_PRELOAD_32`, `LD_PRELOAD_64`, and `SC_LHOSTNAME` before running `AutoConfig`.

### ▼ How to Run the AutoConfig Command

The following task shows how to run the `Autoconfig` command after upgrading the Oracle Database to 11.2.0.3. The upgrade is part of the installation of Oracle E-Business Suite up to release 12.1 12.1 on Oracle Solaris 11, where the physical hostname was used incorrectly.

In the example below, the physical hostnames are `pvino1` and `pvino2`. The logical hostnames used for the database tier and application tier are `vino-1` and `vino-2` respectively.

1.  **On a cluster member, become an administrator that provides `solaris.cluster.modify` authorization.**

2.  **Ensure that the logical hostname is available.**

    a.  **You can manually add the logical interface or ensure that the Oracle Solaris Cluster logical host resource is online on the node where you intend to run the `AutoConfig` command.**

        ```
        root@pvino1:~# ifconfig net0 addif vino-1 netmask 255.255.255.0 up
        Created new logical interface net0:1
        root@pvino1:~#
        root@pvino1:~# ifconfig net0 addif vino-2 netmask 255.255.255.0 up
        Created new logical interface net0:2
        root@pvino1:~#
        ```

        You can also run the follow command to ensure that the logical hostname is available:

        ```
        root@pvino1:~# clrs status db-lh apps-lh
        === Cluster Resources ===
        Resource Name       Node Name       State        Status Message
        -------------       ---------       -----        --------------
        db-lh               pvino2          Offline      Offline - LogicalHostname offline.
        pvino1         Online      Online - LogicalHostname online.
        ```

```
apps-lh            pvino2        Offline      Offline - LogicalHostname offline.
pvino1        Online      Online - LogicalHostname online.
root@pvino1:~# ping vino-1
vino-1 is alive
root@pvino1:~# ping vino-2
vino-2 is alive
```

3.   **Perform the necessary setup tasks and run the `AutoConfig` command.**

   a.   **As the Oracle database user, set the environment variables for the database tier.**

```
root@pvino-1:~# uname -n
pvino1
root@pvino1:~# su - oracle
Oracle Corporation   SunOS 5.11   11.0   November 2011
-bash-4.1$
-bash-4.1$ export LD_PRELOAD_32=/usr/lib/secure/libschost.so.1
-bash-4.1$ export LD_PRELOAD_64=/usr/lib/secure/sparcv9/libschost.so.1
-bash-4.1$ SC_HOSTNAME=vino-1.us.oracle.com
-bash-4.1$ export LD_PRELOAD_32= LD_PRELOAD_64 SC_LHOSTNAME
-bash-4.1$ uname -n
vino-1.us.oracle.com
-bash-4.1$
```

   b.   **Ensure that the new Oracle Home listener file references the logical host.**

```
-bash-4.1$ cd $ORACLE_HOME/network/admin
-bash-4.1$ pwd
/db/d01/oracle/PROD/db/tech_st/11.2.0/network/admin
-bash-4.1$ ls -l
total 8
drwxr-xr-x   2 oracle   dba            8 Jan 12 08:37 PROD_vino-1
drwxr-xr-x   2 oracle   dba            5 Jan  5 07:51 samples
-rw-r--r--   1 oracle   dba          205 May 11  2011 shrept.lst
-bash-4.1$ cd PROD_vino-1
-bash-4.1$ ls -l
total 19
-rw-r--r--   1 oracle   dba         1609 Jan 12 08:37 listener.ora
-rw-r--r--   1 oracle   dba            2 Jan  9 08:33 listener_ifile.ora
-rw-r-----   1 oracle   dba          382 Jan 10 01:46 sqlnet.log
-rw-r--r--   1 oracle   dba          875 Jan 12 08:37 sqlnet.ora
-rw-r--r--   1 oracle   dba            2 Jan  9 08:33 sqlnet_ifile.ora
-rw-r--r--   1 oracle   dba         1998 Jan 12 08:37 tnsnames.ora
-bash-4.1$ more listener.ora
#
# $Header: ad8ilsnr.ora 120.3.12010000.3 2010/03/09 07:07:03 jmajumde ship $
```

```
#
# #############################################################
#
# This file is automatically generated by AutoConfig.  It will be read and
# overwritten.  If you were instructed to edit this file, or if you are not
# able to use the settings created by AutoConfig, refer to Metalink Note
# 387859.1 for assistance.
#
# #############################################################
#
# Net8 definition for Database listener
#
LISTENER_PROD =
(DESCRIPTION_LIST =
(DESCRIPTION =
(ADDRESS = (PROTOCOL = TCP)(HOST = vino-1.us.oracle.com)(PORT = 1521))
)
)
...
```

**c. Start the 11.2.0.3 Database and Listener .**

**d. Optional: Clean the current configuration.**

This step is required only if you have an incorrect entry within FND_NODES. In this example, PVINO1 is not required. In this example, you must also run AutoConfig for the database tier and application tier when you install Oracle E-Business Suite up to release 12.1 12.1 on Oracle Solaris 11.

```
-bash-4.1$ sqlplus apps/apps
SQL*Plus: Release 11.2.0.3.0 Production on Thu Jan 12 08:07:09 2012
Copyright (c) 1982, 2011, Oracle.  All rights reserved.

Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.3.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> select node_name, node_mode, support_cp, support_web, support_admin, \
support_forms from FND_NODES;

NODE_NAME                    N S S S S
---------------------------- - - - - -
VINO-1                       O N N N N
AUTHENTICATION               O N N N N
PVINO1                       O N N N N
VINO-2                       O Y Y Y Y

SQL> exec fnd_conc_clone.setup_clean
```

```
PL/SQL procedure successfully completed.

SQL> select node_name, node_mode, support_cp, support_web, support_admin, \
support_forms from FND_NODES;
no rows selected

SQL> exit
```

**e. As the Oracle Database user, generate the new Database Context file.**

```
-bash-4.1$ uname -n
pvino-1
-bash-4.1$
-bash-4.1$ export LD_PRELOAD_32=/usr/lib/secure/libschost.so.1
-bash-4.1$ export LD_PRELOAD_64=/usr/lib/secure/sparcv9/libschost.so.1
-bash-4.1$ SC_LHOSTNAME=vino-1.us.oracle.com
-bash-4.1$ export LD_PRELOAD_32 LD_PRELOAD_64 SC_LHOSTNAME
-bash-4.1$ uname -n
vino-1.us.oracle.com
-bash-4.1$ cd $ORACLE_HOME/appsutil/bin
-bash-4.1$ ls -l
total 704
-rwxr-xr-x   1 oracle   dba          2689 Jan  9 06:59 TXKScript.pl
-rwxr-xr-x   1 oracle   dba         19728 Jan  9 06:59 adbldxml.pl
-rw-r--r--   1 oracle   dba         13224 Jan  9 06:59 adchkcfg.cmd
-rwxr-xr-x   1 oracle   dba          4767 Jan  9 06:59 adchkcfg.sh
-rwxr-xr-x   1 oracle   dba          4836 Jan  9 06:59 adchkutl.sh
-rwxr-xr-x   1 oracle   dba         55747 Jan  9 06:59 adclone.pl
-rwxr-xr-x   1 oracle   dba          1012 Jan  9 06:59 adclone.sh
-rwxr-xr-x   1 oracle   dba         27277 Jan  9 06:59 adclonectx.pl
-rw-r--r--   1 oracle   dba         13470 Jan  9 06:59 adconfig.cmd
-rwxr-xr-x   1 oracle   dba         38255 Jan  9 06:59 adconfig.pl
-rwxr-xr-x   1 oracle   dba          4490 Jan  9 06:59 adconfig.sh
-rw-r--r--   1 oracle   dba         12119 Jan  9 06:59 adcustomizer.cmd
-rwxr-xr-x   1 oracle   dba          5919 Jan  9 06:59 adcustomizer.sh
-rw-r--r--   1 oracle   dba         12754 Jan  9 06:59 adcvm.cmd
-rwxr-xr-x   1 oracle   dba          6737 Jan  9 06:59 adcvm.sh
-rwxr-xr-x   1 oracle   dba         20185 Jan  9 06:59 addlnctl.pl
-rwxr-xr-x   1 oracle   dba         18139 Jan  9 06:59 adgentns.pl
-rw-r--r--   1 oracle   dba         13451 Jan  9 06:59 adtmplreport.cmd
-rwxr-xr-x   1 oracle   dba          7200 Jan  9 06:59 adtmplreport.sh
-rw-r--r--   1 oracle   dba          2585 Jan  9 06:59 adxerr.pl
-rw-r-----   1 oracle   dba           382 Jan 12 08:37 sqlnet.log
-rwxr-xr-x   1 oracle   dba          2768 Jan 12 08:38 \
txkDBSecUserAuditActionBanner.pl
-rwxr-xr-x   1 oracle   dba         14728 Jan  9 06:59 txkGenCtxInfRep.pl
-rwxr-xr-x   1 oracle   dba         18354 Jan  9 06:59 txkHealthCheckReport.pl
-rwxr-xr-x   1 oracle   dba         15573 Jan  9 06:59 txkInventory.pl
```

```
-rwxr-xr-x   1 oracle   dba         4435 Jan  9 06:59 txkrun.pl
-bash-4.1$
```

---

**Note -** If you are upgrading the Oracle Database, you must generate a new context file using adbldxml.pl for the database tier.

```
-bash-4.1$ perl adbldxml.pl
Starting context file generation for db tier..
Using JVM from /db/d01/oracle/PROD/db/tech_st/11.2.0/jdk/jre/bin/java \
to execute java programs.
APPS Password: apps
The log file for this adbldxml session is located at:
/db/d01/oracle/PROD/db/tech_st/11.2.0/appsutil/log/adbldxml_01120836.log
Couldn't determine the localHost name.
Enter localHost name: vino-1
Enter the value for Display Variable: :10
The context file has been created at:
/db/d01/oracle/PROD/db/tech_st/11.2.0/appsutil/PROD_vino-1.xml
```

---

f.  **After you generate the new Database Context file, run the `AutoConfig` command for the database tier.**

    You can run adautocfg.sh, unless you are upgrading the Oracle Database.

    ```
    -bash-4.1$ pwd
    /db/d01/oracle/PROD/db/tech_st/11.2.0/appsutil/scripts/PROD_vino-1
    -bash-4.1$ ls -l adautocfg.sh
    -rwx------   1 oracle   dba         1539 Jan 12 08:37 adautocfg.sh
    -bash-4.1$
    ```

g.  **If you have upgraded your Oracle database and generated a new context file, the output appears similar to the following:**

    ```
    -bash-4.1$ adconfig.sh contextfile=/db/d01/oracle/PROD/db/tech_st/11.2.0 \
    /appsutil/PROD_vino-1.xml
    Enter the APPS user password:
    The log file for this session is located at: /db/d01/oracle/PROD/db/tech_st/11.2.0 \
    /appsutil/log/PROD_vino-1/01120837/adconfig.log

    AutoConfig is configuring the Database environment...

    AutoConfig will consider the custom templates if present.

    Using ORACLE_HOME location : /db/d01/oracle/PROD/db/tech_st/11.2.0
    Classpath                 : :/db/d01/oracle/PROD/db/tech_st/11.2.0/jdbc \
    /lib/ojdbc5.jar:/db/d01/oracle/PROD/db/tech_st/11.2.0/appsutil/java \
    ```

```
/xmlparserv2.jar:/db/d01/oracle/PROD/db/tech_st/11.2.0/appsutil/java: \
/db/d01/oracle/PROD/db/tech_st/11.2.0/jlib/netcfg.jar:/db/d01/oracle/ \
PROD/db/tech_st/11.2.0/jlib/ldapjclnt11.jar
Using Context file        : /db/d01/oracle/PROD/db/tech_st/11.2.0/ \
appsutil/PROD_vino-1.xml

Context Value Management will now update the Context file

Updating Context file...COMPLETED

Attempting upload of Context file and templates to database...COMPLETED

Updating rdbms version in Context file to db112
Updating rdbms type in Context file to 64 bits
Configuring templates from ORACLE_HOME ...

AutoConfig completed successfully.
-bash-4.1$
-bash-4.1$ sqlplus apps/apps

SQL*Plus: Release 11.2.0.3.0 Production on Thu Jan 12 08:44:01 2012

Copyright (c) 1982, 2011, Oracle.  All rights reserved.

Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.3.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> select node_name, node_mode, support_cp, support_web, support_admin, \
support_forms from FND_NODES;

NODE_NAME          N S S S S
---------------------------------
VINO-1           O N N N N

SQL> exit
```

4. **As the Oracle Application user, run the `AutoConfig` command on each application tier.**

```
root@pvino1:~# uname -n
pvino1
root@pvino1:~# su - applmgr
Oracle Corporation   SunOS 5.11 11.0  November 2011
-bash-4.1$
-bash-4.1$ cat /apps/d01/oracle/PROD/apps/apps_st/appl/customPROD_vino-2.env
LD_PRELOAD_32=/usr/lib/secure/libschost.so.1
LD_PRELOAD_64=/usr/lib/secure/sparcv9/libschost.so.1
```

```
                SC_LHOSTNAME=vino-2.us.oracle.com

                export LD_PRELOAD_32 LD_PRELOAD_64 SC_LHOSTNAME
                -bash-4.1$ . /apps/d01/oracle/PROD/apps/apps_st/appl/customPROD_vino-2.env
                -bash-4.1$ uname -n
                vino-2.us.oracle.com
                -bash-4.1$
                -bash-4.1$ cd $ADMIN_SCRIPTS_HOME
                -bash-4.1$ ls -l
                total 353
                -rwx------   1 applmgr  dba          7391 Jan 16 02:35 adalnctl.sh
                -rwx------   1 applmgr  dba          8437 Jan 16 02:35 adapcctl.sh
                -rwx------   1 applmgr  dba          1564 Jan 16 02:35 adautocfg.sh
                -rwx------   1 applmgr  dba         18044 Jan 16 02:35 adcmctl.sh
                -rwx------   1 applmgr  dba          7275 Jan 16 02:35 adexecsql.pl
                -rwx------   1 applmgr  dba         10516 Jan 16 02:35 adforms-c4wsctl.sh
                -rwx------   1 applmgr  dba         11119 Jan 16 02:35 adformsctl.sh
                -rwx------   1 applmgr  dba         11326 Jan 16 02:35 adformsrvctl.sh
                -rwx------   1 applmgr  dba          8192 Jan 16 02:35 adoacorectl.sh
                -rwx------   1 applmgr  dba          8200 Jan 16 02:35 adoafmctl.sh
                -rwx------   1 applmgr  dba         11084 Jan 16 02:35 adopmnctl.sh
                -rwx------   1 applmgr  dba         15476 Jan 16 02:35 adpreclone.pl
                -rwx------   1 applmgr  dba          8446 Jan 16 02:35 adstpall.sh
                -rwx------   1 applmgr  dba          8491 Jan 16 02:35 adstrtal.sh
                -rwx------   1 applmgr  dba          2244 Jan 16 02:35 gsmstart.sh
                drwxr-xr-x   2 applmgr  dba            10 Jan  4 05:55 ieo
                -rwx------   1 applmgr  dba          2566 Jan 16 02:35 java.sh
                -rwx------   1 applmgr  dba          6699 Jan 16 02:36 jtffmctl.sh
                drwxr-xr-x   2 applmgr  dba             3 Jan  4 05:55 msc
                -rwxrwxr--   1 applmgr  dba          6644 Jan 16 02:36 mwactl.sh
                -rwxrwxr--   1 applmgr  dba          6645 Jan 16 02:36 mwactlwrpr.sh
                -rw-r--r--   1 applmgr  dba          1468 Jan 10 07:54 sqlnet.log
                -bash-4.1$
                -bash-4.1$ ./adautocfg.sh
                Enter the APPS user password:

                The log file for this session is located at: /apps/d01/oracle \
                /PROD/inst/apps/PROD_vino-2/admin/log/01120906/adconfig.log

                AutoConfig is configuring the Applications environment...

                AutoConfig will consider the custom templates if present.
                Using CONFIG_HOME location  : /apps/d01/oracle/PROD/ \
                inst/apps/PROD_vino-2
                Classpath                   : /apps/d01/oracle/PROD/apps/apps_st \
                /comn/java/lib/appsborg2.zip:/apps/d01/oracle/PROD/apps/apps_st \
                /comn/java/classes
                Using Context file          : /apps/d01/oracle/PROD/inst/apps \
```

```
/PROD_vino-2/appl/admin/PROD_vino-2.xml

Context Value Management will now update the Context file

Updating Context file...COMPLETED

Attempting upload of Context file and templates to database...COMPLETED

Configuring templates from all of the product tops...
Configuring AD_TOP........COMPLETED
Configuring FND_TOP.......COMPLETED
Configuring ICX_TOP.......COMPLETED
Configuring MSC_TOP.......COMPLETED
Configuring IEO_TOP.......COMPLETED
Configuring BIS_TOP.......COMPLETED
Configuring AMS_TOP.......COMPLETED
Configuring CCT_TOP.......COMPLETED
Configuring WSH_TOP.......COMPLETED
Configuring CLN_TOP.......COMPLETED
Configuring OKE_TOP.......COMPLETED
Configuring OKL_TOP.......COMPLETED
Configuring OKS_TOP.......COMPLETED
Configuring CSF_TOP.......COMPLETED
Configuring IGS_TOP.......COMPLETED
Configuring IBY_TOP.......COMPLETED
Configuring JTF_TOP.......COMPLETED
Configuring MWA_TOP.......COMPLETED
Configuring CN_TOP........COMPLETED
Configuring CSI_TOP.......COMPLETED
Configuring WIP_TOP.......COMPLETED
Configuring CSE_TOP.......COMPLETED
Configuring EAM_TOP.......COMPLETED
Configuring FTE_TOP.......COMPLETED
Configuring ONT_TOP.......COMPLETED
Configuring AR_TOP........COMPLETED
Configuring AHL_TOP.......COMPLETED
Configuring OZF_TOP.......COMPLETED
Configuring IES_TOP.......COMPLETED
Configuring CSD_TOP.......COMPLETED
Configuring IGC_TOP.......COMPLETED

AutoConfig completed successfully.
-bash-4.1$
-bash-4.1$ sqlplus apps/apps

SQL*Plus: Release 10.1.0.5.0 - Production on Thu Jan 12 09:09:49 2012

Copyright (c) 1982, 2005, Oracle.  All rights reserved.
```

```
Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.3.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> select node_name, node_mode, support_cp, support_web, \
support_admin, support_forms from FND_NODES;

NODE_NAME         N S S S S
---------------  ------ - - - - -
AUTHENTICATION         O N N N N
VINO-1        O N N N N
VINO-2        O Y Y Y Y

SQL>
```

# Installing and Configuring Oracle E-Business Suite up to Release 12.1

This section contains the procedures you need to install and configure Oracle E-Business Suite up to release 12.1.

For Oracle E-Business Suite software starting with release 12.2, follow procedures in *Oracle Solaris Cluster Data Service for Oracle E-Business Suite as of Release 12.2 Guide* .

## ▼ How to Install and Configure Oracle E-Business Suite up to release 12.1

This section contains the procedures you need to install and configure Oracle E-Business Suite up to release 12.1.

1. **On a cluster member, become an administrator that provides `solaris.cluster.modify` authorization.**

2. **Determine which Oracle Solaris zone to use.**
   Refer to "Determine Which Oracle Solaris Zone Oracle E-Business Suite up to Release 12.1 Will Use" on page 15 for more information.

3. **If an Oracle Solaris zone will be used, create the zone.**

Refer to *Introduction to Oracle Solaris Zones* for complete information about installing and configuring a zone.

4. **Create a cluster file system or highly available local file system for the Oracle E-Business Suite up to release 12.1 files.**

   Refer to *Oracle Solaris Cluster 4.3 Software Installation Guide* for information about creating a cluster file system and to *Oracle Solaris Cluster 4.3 Data Services Planning and Administration Guide* for information about creating a highly available local file system.

5. **Mount the highly available local file system.**

   Perform this step from the global zone on one node of the cluster.

   - **If a non-ZFS highly available local file system is being used for Oracle E-Business Suite up to release 12.1, perform the following step.**

   ---

   **Note -** Ensure that the node has ownership of the disk set.

   ---

   ```
   # metaset -s disk-set -t
   ```

   - **If the global zone is being used for Oracle E-Business Suite up to release 12.1, type the following command.**

     ```
     # mount highly-available-local-filesystem
     ```

   - **If a ZFS highly available local file system is being used for Oracle E-Business Suite up to release 12.1, perform one of the following steps.**

     - **If the global zone is being used for Oracle E-Business Suite up to release 12.1, type the following command.**

       ```
       # zpool import -R / HAZpool
       ```

6. **Plumb the Oracle E-Business Suite up to release 12.1 logical hostname.**

   ---

   **Note -** If you are using Parallel Concurrent Processing, omit this step. Parallel Concurrent Processing requires physical hostnames.

   ---

   Perform this step in the global zone on one node of the cluster for each logical hostname being used by Oracle E-Business Suite up to release 12.1.

   - **If the global zone is being used for Oracle E-Business Suite up to release 12.1, type the following command.**

```
# ifconfig interface addif logical-hostname up
```

■   **If an Oracle Solaris zone is being used for Oracle E-Business Suite up to release 12.1, type the following command.**

```
# ifconfig interface addif logical-hostname up zone zonename
```

If you are deploying Clustered OPMN OC4J instances, omit this step. Clustered OPMN OC4J instances require physical hostnames. If you are installing a Clustered OPMN single Web Entry Point server, you must still specify a logical hostname.

**7.   Enable logical host interpositioning.**

Perform this step on all cluster nodes where Oracle E-Business Suite up to release 12.1 will run.

To provide logical host interpositioning for Oracle E-Business Suite up to release 12.1, you must create the following symbolic links:

```
# cd /usr/lib/secure
# ln -s /usr/cluster/lib/libschost.so.1 libschost.so.1
# cd /usr/lib/secure/sparcv9
# ln -s /usr/cluster/lib/sparcv9/libschost.so.1 libschost.so.1
```

If you are installing at least Oracle E-Business Suite up to release 12.1, perform the following steps:

**a.   Create a customSID_app-logical-host.env file.**

```
# su - oraapp-user
# pfedit app-base directory/apps/apps st/appl/customSID_app-logical-host.env
```

**b.   Add the following lines to the customSID_app-logical-host.env file:**

```
LD_PRELOAD_32=/usr/lib/secure/libschost.so.1
LD_PRELOAD_64=/usr/lib/secure/64/libschost.so.1
SC_LHOSTNAME=app-logical-host
export LD_PRELOAD_32 LD_PRELOAD_64 SC_LHOSTNAME
```

**c.   Test the setup of the logical host interpositioning.**

```
# su - oraapp-user
# . app-base_directory/apps/apps_st/appl/customSID_app-logical-host.env
# hostname
# uname -n
```

The hostname and uname -n commands should return the value that was set for the environment variable SC_LHOSTNAME.

8. **Install the Oracle E-Business Suite up to release 12.1 software.**

Perform this step in the global zone on one node of the cluster.

a. **As the `root` role, execute `rapidwiz`.**

When running the `rapidwiz` installer, unless you are installing Parallel Concurrent Processing or Clustered OPMN OC4J instances, you must enter the logical hostname as the node name for the Database, Administration, Concurrent Manager, Forms, and Web Server. If you are performing a two-node or multi-node installation, you must specify the appropriate logical hostname as the appropriate node for the Database, Administration, Concurrent Manager, Forms, and Web Server.

If you are installing Parallel Concurrent Processing, do not specify a logical hostname. Instead, specify the physical hostname for the Concurrent Manager (Batch services). Using `rapidwiz`, add a server and configure batch services for each physical hostname that will participate in Parallel Concurrent Processing.

If you are installing Clustered OPMN OC4J instances, do not specify a logical hostname. Instead, specify the physical hostname. Using `rapidwiz`, add a server for each physical hostname that will participate in Clustered OPMN OC4J instances. If you are installing a Clustered OPMN single Web Entry Point server, you must still specify a logical hostname.

When executing `rapidwiz`, save the `config.txt` file in a permanent location, for example, `/var/tmp/config.txt`. If you are installing at least Oracle E-Business Suite up to release 12.1, save the `/var/tmpconf_SID.txt` file before clicking OK on `rapidwiz` message `No install actions found.`

```
# cd oracle-ebusiness-suite-install-directory
# ./rapidwiz
```

b. **As the `root` role, execute `rapidwiz` for each logical hostname.**

Execute `rapidwiz` for each logical hostname that you entered when generating the `/var/tmp/config.txt` file or `/var/tmp/conf_SID` file.

```
# cd oracle-ebusiness-suite-install-directory
# ./rapidwiz -servername logical-hostname
```

9. **Stop Oracle E-Business Suite up to release 12.1.**

Perform this step from the global zone where you installed Oracle E-Business Suite up to release 12.1.

> **Note -** If you installed Parallel Concurrent Processing, you installed batch services on the physical hostname. Therefore, to stop the Concurrent Manager, you must specify the physical-host pathname for the admin scripts. To stop other application-tier components that you installed by using a logical host, you must use the logical-host pathname for the admin scripts.
>
> If you installed Clustered OPMN OC4J instances, you installed on the physical hostname. Therefore, to stop the Clustered OPMN OC4J instance, you must specify the physical-host pathname for the admin scripts. To stop other application-tier components that you installed by using a logical host, you must use the logical-host pathname for the admin scripts.

- **For Oracle E-Business Suite up to release 12.1, type the following commands.**

  ```
  # su - oraapp-user
  $ cd app-base-directory/inst/apps/SID_app-logical-hostname/admin/scripts
  $ ./adstpall.sh apps/apps
  $ exit
  # su - oradb-user
  $ cd db-base-directory/SID/db/tech_st/*/appsutil/scripts/SID_db-logical-hostname
  $ ./addlnctl.sh stop SID
  $ ./addbctl.sh stop immediate
  ```

10. **Unmount the highly available local file system.**

    Perform this step from the global zone on the node where you installed Oracle E-Business Suite up to release 12.1.

    - **To unmount a non-ZFS highly available local file system that is being used for the Oracle E-Business Suite up to release 12.1, perform one of the following steps.**

      - **If the global zone is being used for Oracle E-Business Suite up to release 12.1, type the following command.**

        ```
        # umount highly-available-local-filesystem
        ```

      - **If a ZFS highly available local file system is being used for Oracle E-Business Suite up to release 12.1, type the following command.**

        ```
        # zpool export -f HAZpool
        ```

11. **Unplumb the Oracle E-Business Suite up to release 12.1 logical hostname.**

Perform this step from the global zone on one node of the cluster for each logical hostname being used by Oracle E-Business Suite up to release 12.1.

```
# ifconfig interface removeif logical-hostname
```

# Verifying the Installation and Configuration of Oracle E-Business Suite up to Release 12.1

This section contains the procedure you need to verify the installation and configuration of Oracle E-Business Suite up to release 12.1.

For Oracle E-Business Suite software starting with release 12.2, follow procedures in *Oracle Solaris Cluster Data Service for Oracle E-Business Suite as of Release 12.2 Guide* .

## ▼ How to Verify the Installation and Configuration of Oracle E-Business Suite up to Release 12.1

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

Perform this procedure on one node or zone of the cluster unless a specific step indicates otherwise.

1.  **On a cluster member, become an administrator that provides `solaris.cluster. modify` authorization.**

2.  **Mount the highly available local file system.**

    Perform this step from the global zone on one node of the cluster.

    - **If a non-ZFS highly available local file system is being used for the Oracle E-Business Suite up to release 12.1 files, perform the following step.**

    ---
    **Note -** Ensure that the node has ownership of the disk set.

    ---

    ```
    # metaset -s disk-set -t
    ```

- **If the global zone is being used for Oracle E-Business Suite up to release 12.1, type:**

  # **mount** *highly-available-local-filesystem*

- **If a ZFS highly available local file system is being used for Oracle E-Business Suite up to release 12.1, perform the following step.**

  - **If the global zone is being used for Oracle E-Business Suite up to release 12.1, type the following command.**

    # **zpool import -R /** *HAZpool*

3. **Plumb the Oracle E-Business Suite up to release 12.1 logical hostname.**

   ---
   **Note -** If you are using Parallel Concurrent Processing, omit this step. Parallel Concurrent Processing requires physical hostnames.

   If you are using Clustered OPMN OC4J instances, omit this step. Clustered OPMN OC4J instances require physical hostnames.

   ---

   Perform this step for each logical hostname being used by Oracle E-Business Suite up to release 12.1.

   If the global zone is being used for Oracle E-Business Suite up to release 12.1, type the following command.

   # **ifconfig** *interface* **addif** *logical-hostname* **up**

4. **Start Oracle E-Business Suite up to release 12.1.**

   ---
   **Note -** If you installed Parallel Concurrent Processing, you installed batch services on the physical hostname. Therefore, to start the Concurrent Manager, you must specify the physical-host pathname for the admin scripts. To start other application-tier components that you installed by using a logical host, you must use the logical-host pathname for the admin scripts.

   If you installed Clustered OPMN OC4J instances, you installed on the physical hostname. Therefore, to start the Clustered OPMN OC4J instance, you must specify the physical-host pathname for the admin scripts. To start other application-tier components that you installed by using a logical host, you must use the logical-host pathname for the admin scripts.

   ---

- **For Oracle E-Business Suite up to release 12.1, perform the following commands.**

  ```
  # su - oradb-user
  $ cd db-base-directory/SID/db/tech_st/*/appsutil/scripts/SID_db-logical-hostname
  $ ./addbctl.sh start
  $ ./addlnctl.sh start SID
  $ exit
  # su - oraapp-user
  $ cd app-base-directory/inst/apps/SID_app-logical-hostname/admin/scripts
  $ ./adstrtal.sh apps/apps
  $ exit
  ```

5. **Test that a client can access Oracle E-Business Suite up to release 12.1.**

   - **For Oracle E-Business Suite up to release 12.1, perform the following steps.**

     a. **Log into Oracle E-Business Suite up to release 12.1.**
        http://*ebs-logical-host*.*domainname*:8000

     b. **Verify that you can successfully log in and navigate through Oracle E-Business Suite up to release 12.1.**

6. **Stop Oracle E-Business Suite up to release 12.1.**

   ---

   **Note -** If you installed Parallel Concurrent Processing, you installed batch services on the physical hostname. Therefore, to stop the Concurrent Manager, you must specify the physical-host pathname for the admin scripts. To stop other application-tier components that you installed by using a logical host, you must use the logical-host pathname for the admin scripts.

   If you installed Clustered OPMN OC4J instances, you installed on the physical hostname. Therefore, to stop the Clustered OPMN OC4J instance, you must specify the physical-host pathname for the admin scripts. To stop other application-tier components that you installed by using a logical host, you must use the logical-host pathname for the admin scripts.

   ---

   - **For Oracle E-Business Suite up to release 12.1, perform the following commands.**

     ```
     # su - oraapp-user
     $ cd app-base-directroy/inst/apps/SID_app-logical-hostname/admin/scripts
     $ .adstpall.sh apps/apps
     $ exit
     # su - oradb-user
     ```

```
$ cd db-base-directory/SID/db/tech_st/*/appsutil/scripts/SID_db-logical-hostname
$ ./addlnctl.sh stop SID
$ ./addbctl.sh stop immediate
```

7.  **Unmount the highly available local file system.**

    Perform this step only in the global zone.

    - **To unmount a non-ZFS highly available local file system that is being used for Oracle E-Business Suite up to release 12.1, perform one of the following steps.**

        - **If the global zone is being used for Oracle E-Business Suite up to release 12.1, type the following command.**

            ```
            # umount highly-available-local-filesystem
            ```

        - **If an Oracle Solaris zone is being used for Oracle E-Business Suite up to release 12.1, unmount the highly available local file system from the zone.**

            ```
            # umount /zonepath/root/highly-available-local-filesystem
            ```

    - **If a ZFS highly available file system is being used for Oracle E-Business Suite up to release 12.1, type the following command.**

        ```
        # zpool export -f HAZpool
        ```

8.  **Unplumb the Infrastructure logical IP address.**

    Perform this step for each logical hostname being used by Oracle E-Business Suite up to release 12.1.

    ```
    # ifconfig interface removeif logical-hostname
    ```

9.  **Relocate the shared storage to another node and mount the highly available local file system.**

    Perform this step on another node of the cluster.

    - **If a non-ZFS highly available local file system is being used for the Oracle E-Business Suite up to release 12.1 files, perform the following step.**

    ---

    **Note -** Ensure that the node has ownership of the disk set.

    ---

    ```
    # metaset -s disk-set -t
    ```

- **If the global zone is being used for Oracle E-Business Suite up to release 12.1, type the following command.**

  # **mount** *highly-available-local-filesystem*

- **If a ZFS highly available file system is being used for Oracle E-Business Suite up to release 12.1, perform the following step.**

  - **If the global zone is being used for Oracle E-Business Suite up to release 12.1, type the following command.**

    # **zpool import -R /** *HAZpool*

10. **Plumb the Oracle E-Business Suite up to release 12.1 logical hostname.**

    Perform this step on another node of the cluster for each logical hostname being used by Oracle E-Business Suite up to release 12.1.

    - **If the global zone is being used for Oracle E-Business Suite up to release 12.1, type the following command.**

      # **ifconfig** *interface* **addif** *logical-hostname* **up**

11. **Start Oracle E-Business Suite up to release 12.1.**

    ---

    **Note -** If you installed Parallel Concurrent Processing, you installed batch services on the physical hostname. Therefore, to start the Concurrent Manager, you must specify the physical-host pathname for the admin scripts. To start other application-tier components that you installed by using a logical host, you must use the logical-host pathname for the admin scripts.

    If you installed Clustered OPMN OC4J instances, you installed on the physical hostname. Therefore, to start the Clustered OPMN OC4J instance, you must specify the physical-host pathname for the admin scripts. To start other application-tier components that you installed by using a logical host, you must use the logical-host pathname for the admin scripts.

    ---

    - **For Oracle E-Business Suite up to release 12.1, perform the following:**

      ```
      # su - oradb-user
      $ cd db-base-directory/SID/db/tech_st/*/appsutil/scripts/SID_db-logical-hostname
      $ ./addbctl.sh start
      $ ./addlnctl.sh start SID
      $ exit
      # su - oraapp-user
      $ cd app-base-directory/inst/apps/SID_app-logical-hostname/admin/scripts
      ```

```
$ ./adstrtal.sh apps/apps
$ exit
```

12. **Test that a client can access Oracle E-Business Suite up to release 12.1.**

- **For Oracle E-Business Suite up to release 12.1, perform the following:**

  a. **Log into Oracle E-Business Suite up to release 12.1.**

  http://*ebs-logical-host.domainname*:8000

  b. **Verify that you can successfully log in and navigate through Oracle E-Business Suite up to release 12.1.**

13. **Stop Oracle E-Business Suite up to release 12.1.**

---

**Note -** If you installed Parallel Concurrent Processing, you installed batch services on the physical hostname. Therefore, to stop the Concurrent Manager, you must specify the physical-host pathname for the admin scripts. To stop other application-tier components that you installed by using a logical host, you must use the logical-host pathname for the admin scripts.

If you installed Clustered OPMN OC4J instances, you installed on the physical hostname. Therefore, to stop the Clustered OPMN OC4J instance, you must specify the physical-host pathname for the admin scripts. To stop other application-tier components that you installed by using a logical host, you must use the logical-host pathname for the admin scripts.

---

- **For Oracle E-Business Suite up to release 12.1, perform the following commands.**

```
# su - oraapp-user
$ cd app-base-directroy/inst/apps/SID_app-logical-hostname/admin/scripts
$ .adstpall.sh apps/apps
$ exit
# su - oradb-user
$ cd db-base-directory/SIDdb/tech_st/*/appsutil/scripts/SID_db-logical-hostname
$ ./addlnctl.sh stop SID
$ ./addbctl.sh stop immediate
```

14. **Unmount the highly available local file system.**

Perform this step in the global zone only.

- **To unmount a non-ZFS highly available local file system that is being used for Oracle E-Business Suite, perform the following step.**

- **If the global zone is being used for Oracle E-Business Suite up to release 12.1, type the following command.**

  # **umount** *highly-available-local-filesystem*

- **If a ZFS highly available file system is being used for Oracle E-Business Suite up to release 12.1, type the following command.**

  # **zpool export -f** *HAZpool*

15. **Unplumb the Oracle E-Business Suite up to release 12.1 logical hostname.**

    Perform this step for each logical hostname being used by Oracle E-Business Suite up to release 12.1.

    # **ifconfig** *interface* **removeif** *logical hostname*

# Installing the Oracle Solaris Cluster HA for Oracle E-Business Suite up to Release 12.1 Package

If you did not install the Oracle Solaris Cluster HA for Oracle E-Business Suite up to Release 12.1 package during your initial Oracle Solaris Cluster installation, perform this procedure to install the package.

For Oracle E-Business Suite software starting with release 12.2, follow procedures in *Oracle Solaris Cluster Data Service for Oracle E-Business Suite as of Release 12.2 Guide* .

## ▼ How to Install the Oracle Solaris Cluster HA for Oracle E-Business Suite up to Release 12.1 Package

Perform this procedure on each cluster node where you want the HA for Oracle E-Business Suite up to release 12.1 software to run.

1. **On the cluster node where you are installing the data service package, assume the root role.**

2. **Ensure that the data service package is available from the configured publisher and that the `solaris` and `ha-cluster` publishers are valid.**

```
# pkg list -a ha-cluster/data-service/oracle-ebs
# pkg publisher
PUBLISHER                         TYPE    STATUS   P  LOCATION
solaris                           origin  online   F  solaris-repository
ha-cluster                        origin  online   F  ha-cluster-repository
```

For information about setting the `solaris` publisher, see "Adding, Modifying, or Removing Package Publishers" in *Adding and Updating Software in Oracle Solaris 11.3*.

---

**Tip -** Use the -nv options whenever you install or update to see what changes will be made, such as which versions of which packages will be installed or updated and whether a new BE will be created.

---

If you do not get any error messages when you use the -nv options, run the command again without the -n option to actually perform the installation or update. If you do get error messages, run the command again with more -v options (for example, -nvv) or more of the package FMRI pattern to get more information to help you diagnose and fix the problem. For troubleshooting information, see Appendix A, "Troubleshooting Package Installation and Update," in *Adding and Updating Software in Oracle Solaris 11.3*.

3. **Install the HA for Oracle E-Business Suite up to release 12.1 software package.**

```
# pkg install ha-cluster/data-service/oracle-ebs
```

4. **Verify that the package installed successfully.**

```
$ pkg info ha-cluster/data-service/oracle-ebs
```

Installation is successful if output shows that `State` is `Installed`.

5. **Perform any necessary updates to the Oracle Solaris Cluster software.**

For instructions on updating your software, see Chapter 11, "Updating Your Software," in *Oracle Solaris Cluster System Administration Guide*.

# Registering and Configuring HA for Oracle E-Business Suite up to Release 12.1

This section contains the procedures you need to configure HA for Oracle E-Business Suite up to release 12.1.

Some procedures within this section require you to use certain Oracle Solaris Clustercommands. Refer to the relevant Oracle Solaris Clustercommand man page for more information about these commands and their parameters.

## ▼ How to Register and Configure HA for Oracle E-Business Suite up to Release 12.1

Perform this procedure on one node of the cluster only.

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

If you did not install the HA for Oracle E-Business Suite up to release 12.1 packages as part of your initial Oracle Solaris Cluster installation, go to "How to Install the Oracle Solaris Cluster HA for Oracle E-Business Suite up to Release 12.1 Package" on page 35.

**Before You Begin**    Ensure that the /etc/netmasks file has IP-address subnet and netmask entries for all logical hostnames. If necessary, edit the /etc/netmasks file to add any missing entries.

1. **On a cluster member, become an administrator that provides `solaris.cluster.modify` authorization.**

2. **Register the following resource types.**

   ```
   # clresourcetype register SUNW.HAStoragePlus
   # clresourcetype register SUNW.gds
   ```

3. **(Optional) Create a scalable resource group for Parallel Concurrent Processing.**

   ```
   # clresourcegroup create -S -n nodelist pcp-rg
   ```

4. **(Optional). Create a scalable resource group for Clustered OPMN OC4J instances.**

   ```
   #  clresourcegroup create -S -n nodelist c_opmn-rg
   ```

5. **Create a failover resource group for Oracle E-Business Suite up to release 12.1.**

   ```
   # clresourcegroup create -n nodelist ebs-rg
   ```

6. **Create a resource for the Oracle E-Business Suite up to release 12.1 Logical Hostname.**

```
# clreslogicalhostname create -g ebs-rg \
-h logical-hostname \
logical-hostname-resource
```

7. **Create a resource for the Oracle E-Business Suite up to release 12.1 Disk Storage.**

■ **If a ZFS highly available local file system is being used, perform the following command.**

```
# clresource create -g ebs-rg \
-t SUNW.HAStoragePlus \
-p Zpools=oracle-ebusiness-suite-zspool \
oracle-ebusiness-suite-hastorage-resource
```

■ **If a cluster file system or a non-ZFS highly available local file system is being used, perform the following command.**

```
# clresource create -g ebs-rg \
-t SUNW.HAStoragePlus \
-p FilesystemMountPoints=oracle-ebusiness-suite-filesystem-mountpoint \
oracle-ebusiness-suite-hastorage-resource
```

---

**Note -** If you installed Parallel Concurrent Processing on a cluster file system, when you create the HAStoragePlus resource, specify the scalable resource group that you created in Step 3.

If you installed Clustered OPMN OC4J instances, when you create the `HAStoragePlus` resource, specify the scalable resource group that you created in Step 4.

---

8. **Enable the resource group.**

If you created a scalable resource group in Step 3, also enable that resource group.

```
# clresourcegroup online -M ebs-rg
    If Parallel Concurrent Processing is used:
# clresourcegroup online -M pcp-rg
```

If Clustered OPMN OC4J instances are used, enable that resource group,

```
# clresourcegroup online -M c_opmn-rg
```

9. **Register and enable a resource for the Oracle Database.**

For complete information about creating and registering a cluster resource for the Oracle Database, refer to *Oracle Solaris Cluster Data Service for Oracle Database Guide* .

> **Note -** Before creating corresponding resources, you need to register the `SUNW.oracle_server` resource type.

```
# clresource create -g ebs-rg \
-t SUNW.oracle_Server \
-p Connect_string=user/password \
-p ORACLE_SID=SID \
-p ORACLE_HOME=oracle-home \
-p Alert_log_file=oracle-home/admin/SID_db-logical-hostname \
/bdump/alert_SID.log \
-p Restart_type=RESOURCE_GROUP_RESTART \
-p Resource_dependencies_offline_restart=oracle-ebusiness-suite-hastorage-resource \
oracle-resource
# clresource enable oracle-resource
```

10. **Register and enable a resource for the Oracle Listener.**

For complete information about creating and registering a cluster resource for the Oracle Listener, refer to *Oracle Solaris Cluster Data Service for Oracle Database Guide* .

> **Note -** The `copy_env` script is used to copy and format the *sid*`.env` to *sid*`_ha.env`, which is used by the `User_env=` parameter in the following example.

> **Note -** Before creating corresponding resources, you need to register the `SUNW.oracle_listener` resource type.

```
# cd /opt/SUNWscebs/cmg/util
# ./copy_env oracle-home SID_db-logical-host
# clresource create -g ebs-rg \
-t SUNW.oracle_listener \
-p Listener_name=SID or LISTENER_SID \
-p ORACLE_HOME=oracle-home \
-p User_env=oracle-home/SID_db-logical-hostname_ha.env \
-p Resource_dependencies=oracle-ebusiness-suite-hastorage-resource \
listener-resource
# clresource enable listener-resource
```

11. **Create and register a resource for the Concurrent Manager Listener.**

**Note -** If deploying Oracle E-Business Suite up to release 12.1 within a zone cluster, you must loopback mount the `/var/cluster/logs` directory within the zone-cluster node, before registering the Oracle E-Business Suite up to release 12.1 components.

On all the zone-cluster nodes, perform the following step:

# **mkdir /var/cluster/logs**

In the global zone where the zone-cluster node is running, perform the following step:

# **mount -F lofs /var/cluster/logs** *zonenode zonepath*/**root/var/cluster/logs**

After all the Oracle E-Business Suite up to release 12.1 components have been registered, `/var/cluster/logs` is no longer required within the zone-cluster node. To unmount the previously loopback mounted `/var/cluster/logs`, perform the following step from the global zone where you loopback mounted `/var/cluster/logs`:

# **umount** *zonenode zonepath*/**root/var/cluster/logs**

Edit the `/opt/SUNWscebs/cmgslr/util/cmglsr_config` file and follow the comments within that file. After editing the `cmglsr_config` file, you must register the resource.

```
# cd /opt/SUNWscebs/cmglsr/util
# pfedit cmglsr_config
# ./cmglsr_register
```

**Note -** The variable `COMNTOP` does not explicitly refer to the `COMN_TOP` or `COMMON_TOP` variable. Instead, different values are required depending on the version of Oracle E-Business Suite that is being deployed. See the text below for more details. If you installed Parallel Concurrent Processing, follow these additional editing instructions:

- Use `COMNTOP=`*app-base-directory*`/inst/apps/`.
- Specify the scalable resource group that you created in Step 3.
- Specify a null value for the `LH=` entry.

- **For Oracle E-Business Suite up to release 12.1, use:**

    `COMNTOP=`*app-base-directory*`/inst/apps/`*SID_app-logical-hostname*

The following example shows edits of the `cmgslr_config` file.

RS=**ebs-cmglsr**

```
RG=ebs-rg
LH=ebs-lh
HAS_RS=ebs-has
COMNTOP=use appropriate COMNTOP
APPSUSER=oraapp-user
APP_SID=SID
VERSION=12.1
```

**12.** **Create and register a resource for the Concurrent Manager.**

**Note -** A value for the `APPS_PASSWD` keyword within the `/opt/SUNWscebs/cmgslr/util/cmg_config` file is optional. You can either specify the password within the `/opt/SUNWsebs//cmgslr/util/cmg_config` file or within the `/opt/SUNWscebs/.${APP_SID}_passwd` file on each cluster node by assuming the `root` role. Specifying the password within the `/opt/SUNWscebs/.${APP_SID}_passwd` file will prevent the password from being viewed by users other than `root`. Refer the comments within the `/opt/SUNWscebs/cmgslr/util/cmg_config` file for an example.

**Note -** If deploying Oracle E-Business Suite up to release 12.1 within a zone cluster, you must loopback mount `/var/cluster/logs` with in the zone-cluster node before performing this step. See Step 11, for information to loop back mount `/var/cluster/logs`.

Edit the `/opt/SUNWscebs/cmg/util/cmg_config` file and follow the comments within that file. After you have edited the `cmg_config` file, you must register the resource.

```
# cd /opt/SUNWscebs/cmg/util
# pfedit cmg_config
# ./cmg_register
```

**Note -** The variable `COMNTOP` does not explicitly refer to the `COMN_TOP` or `COMMON_TOP` variable. Instead, different values are required depending on the version of Oracle E-Business Suite that is being deployed. See the text below for more details. If you installed Parallel Concurrent Processing, follow these additional editing instructions:

- Use `COMNTOP=`*app-base-directory*`/inst/apps/`.
- Specify the scalable resource group that you created in Step 3.
- Specify a null value for the `LH=` entry.

- **For Oracle E-Business Suite up to release 12.1, use:**

    `COMNTOP=`*app-base-directory*`/inst/apps/`*SID_app-logical-hostname*

The following example shows edits of the `cmg_config` file.

If the Oracle Database and Listener are not located within the same global cluster or zone cluster as the Concurrent Manager, you must set an interzone offline restart dependency as follows:

- Do not enter any values for the following entries in the `cmg_config` file: `ORASVR_RS=` or `ORALSR_RS=`.
- From the global cluster, set the interzone offline restart dependency.

  ```
  bash-3.00# clrs set -p resource_dependencies_offline_restart=ZONE:DBLSR-RS \
  {any_node},ZONE:DB-RS{any_node} -Z CM-ZC  CM_RS
  ```

  Use the following descriptions as a guide:
  - *ZONE* – The global cluster or the zone cluster name where the Oracle Database and Listener resources reside.
  - *DBLSR-RS* – The Oracle Database Listener resource.
  - *DB_RS* – The Oracle Database resource.
  - *CM-ZC* – The global cluster or zone cluster name where the Oracle E-Business Suite up to release 12.1 Concurrent Manager resource resides.
  - *CM-RS* – The Oracle E-Business Suite Concurrent Manager resource.

```
RS=ebs-cmg
RG=ebs-rg
LH=ebs-lh
HAS_RS=ebs-has
LSR_RS=ebs-cmglsr
VERSION=12.1
COMNTOP=use appropriate COMNTOP
APPSUSER=oraapp-user
APP_SID=SID
APPS_PASSWD=password or empty
if using /opt/SUNWscebs/.${APP_SID}_passwd to store the password.
ORACLE_HOME=oracle_home
CON_LIMIT=50
#
# Required for Oracle E-Business Suite up to release 12.1 version 11.5.10 CU2 or later
#
ORASVR_RS=ebs1-orasvr
ORALSR_RS=ebs1-oralsr
```

**13.  Create and register a resource for the Forms Server in Servlet Mode.**

**Note -** The variable `COMNTOP` does not explicitly refer to the Oracle E-Business Suite up to release 12.1 `COMN_TOP` or `COMMON_TOP` variable. Instead, different values are required depending on the version of Oracle E-Business Suite up to release 12.1 that is being deployed. See the text at the end of this step for more details.

For Oracle E-Business Suite up to release 12.1, use `COMNTOP=`*app-base-directory*`/inst/` `apps/`*SID_app-logical-hostname*.

**Note -** If deploying Oracle E-Business Suite up to release 12.1 within a zone cluster, you must loopback mount `/var/cluster/logs` with in the zone-cluster node before performing this step. See Step 11, for information to loop back mount `/var/cluster/logs`.

Edit the `/opt/SUNWscebs/frm/util/frm_config` file and follow the comments within that file. After you have edited the `frm_config` file, you must register the resource.

```
# cd /opt/SUNWscebs/frm/util
# pfedit frm_config
# ./frm_register
```

The following example shows edits of the `frm_config` file.

```
RS=ebs-frm
RG=ebs-rg
LH=ebs-lh
HAS_RS=ebs-has
COMNTOP=base-directory/sidcomn
APPSUSER=oraapp-user
APP_SID=SID
VERSION=12.1
```

14. **Create and register a resource for the Forms Server in Socket Mode.**

This step is required only if you are using Oracle E-Business Suite up to release 12.1 Forms Server in Socket Mode.

**Note -** The variable `COMNTOP` does not explicitly refer to the Oracle E-Business Suite up to release 12.1 `COMN_TOP` or `COMMON_TOP` variable. Instead, different values are required depending on the version of Oracle E-Business Suite up to release 12.1 that is being deployed. See the text below for more details.

For Oracle E-Business Suite up to release 12.1, use `COMNTOP=`*app-base-directory*`/inst/` `apps/`*SID_app-logical-hostname*.

> **Note -** If you are deploying Oracle E-Business Suite up to release 12.1 within a zone cluster, you must loopback mount the `/var/cluster/logs` directory within the zone-cluster node before performing this step. See Step 11for instructions on loopback mounting the `/var/cluster/logs` directory.

Edit the `/opt/SUNWscebs/frmsrv/util/frmsrv_config` file and follow the comments within that file. After you have edited the `frmsrv_config` file, you must register the resource.

```
# cd /opt/SUNWscebs/frmsrv/util
# pfedit frmsrv_config
# ./frmsrv_register
```

The following example shows edits of the `frmsrv_config` file.

```
RS=ebs-frmsrv
RG=ebs-rg
LH=ebs-lh
HAS_RS=ebs-has
COMNTOP=base-directory/sidcomn
APPSUSER=oraapp-user
APP_SID=SID
VERSION=12.1
```

15. **Create and register a resource for the OPMN Server.**

> **Note -** If deploying Oracle E-Business Suite up to release 12.1 within a zone cluster, you must loopback mount `/var/cluster/logs` with in the zone-cluster node before performing this step. See Step 11, for information to loopback mount `/var/cluster/logs`.
>
> If Clustered OPMN OC4J instances are being deployed, you must specify the `OPMN_COMPONENTS=opmn/oacore/forms/oafm`. If a Clustered OPMN single Web Entry Point instance is being deployed, you must specify `OPMN_COMPONENTS=opmn/http_server`. You may also specify OC4J services if required.

For Oracle E-Business Suite up to release 12.1, perform the following:

Edit the `/opt/SUNWscebs/opmn/util/opmn_config` file and follow the comments within that file. After you have edited the `opmn_config` file, you must register the resource.

```
# cd /opt/SUNWscebs/opmn/util
# pfedit opmn_config
# ./opmn_register
```

The following example shows the edits of the `opmn_config` file.

```
RS=ebs-opmn
RG=ebs-rg
LH=ebs-lh
HAS_RS=ebs-has
VERSION=12.1
COMNTOP=app-base-directory/inst/apps/SID_app-logical-host
APPSUSER=oraapp-user
APP_SID=PROD
OPMN_COMPONENTS=all
```

16. **Enable the Oracle E-Business Suite up to release 12.1 resources.**

    If you created a scalable resource group in Step 3, also enable that resource group.

    ```
    # clresource enable -g ebs-rg +
        If Parallel Concurrent Processing is used:
    # clresourcegroup online -eM pcp-rg
    ```

    If you used Clustered OPMN OC4J, enable that resource group.

    ```
    # clresourcegroup online -eM c_opmn-rg
    ```

# Verifying the HA for Oracle E-Business Suite up to Release 12.1 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 HA for Oracle E-Business Suite up to Release 12.1 Installation and Configuration

1. **On a cluster member, become an administrator that provides `solaris.cluster.modify` authorization.**

2. **Ensure that all the Oracle E-Business Suite up to release 12.1 resources are online.**

    ```
    # cluster status
    ```

    Enable any Oracle E-Business Suite up to release 12.1 resources that are not online.

```
# clresource enable oracle-ebusiness-suite-resource
```

3. **Switch the Oracle E-Business Suite up to release 12.1 resource group to another cluster node.**

```
# clresourcegroup switch -n node
```

*ebs-rg*

# Upgrading HA for Oracle E-Business Suite up to Release 12.1

Upgrade the HA for Oracle E-Business Suite up to release 12.1 data service if the following conditions apply:

- You are upgrading from an earlier version of the HA for Oracle E-Business Suite up to release 12.1 data service.
- You need to use the new features of this data service.

## ▼ How to Upgrade to the New Version of HA for Oracle E-Business Suite up to Release 12.1

You must perform all the steps within this procedure.

**Note -** Before performing this procedure you should consider if your current Oracle E-Business Suite up to release 12.1 resources have been modified to have specific timeout values that suit your deployment. If timeout values were previously adjusted you should reapply those timeout values to your new Oracle E-Business Suite up to release 12.1 resources.

1. **On a cluster member, become an administrator that provides `solaris.cluster. modify` authorization.**

2. **Disable the Oracle E-Business Suite up to release 12.1 resources.**

```
# clresource disable oracle-ebusiness-suite-resource
```

3. **Install the new version of HA for Oracle E-Business Suite up to release 12.1 on each cluster.**

Refer to "How to Install the Oracle Solaris Cluster HA for Oracle E-Business Suite up to Release 12.1 Package" on page 35 for more information.

4. **Delete the Oracle E-Business Suite up to release 12.1 resources.**

   **# clresource delete** *oracle-ebusiness-suite-resource*

5. **Upgrade the logical hostname interpositioning.**

   ---

   **Note -** You must repeat the following steps, as the logical host interpositioning file name and variable names have changed. Change the following:

   - LHOSTNAME to SC_LHOSTNAME
   - libloghost_32.so.1 to libschost.so.1

   ---

6. **Repeat Step 7 from "How to Install and Configure Oracle E-Business Suite up to release 12.1" on page 24.**

7. **Reregister the Oracle E-Business Suite up to release 12.1 resources.**

   Refer to "How to Register and Configure HA for Oracle E-Business Suite up to Release 12.1" on page 37 for more information.

8. **Enable the Oracle E-Business Suite up to release 12.1 resources.**

   **# clresource enable** *oracle-ebusiness-suite-resource*

# Understanding the HA for Oracle E-Business Suite up to Release 12.1 Fault Monitor

This section describes the HA for Oracle E-Business Suite up to release 12.1 fault monitor probing algorithm or functionality, states the conditions, and recovery actions associated with unsuccessful probing.

For conceptual information about fault monitors, see the *Oracle Solaris Cluster 4.3 Concepts Guide* .

# Resource Properties

The HA for Oracle E-Business Suite up to release 12.1 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

The HA for Oracle E-Business Suite up to release 12.1 fault monitor is controlled by the extension properties that control the probing frequency. The default values of these properties determine the preset behavior of the fault monitor. The preset behavior should be suitable for most Oracle Solaris Cluster installations. Therefore, you should tune the HA for Oracle E-Business Suite up to release 12.1 fault monitor *only* if you need to modify this preset behavior.

- Setting the interval between fault monitor probes (`Thorough_probe_interval`)
- Setting the timeout for fault monitor probes (`Probe_timeout`)
- Setting the number of times the fault monitor attempts to restart the resource (`Retry_count`)

The HA for Oracle E-Business Suite up to release 12.1 fault monitor performs a check within an infinite loop. During each cycle, the fault monitor checks the relevant component and reports either a failure or success.

If the fault monitor is successful, it returns to its infinite loop and continues the next cycle of probing and sleeping.

If the fault monitor reports a failure, a request is made to the cluster to restart the resource. If the fault monitor reports another failure, another request is made to the cluster to restart the resource. This behavior continues whenever the fault monitor reports a failure.

If successive restarts exceed the `Retry_count` within the `Thorough_probe_interval`, a request is made to fail over the resource group onto a different node or zone.

## Concurrent Manager Probe

- Test whether at least one `FND (Concurrent Manager)` process is running. If this test fails, the probe restarts the Concurrent Manager Server resource.
- Test whether the probe can still connect to the Oracle Database. If this test fails, the probe restarts the Concurrent Manager Server resource.

- Calculate the number of concurrent processes running as a percentage of the maximum number of concurrent processes allowed. Then 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`, the probe restarts the Concurrent Manager Server resource.

### Forms Server in Servlet Mode Probe

Test whether the `f60srvm` process is running. If `f60srvm` is found, then test whether `f60webmx` process is running. If `f60webmx` is not found, the probe retests after another iteration of the probe to determine whether `f60webmx` is still missing, because `f60srvm` usually restarts `f60webmx`. If after two successive probes, `f60webmx` is still missing or `f60srvm` is not found on any probe, the probe restarts the Forms Server resource.

### Forms Server in Socket Mode Probe

Test whether the `frmsrv` process is running. If this test fails, the probe restarts the Forms Server in Socket Mode resource.

# Debugging HA for Oracle E-Business Suite up to Release 12.1

## ▼ How to Turn on Debugging for HA for Oracle E-Business Suite up to Release 12.1

HA for Oracle E-Business Suite up to release 12.1 can be used by multiple Oracle E-Business Suite up to release 12.1 instances. It is possible to turn debugging on for all Oracle E-Business Suite up to release 12.1 instances or a particular Oracle E-Business Suite up to release 12.1 instance.

`/opt/SUNWscebs/`*xxx*`/etc/config` allows you to turn on debugging for all Oracle E-Business Suite up to release 12.1 instances or for a specific Oracle E-Business Suite up to release 12.1 instance on a particular node or zone within the cluster. If you require debugging to be turned on for HA for Oracle E-Business Suite up to release 12.1 across the whole cluster, repeat this step on all nodes within the cluster.

1. **Edit the `/etc/syslog.conf` file.**

**a. 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
#
```

**b. Change the `daemon.notice` file to `daemon.debug` and restart the `syslogd` command.**

Note that the following output, from grep daemon /etc/syslog.conf, shows that daemon.debug has been set.

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

**c. Restart the syslog daemon.**

```
# svcadm disable system-log
# svcadm enable system-log
```

**2. Edit the `/opt/SUNWscebs/cmg/etc/config` file.**

Perform this step for each component that requires debug output, on each node of Oracle Solaris Cluster as required.

Edit the /opt/SUNWscebs/cmg/etc/config file and change DEBUG= to DEBUG=ALL or DEBUG=*sun-cluster-resource*.

```
# cat /opt/SUNWscebs/cmg/etc/config
#
# Copyright 2012Oracle and/or its afiiliates.  All rights reserved.
# Use is subject to license terms.
#
# ident "@(#)config     1.1     06/03/06"
#
# Usage:
#       DEBUG=<RESOURCE_NAME> or ALL
#
DEBUG=ALL
```

---

**Note -** To turn off debug, reverse the previous steps.

---

# Index

## R
resource types,   37


## S
scalable resource group
   Parallel Concurrent Processing,   37
software package,   35