

Oracle® Secure Enterprise Search

Installation and Upgrade Guide

11g Release 1 (11.1.2.2) for Linux

E21400-01

April 2011

This document describes how to install and upgrade Oracle Secure Enterprise Search (Oracle SES).

This document contains the following sections:

- [Installing Oracle Secure Enterprise Search](#)
- [Upgrading Oracle Secure Enterprise Search](#)
- [Starting and Stopping Oracle Secure Enterprise Search](#)
- [Deprecated Connectors](#)
- [What To Do Next](#)
- [Additional Resources](#)
- [Documentation Accessibility](#)

Installing Oracle Secure Enterprise Search

This section provides the information and procedures for performing an installation of Oracle SES. This section contains the following topics:

- [Preinstallation Tasks](#)
- [Installation Tasks](#)
- [Silent Installation Tasks](#)
- [Postinstallation Tasks](#)
- [Deinstallation Tasks](#)

Preinstallation Tasks

This section describes the requirements and tasks to complete before installing Oracle SES and contains the following topics:

- [Oracle SES Linux Certifications](#)
- [Oracle SES Browser Certifications](#)
- [General Information and Requirements for Installing Oracle Software](#)
- [Checking the Hardware Requirements](#)
- [Checking the Software Requirements](#)
- [Configuring Kernel Parameters](#)

- [Setting Shell Limits for the oracle User](#)
- [Installing on a Port Number Less Than 1024](#)
- [Checking the Oracle Base Directory](#)
- [Setting the Correct Locale](#)
- [Disabling Internet Protocol version 6 \(IPv6\) Components](#)

For additional preinstallation tips, see the following Oracle SES tutorial:

<http://st-curriculum.oracle.com/tutorial/SESAdminTutorial/index.htm>

Oracle SES Linux Certifications

Oracle SES is certified to run on the following Linux operating systems:

- Oracle Enterprise Linux 4 (Update 6 or higher to support WebLogic)
- Oracle Enterprise Linux 5
- Red Hat Enterprise Linux 4 AS and ES (Update 3 or higher)
- Red Hat Enterprise Linux 5 AS and ES (or later updates)
- SUSE Linux Enterprise Server 10
- SUSE Linux Enterprise Server 11

These are the only supported distributions and versions. Do not install Oracle SES on other versions of Linux.

Note: Oracle advises the following recommendations:

- Red Hat Enterprise Linux 5.2 or later to ensure the correct GLIBC version is included. Perform the same tasks for Oracle Enterprise Linux as for the corresponding version of Red Hat Enterprise Linux. The software requirements (such as kernel and package versions) are similar.
 - Service Pack 3 (SP3) or later for systems running SUSE Linux Enterprise Server 10. If installing on a system running Service Pack 2 (SP2), then you will need to contact Novell for a fix for Novell bug 416838.
 - Red Hat Enterprise Linux 4 AS and ES are supported in a production environment. Red Hat Enterprise Linux 4 WS (Workstation) is not supported for production server deployment.
 - Red Hat Enterprise Linux 5 AS and ES are supported in a production environment. Red Hat Enterprise Linux 5 WS (Workstation) is not supported for production server deployment.
-
-

To determine the distribution and version of Linux, enter the following command:

```
# cat /proc/version
```

Oracle SES Browser Certifications

The Oracle SES administration tool and default query application are certified on the following browsers:

- Firefox 3.x
- Internet Explorer 7.x, 8.x
- Safari 4.x

General Information and Requirements for Installing Oracle Software

This section describes the general requirements for installing Oracle software and contains these sections:

- [About the location of Oracle SES 11g Release \(11.1.2.2\) software](#)
- [Procedures for Logging In to the System as root](#)

About the location of Oracle SES 11g Release (11.1.2.2) software

- `ORACLE_BASE` is the root of the directory structure where Oracle SES software and its supporting infrastructure software are installed. This directory path is typically stored in an environment variable. On Linux and UNIX systems, you can reference the variable as `$ORACLE_BASE`. (On Windows, the equivalent is `%ORACLE_BASE%`.)
- `ORACLE_HOME` refers to the path `ORACLE_BASE/seshome`. The path is typically stored in an environment variable. On Linux and UNIX systems, you can reference the variable as `$ORACLE_HOME`. (On Windows, the equivalent is `%ORACLE_HOME%`.)
- In previous releases, the base path of Oracle SES was referred to as `ORACLE_HOME`. In Oracle SES release 11g, the base path is referred to as `ORACLE_BASE`. This represents the **Software Location** that you specify at the time of installing Oracle SES.

Therefore, for Oracle SES, `ORACLE_HOME` now refers to the path `ORACLE_BASE/seshome`.

- There are many other directories (or folders) under `ORACLE_BASE`, which are created by the installation of Fusion Middleware components such as WebLogic. The most important directories for you to be aware of are:
 - `wlserver`. The WebLogic home.
 - `Oracle_WC`. A portlet or portal component.
 - `oracle_common`. The location of a set of Java Required Files.

Procedures for Logging In to the System as root Before you install Oracle software, you must complete several tasks as the `root` user. For logging in as the `root` user, complete one of the following procedures:

- [To install the software from an X Window System workstation or X terminal](#)
- [To install the software from a PC or other system with X server software](#)

Note: Unless you intend to complete a silent installation, you must install the software from an X Window System workstation, an X terminal, or a PC or other system with X server software installed.

To install the software from an X Window System workstation or X terminal

1. Start a local terminal session, for example, an X terminal (`xterm`).

2. If you are not installing the software on the local system, then enter the following command to enable the remote host to display X applications on the local X server:

```
xhost fully_qualified_remote_host_name
```

For example:

```
xhost somehost.us.example.com
```

3. If you are not installing the software on the local system, then use the `ssh`, `rlogin`, or `telnet` command to connect to the system on which you want to install the software:

```
telnet full_qualified_remote_host_name
```

4. If you are not logged in as the `root` user, then enter the following command to switch user to `root`:

```
su - root
```

To install the software from a PC or other system with X server software

1. Start the X server software.
2. Configure the security settings of the X server software to permit remote hosts to display X applications on the local system.
3. Connect to the remote system on which you want to install the software and start a terminal session on that system, for example, an X terminal (`xterm`).
4. If you are not logged in as the `root` user on the remote system, then enter the following command to switch user to `root`:

```
su - root
```

Creating Required Operating System Group and User Depending on whether this is the first time Oracle software is being installed on this system and on the products that you are installing, you may need to create the following group and user account:

- [Oracle Inventory Group \(oinstall\)](#)
- [Oracle Software Owner \(oracle\)](#)

A single Oracle Inventory group is required for all installations of Oracle software on the system. After the first installation of Oracle software, you must use the same Oracle Inventory group for subsequent Oracle software installations on that system.

Note: As an alternative to creating local users and groups, you can create them in a directory service, for example, Network Information Services (NIS). Contact your system administrator, or refer to your operating system documentation for information about using directory services.

Oracle Inventory Group (oinstall)

You must create the Oracle Inventory group the first time you install Oracle software on the system. The usual name chosen for this group is `oinstall`. This group owns the Oracle inventory, which is a catalog of all Oracle software installed on the system. If Oracle software is already installed on the system, then the existing Oracle Inventory

group must be the primary group of the `oracle` user. Oracle recommends that you use the group name `oinstall` for the Oracle Inventory group.

Oracle Software Owner (oracle)

You must create the Oracle software owner user the first time you install Oracle software on the system. The usual name chosen for this user is `oracle`. This user owns all of the software installed during a given installation. This user must have the Oracle Inventory group as its primary group.

In Oracle documentation, the Oracle software owner user is referred to as `oracle`.

Determining Oracle Inventory Group and Oracle Software Owner User

To determine whether the Oracle Inventory group and the Oracle software owner already exist, and if necessary, to create them, follow the procedure in this section.

To check if `oinstall` group and `oracle` user exist

1. When you install Oracle software on the system for the first time, Oracle Universal Installer creates the `oraInst.loc` file. This file identifies the name of the Oracle Inventory group and the path of the Oracle Inventory directory. To determine whether the `oinstall` group exists, enter the following command:

```
more /etc/oraInst.loc
```

If the output of this command shows the `oinstall` group name, then the group already exists. For example, if the output is similar to the following, then `oinstall` already exists:

```
inventory_loc=/u01/app/oraInventory
inst_group=oinstall
```

The `inst_group` parameter shows the name of the Oracle Inventory group, `oinstall`.

2. If necessary, enter the following command to create the `oinstall` group:

```
/usr/sbin/groupadd oinstall
```

3. To determine whether the `oracle` user exists and belongs to the Oracle Inventory group, enter the following command:

```
# id -a oracle
```

If the `oracle` user exists, then this command displays information about the groups to which the user belongs. The output should be similar to the following, indicating that `oinstall` is the primary group:

```
uid=440(oracle) gid=200(oinstall) groups=201(dba),202(oper)
```

If the output includes a `groups=` clause, then it specifies secondary groups.

4. If necessary, complete one of the following actions:

- If the `oracle` user exists, but its primary group is not `oinstall`, then enter the following command:

```
/usr/sbin/usermod -g oinstall oracle
```

If you wish, you can include the `-G` option to specify secondary groups:

```
/usr/sbin/usermod -g oinstall -G dba[,oper] oracle
```

- If the `oracle` user exists, but you want to use another existing user as the Oracle software owner or you want to create a new Oracle software owner, then ensure that the user's primary group is the Oracle Inventory group.

Note: You may need to contact your system administrator before using or modifying an existing user.

- If the `oracle` user does not exist, then enter the following command to create it:

```
/usr/sbin/useradd -g oinstall oracle
```

This command creates the `oracle` user and specifies `oinstall` as the primary group. You can also include the `-G` option to specify secondary groups as follows:

```
/usr/sbin/useradd -g oinstall -G dba[,oper] oracle
```

Configure the password of the `oracle` user as follows:

```
# passwd oracle
```

Checking the Hardware Requirements

The system must meet the following minimum hardware requirements:

- [Memory Requirements](#)
- [Available RAM and Swap Space Requirement](#)
- [Hardware Requirements](#)

Note: The number of CPUs on the server host will affect the performance of concurrent queries over a prolonged period. Oracle recommends that you use systems with two or more CPUs for production deployments that serve 1000 or more users.

Memory Requirements The memory requirements are determined by the physical memory consumed by the database and by services such as the WebLogic server. The memory requirements for installing Oracle SES 11g Release 1 (11.1.2.2) are as follows:

- At least 2 GB of physical RAM. To determine the physical RAM size, enter the following command:

```
grep MemTotal /proc/meminfo
```

If the size of the physical RAM is less than the required size, then you must install more memory before continuing.

Available RAM and Swap Space Requirement The following table describes the relationship between installed RAM and the configured swap space requirement:

Note: On Linux, the Hugepages feature allocates non-swappable memory for large page tables using memory-mapped files. If you enable Hugepages, then you need to deduct the memory allocated to HugePages from the available RAM before calculating swap space.

Available RAM	Swap Space Required
Between 2 GB and 8 GB	Equal to the size of RAM
Between 8 GB and 14 GB	0.75 times the size of RAM
More than 14 GB	10 GB

- To determine whether the system architecture can run the software, enter the following command:

```
grep "model name" /proc/cpuinfo
```

Note: This command displays the processor type. Verify that the processor architecture matches the Oracle software release that you want to install. If you do not see the expected output, then you cannot install the software on this system.

- To determine the size of the configured swap space, enter the following command:

```
grep SwapTotal /proc/meminfo
```

If necessary, refer to the operating system documentation for information about how to configure additional swap space. To determine the available RAM and swap space, enter the following command:

```
free
```

Note: Oracle recommends that you take multiple values for the available RAM and swap space before finalizing a value. This is because the available RAM and swap space keep changing depending on the user interactions with the computer.

Hardware Requirements The system must meet the following minimum hardware requirements:

On Linux x86:

Oracle SES requires a minimum of 6.6 GB of disk space to install. This includes 4.9 GB for the software and approximately 1.7 GB for the initial Oracle SES index. Additional Oracle SES requirements are based on the amount of data that you need to search.

For example, to index 100,000 documents:

- 4 GB disk space
- 2 GB RAM

To index 1,000,000 documents:

- 20 GB disk space

- 6 GB RAM

On Linux x86-64:

Oracle SES requires a minimum of 7.6 GB of disk space to install. This includes 6.0 GB for the software and approximately 1.6 GB to create the initial Oracle SES index. Additional Oracle SES requirements are based on the amount of data that you need to search.

For example, to index 100,000 documents:

- 4 GB disk space
- 2 GB RAM

To index 1,000,000 documents:

- 20 GB disk space
- 6 GB RAM

Checking the Software Requirements

A system must meet the minimum software requirements described in this section.

- [Operating System and Browser Requirements](#)
- [Kernel Requirements](#)
- [Package Requirements](#)

Operating System and Browser Requirements The operating system and browsers must be among those listed in "[Oracle SES Linux Certifications](#)" on page 2 of this document.

Kernel Requirements The Kernel requirements for Oracle Secure Enterprise Search 11g Release 1 (11.1.2.2) are as follows:

- For Oracle Enterprise Linux 4 (Update 6 or higher to support WebLogic) and Red Hat Enterprise Linux 4 AS and ES (Update 3 or higher):
2.6.9
- For Oracle Enterprise Linux 5 and Red Hat Enterprise Linux 5 AS and ES (or later updates):
2.6.18
- For SUSE Linux Enterprise Server 10:
2.6.16.21
- For SUSE Linux Enterprise Server 11:
2.6.27.19 or later

To determine whether the required kernel is installed, enter the following command:

```
uname -r
```

The following example shows sample output displayed by running this command on a Red Hat Linux 4 system. It shows a kernel version (2.6.9) and errata level (55.0.0.0.2.EL) on the system.

```
2.6.9-55.0.0.0.2.EL
```


The following example shows sample output displayed by running this command on a SUSE Linux 10 system. It shows kernel version 2.6.16.21 on the system.

```
2.6.16.21-0.8-bigsmpt
```

Note: If the kernel version does not meet the requirement specified earlier in this section, then contact the operating system vendor for information about obtaining and installing kernel updates.

Package Requirements The packages required for Oracle Secure Enterprise Search 11g Release 1 (11.1.2.2) are as follows:

Note: Oracle recommends that you install your Linux operating system with the default software packages (RPMs). Do not customize the RPMs during installation. This installation includes most required packages, and will help you to limit manual checks of package dependencies.

On Linux x86:

- The following or later version of packages for Oracle Enterprise Linux 4 and Red Hat Linux 4 AS or ES should be installed:

```
binutils-2.15.92.0.2-18
compat-libstdc++-33-2.3-47.3
elfutils-libelf-0.97-5
elfutils-libelf-devel-0.97-5
glibc-2.3.4-2.19
glibc-common-2.3.4-2.19
glibc-devel-2.3.4-2.19
glibc-headers-2.3.4-2.19
gcc-3.4.5-2
gcc-c++-3.4.5-2
libaio-devel-0.3.105-2
libaio-0.3.105-2
libgcc-3.4.5
libstdc++-3.4.5-2
libstdc++-devel-3.4.5-2
make-3.80-5
sysstat-5.0.5
```

- The following or later version of packages Oracle Enterprise Linux 5 and Red Hat Linux 5 AS or ES should be installed:

```
binutils-2.17.50.0.6-2.e15
compat-libstdc++-33-3.2.3-61
elfutils-libelf-0.125-3.e15
elfutils-libelf-devel-0.125
glibc-2.5-12
glibc-common-2.5-12
glibc-devel-2.5-12
glibc-headers-2.5-12
gcc-4.1.1-52
gcc-c++-4.1.1-52
libaio-0.3.106
libaio-devel-0.3.106
```

```
libgcc-4.1.1-52
libstdc++-4.1.1
libstdc++-devel-4.1.1-52.e15
make-3.81-1.1
sysstat-7.0.0
```

- The following or later version of packages for SUSE Linux 10 should be installed:

```
binutils-2.16.91.0.5
compat-libstdc++-5.0.7
glibc-glibc-2.4-31.63
glibc-devel-glibc-2.4-31.63
gcc-4.1.0
ksh-93r-12.9
libaio-0.3.104
libaio-devel-0.3.104
libelf-0.8.5
libgcc-4.1.0
libstdc++-4.1.0
libstdc++-devel-4.1.0
make-3.80
sysstat-6.0.2
```

- The following or later version of packages for SUSE Linux 11 should be installed:

```
binutils-2.19
gcc-4.3
gcc-c++-4.3
glibc-2.9
glibc-devel-2.9
libstdc++33-3.3.3
libstdc++43-4.3.3_20081022
libstdc++43-devel-4.3.3_20081022
libaio-0.3.104
libaio-devel-0.3.104
libgcc43-4.3.3_20081022
libstdc++-devel-4.3
make-3.81
sysstat-8.1.5
```

On Linux x86-64:

- The following or later version of packages for Oracle Enterprise Linux 4.0 and Red Hat Enterprise Linux 4.0 should be installed:

```
binutils-2.15.92.0.2
compat-libstdc++-33-3.2.3
compat-libstdc++-33-3.2.3 (32 bit)
elfutils-libelf-0.97
elfutils-libelf-devel-0.97
gcc-3.4.5
gcc-c++-3.4.5
glibc-2.3.4-2.19
glibc-2.3.4-2.19 (32 bit)
glibc-common-2.3.4
glibc-devel-2.3.4
glibc-devel-2.3.4 (32-bit)
libaio-0.3.105
libaio-0.3.105 (32 bit)
libaio-devel-0.3.105
libgcc-3.4.5
```

```
libgcc-3.4.5 (32-bit)
libstdc++-3.4.5
libstdc++-3.4.5 (32 bit)
libstdc++-devel 3.4.5
make-3.80
numactl-0.6.4.x86_64
sysstat-5.0.5
```

- The following or later version of packages for Oracle Enterprise Linux 5.0 and Red Hat Enterprise Linux 5.0 should be installed:

```
binutils-2.17.50.0.6
compat-libstdc++-33-3.2.3
compat-libstdc++-33-3.2.3 (32 bit)
elfutils-libelf-0.125
elfutils-libelf-devel-0.125
gcc-4.1.1
gcc-c++-4.1.1
glibc-2.5-12
glibc-2.5-12 (32 bit)
glibc-common-2.5
glibc-devel-2.5
glibc-devel-2.5-12 (32 bit)
libaio-0.3.106
libaio-0.3.106 (32 bit)
libaio-devel-0.3.106
libgcc-4.1.1
libgcc-4.1.1 (32 bit)
libstdc++-4.1.1
libstdc++-4.1.1 (32 bit)
libstdc++-devel 4.1.1
make-3.81
numactl-devel-0.9.8.x86_64
sysstat-7.0.0
```

- The following or later version of packages for SUSE Linux Enterprise Server 10 should be installed:

```
binutils-2.16.91.0.5
compat-libstdc++-5.0.7-22.2
gcc-4.1.0
gcc-c++-4.1.0
glibc-2.4-31.2
glibc-32bit-2.4-31.2 (32 bit)
glibc-devel-2.4
glibc-devel-32bit-2.4 (32 bit)
libaio-0.3.104
libaio-32bit-0.3.104 (32 bit)
libaio-devel-0.3.104
libelf-0.8.5
libgcc-4.1.0
libstdc++-4.1.0
libstdc++-devel-4.1.0
make-3.80
numactl-0.9.6.x86_64
sysstat-6.0.2
```

- The following or later version of packages for SUSE Linux Enterprise Server 11 should be installed:

```

binutils-2.19
gcc-4.3
gcc-c++-4.3
glibc-2.9
glibc-32bit-2.9
glibc-devel-2.9
glibc-devel-32bit-2.9
libaio-0.3.104
libaio-32bit-0.3.104
libaio-devel-0.3.104
libaio-devel-32bit-0.3.104
libstdc++33-3.3.3
libstdc++33-32bit-3.3.3
libstdc++43-4.3.3_20081022
libstdc++43-32bit-4.3.3_20081022
libstdc++43-devel-4.3.3_20081022
libstdc++43-devel-32bit-4.3.3_20081022
libgcc43-4.3.3_20081022
libstdc++-devel-4.3
make-3.81
sysstat-8.1.5

```

If a package is not installed, then install it from the Linux distribution media or download the required package version from the Linux vendor’s Web site. To determine whether the required packages are installed, enter commands similar to the following example:

```
rpm -q package_name
```

Configuring Kernel Parameters

Before starting the Oracle installation, verify that the parameters shown in the following table are set to values greater than or equal to the recommended value shown. The procedure following the table describes how to verify and set the values.

Note: If the current value of any parameter is higher than the value listed in this table, then do not change the value of that parameter.

Parameter	Recommended Value	File
semmsl	250	/proc/sys/kernel/sem
semmns	32000	
semopm	100	
semmni	128	
shmall	2097152	/proc/sys/kernel/shmall
shmmax	Either: <ul style="list-style-type: none"> ■ 4GB - 1 byte Or ■ Half the size of the physical memory (in bytes) Whichever is lower.	/proc/sys/kernel/shmmax
shmmni	4096	/proc/sys/kernel/shmmni

Parameter	Recommended Value	File
file-max	65536	/proc/sys/fs/file-max
ip_local_port_range	Minimum: 9000 Maximum: 65500	/proc/sys/net/ipv4/ip_local_port_range Note: Ignore any Oracle Universal Installer warnings related to this parameter.
rmem_default	262144	/proc/sys/net/core/rmem_default
rmem_max	4194304	/proc/sys/net/core/rmem_max
wmem_default	262144	/proc/sys/net/core/wmem_default
wmem_max	1048576	/proc/sys/net/core/wmem_max
aio-max-nr	Maximum: 1048576 Note: This value limits concurrent outstanding requests and should be set to avoid I/O subsystem failures.	/proc/sys/fs/aio-max-nr

To view the current value specified for these kernel parameters, and to change them if necessary:

- Enter commands similar to those shown in the following table to view the current values of the kernel parameters.

Parameter	Command
semmsl, semmns, semopm, and semmni	/sbin/sysctl -a grep sem This command displays the value of the semaphore parameters in the order listed.
shmall, shmmax, and shmmni	/sbin/sysctl -a grep shm
file-max	/sbin/sysctl -a grep file-max
ip_local_port_range	/sbin/sysctl -a grep ip_local_port_range
rmem_default	/sbin/sysctl -a grep rmem_default
rmem_max	/sbin/sysctl -a grep rmem_max
wmem_default	/sbin/sysctl -a grep wmem_default
wmem_max	/sbin/sysctl -a grep wmem_max
aio-max-nr	/sbin/sysctl -a grep aio-max-nr

- Make a note of the current values of the kernel parameters and identify any values that you must change.
- If the value of any kernel parameter is different from the recommended value, then complete the following steps:
 1. Using any text editor, create or edit the /etc/sysctl.conf file, and add or edit lines similar to the following:

Note: Include lines only for the kernel parameter values that you want to change. For the semaphore parameters (`kernel.sem`), you must specify all four values. However, if any of the current values are larger than the minimum value, then specify the larger value.

```
fs.aio-max-nr = 1048576
fs.file-max = 65536
kernel.shmall = 2097152
kernel.shmmax = 2147483648
kernel.shmni = 4096
kernel.sem = 250 32000 100 128
net.ipv4.ip_local_port_range = 9000 65500
net.core.rmem_default = 262144
net.core.rmem_max = 4194304
net.core.wmem_default = 262144
net.core.wmem_max = 1048576
```

Note: The minimum value required for `shmmax` is 0.5 GB. However, Oracle recommends that you set the value of `shmmax` to 2.0 GB for optimum performance of the system.

By specifying the values in the `/etc/sysctl.conf` file, they persist when you restart the system.

2. Enter the following command to change the current values of the kernel parameters:

```
/sbin/sysctl -p
```

Review the output from this command to verify that the values are correct. If the values are incorrect, edit the `/etc/sysctl.conf` file, then enter this command again.

3. Enter the command `/sbin/sysctl -a` to confirm that the values are set correctly.
4. On SUSE systems only, enter the following command to cause the system to read the `/etc/sysctl.conf` file when it restarts:

```
/sbin/chkconfig boot.sysctl on
```

5. On SUSE systems only, you must enter the GID of the `oinstall` group as the value for the parameter `/proc/sys/vm/hugetlb_shm_group`. Doing this grants members of `oinstall` a group permission to create shared memory segments.

For example, where the `oinstall` group GID is 501:

```
echo 501 > /proc/sys/vm/hugetlb_shm_group
```

After running this command, use the `vi` editor to add the following text to `/etc/sysctl.conf` file, and enable the `boot.sysctl` script to run on system restart:

```
vm.hugetlb_shm_group=501
```

Note: Only one group can be defined as the `vm.hugetlb_shm_group`.

6. After updating the values of kernel parameters in the `/etc/sysctl.conf` file, either restart the computer, or run the command `sysctl -p` to make the changes in the `/etc/sysctl.conf` file available in the active kernel memory.

Setting Shell Limits for the oracle User

To improve the performance of the software, you must increase the following shell limits for the `oracle` user:

Shell Limit	Item in limits.conf	Hard Limit
Maximum number of open file descriptors	<code>nofile</code>	65536
Maximum number of processes available to a single user	<code>nproc</code>	16384

To increase the shell limits

1. Add the following lines in the `/etc/security/limits.conf` file:

```
oracle      soft  nproc  2047
oracle      hard  nproc  16384
oracle      soft  nofile 1024
oracle      hard  nofile 65536
```
2. Add the following line to the `/etc/pam.d/login` file, if it does not already exist:

```
session    required  pam_limits.so
```
3. Depending on the `oracle` user's default shell, make the following changes to the default shell startup file:
 - For the Bourne, Bash, or Korn shell, add the following lines in the `/etc/profile` file (or the `/etc/profile.local` file on SUSE systems):

```
if [ $USER = "oracle" ]; then
    if [ $SHELL = "/bin/ksh" ]; then
        ulimit -p 16384
        ulimit -n 65536
    else
        ulimit -u 16384 -n 65536
    fi
fi
```
 - For the C shell, add the following lines in the `/etc/csh.login` file (or the `/etc/csh.login.local` file on SUSE systems):

```
if ( $USER == "oracle" ) then
    limit maxproc 16384
    limit descriptors 65536
endif
```
4. The files that you have modified are activated upon login. You must log out and log back in for the changes to take effect.

Installing on a Port Number Less Than 1024

During installation of Oracle SES, you specify a middle tier port number. This number is included in the URL for accessing Oracle SES. For example, if you specify 7777 as the port number, then the search URL will look like this:

```
http://example.com:7777/search/query/search.jsp
```

If you wish to hide the port number in the search URL, then the port must be set to 80, which is the default port for HTTP connections. For example, if you change the middle tier port shown in the previous example to 80, then the search URL does not need to include the port number as shown in the following example:

```
http://example.com/search/query/search.jsp
```

On Linux and UNIX operating systems, only `root` users can bind to ports less than 1024. Since Oracle SES must be installed by a non-`root` user, you must install Oracle SES on port 1024 or higher and then change it later.

To change the port number later, after installation

1. During installation, specify a port greater than or equal to 1024.
2. After the installation is complete, follow the instructions in "[Change the Oracle SES Middle Tier Port \(Optional\)](#)" on page 22 to change the port to a number less than 1024.

Checking the Oracle Base Directory

The Oracle home directory is generally a subdirectory of the Oracle base directory. Before installing Oracle SES, check to see if the `ORACLE_BASE` environment variable is set. If it is set, then ensure that you have write permission to that location. `ORACLE_BASE` should not reside within another user's directory structure.

Setting the Correct Locale

The correct environment parameters (`LANG`, `NLS_LANG` and `LC_ALL`) should be set before Oracle SES is installed. For file sources to successfully crawl and display multibyte environments, the locale of the system that starts the Oracle SES server must be the same as the target file system. This way, the Oracle SES crawler can "see" the multibyte files and paths. If the locale is different in the installation environment, then Oracle SES must be restarted from the environment with the correct locale. For example, for a Korean environment: Either set `LC_ALL` to `ko_KR`, or set both `LC_LANG` and `LANG` to `ko_KR.KSC5601`, then run `searchctl restartall` from an xterm. The command `searchctl restartall` will take about two and one half minutes to complete.

Disabling Internet Protocol version 6 (IPv6) Components

If IPv6 is enabled on your system, then disable it before installing Oracle SES.

To disable IPv6 on Linux, comment out the entries in `/etc/hosts` file as shown below:

```
# special IPv6 addresses
# ::1          localhost ipv6-localhost ipv6-loopback

# fe00::0     ipv6-localnet

# ff00::0     ipv6-mcastprefix
# ff02::1     ipv6-allnodes
```



```
# ff02::2          ipv6-allrouters
# ff02::3          ipv6-allhosts
```

Installation Tasks

Oracle SES is provided through electronic download (preferred) or on physical media. Either way, the installable product image is the same.

To obtain the software and start the installer

1. Ensure that you have checked all the minimum requirements, as described in "[Preinstallation Tasks](#)" on page 1 of this document.
2. Log on to the system on which you are performing the installation as the user who will install Oracle SES. Oracle SES must be installed by a non-root user.
3. Download the Oracle SES software distribution.

Note: If you received the software for this release on DVD, then mount the DVD on your system as you normally would and continue with these procedures. (The DVD contains the same archives as available for electronic download.)

4. Unzip the Oracle SES software.
 - There will be more than one zip archive, typically two.
 - After you download each archive, extract all from each zip archive into the same destination directory. Preserve the path information when you extract the zip files.
5. Change to the directory into which you unzipped the zip archives.
6. Start Oracle Universal Installer from your system prompt with the following command:

```
./runInstaller
```

The Specify Installation Details page appears for Oracle SES.

See Also: "[Installing on a System with an Existing Oracle SES Installation](#)" on page 19 in this document

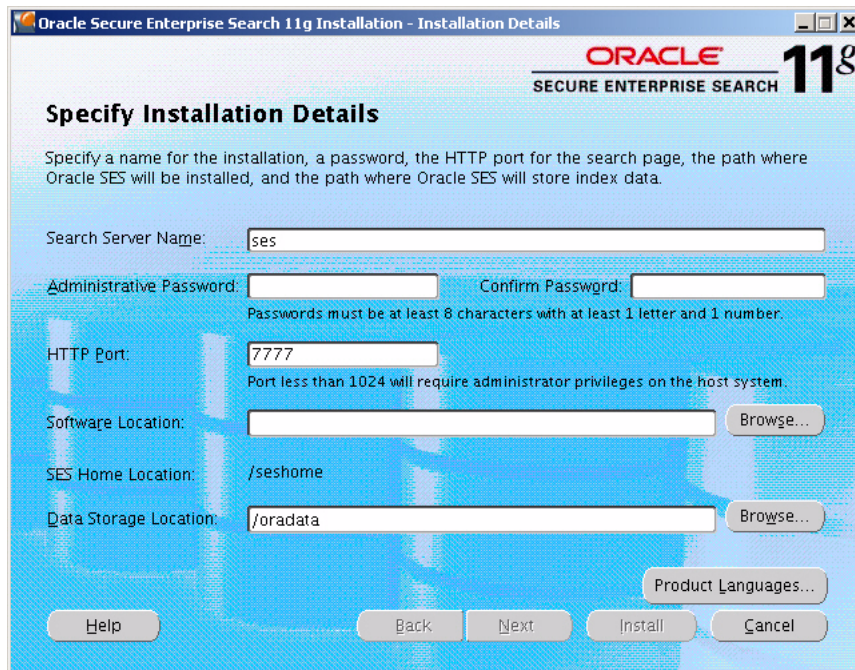
7. Continue with the installation procedure:
 - [Performing a Fresh Installation for Oracle SES](#)

See Also: For a tutorial on Oracle SES, see:
<http://st-curriculum.oracle.com/tutorial/SESAdminTutorial/index.htm>

Performing a Fresh Installation for Oracle SES

Oracle Universal Installer provides the Specify Installation Details page for setting parameters for the location and home for Oracle SES. You must specify the administrative password. The remaining values are set to a default, but they can be overridden.

Figure 1 Specify Installation Details page



The installation parameters are as follows:

- **Search Server Name:** Name for your search server. To connect multiple Oracle SES instances to the same directory (authorization) server, each instance must have a distinct name.
- **Administrative Password and Confirm Password:** The password that you will later use to log on to the Oracle SES administration tool. This password must be at least eight characters long with at least one alpha character and one number.
- **HTTP Port:** The port on which the Oracle SES middle tier will listen. For example, if you install Oracle SES on host `example.com` and you specify port `7777`, then your search page URL will be as follows:

`http://example.com:7777/search/query/search`

Note: You must specify a number greater than or equal to 1024 for **HTTP Port**. You can change the port number after completing the installation, if needed. See "[Change the Oracle SES Middle Tier Port \(Optional\)](#)" on page 22 and "[Installing on a Port Number Less Than 1024](#)" on page 16 in this document.

- **Software Location:** The location where Oracle SES home will be created, which is `ORACLE_BASE` by default. `ORACLE_BASE` is the root of the directory structure where Oracle SES software and its supporting infrastructure software are installed. See "[About the location of Oracle SES 11g Release \(11.1.2.2\) software](#)" on page 3 in this document.
- **SES Home Location:** The default installed path is `ORACLE_BASE/seshome`.
- **Data Storage Location:** The default is `ORACLE_BASE/oradata`. This is the location where Oracle SES will store its data. The data storage location should be

outside of the `ORACLE_BASE/seshome` directory so that it will not be deleted during a future upgrade.

The following URLs indicate a successful installation:

- Search application: `http://host:port/search/query/search`
- Administration tool: `http://host:port/search/admin/index.jsp` (Log on using the password specified during installation.)

Installing on a System with an Existing Oracle SES Installation

You can install this release (or previous releases) of Oracle SES more than once on the same system as long as each installation is installed in a separate Oracle home. Follow the procedures under [Performing a Fresh Installation for Oracle SES](#). Use different values for **Search Server Name**, **HTTP Port**, and **Software Location** parameters.

Silent Installation Tasks

A silent installation has no graphical output and no input by the user. It is accomplished by supplying Oracle Universal Installer with a response file and specifying the `-silent` flag on the command line. Use silent installation when you want the same installation parameters on more than one computer. Additionally, you can use silent installation from the command line to push the installation of Oracle SES from a remote location to various computers in the organization.

This section contains these topics:

- [Selecting a Response File](#)
- [Editing the Response File](#)
- [Specifying a Response File and Starting the Installation](#)
- [Silent Installation Log Files](#)

Note: The SES Home Location for Oracle SES software is `$ORACLE_BASE/seshome`. Do not specify Oracle home as the location of Oracle SES. However, the silent response file must also ask for `ORACLE_HOME` to support the current OUI architecture.

Selecting a Response File

Before performing a silent installation, you must provide information specific to your installation in a response file. The installer will fail if you attempt an installation using a response file that is not configured correctly. Response files are text files that you can create or edit in a text editor. Response files (like `server.rsp`) are located in the `/response` directory of the Oracle SES 11.1.2.2 software distribution. Edit the response file according to your requirements for silent installation.

To use a response file, you must first extract `server.rsp` file to your system from the Oracle SES tar or zip archive that comprises the software distribution for this release. There may be two compressed archives and you may need to look in each to find the `/response` directory. For example:

1. Open the tar or zip archive and find the `/response` directory.
2. Extract the `server.rsp` file to your system hard drive.
3. Edit `server.rsp` as described in "[Editing the Response File](#)" in the next section.

Note: Response files like `server.rsp` are located in the `/response` directory of the Oracle SES 11.1.2.2 software distribution.

Editing the Response File

Use any text editor to edit the response file to include information specific to your system. You must specify values for variables in your response file. Each variable listed in the response file is associated with a comment, which identifies the variable type.

For example:

```
string = "Sample Value"
Boolean = True or False
Number = 1000
StringList = {"StringValue 1", "String Value 2"}
```

The values that are given as `<Value Required>` must be specified for silent installation.

Specifying ORACLE_HOME Properly in Response Files

You must ask for `ORACLE_HOME` in the silent response file due to the current OUI release 11.1 architecture. Therefore, you have to ask for both `ORACLE_HOME` and `ORACLE_BASE`. This is different from GUI behavior where you only need to ask for `ORACLE_BASE` (Software Location).

If you do not ask for both Oracle homes in the response file, then at install time users will need to make sure to input `ORACLE_HOME` as `ORACLE_BASE + /seshome` manually. An error pops up if users do not specify `ORACLE_HOME` properly.

The explanation for this is in the comment section of the response file examples.

Specifying a Response File and Starting the Installation

Before you specify a response file, ensure that all values in the response file are correct. To make Oracle Universal Installer use the response file at installation time, specify the location of the response file as a parameter when starting Oracle Universal Installer. To perform a silent installation, use the `-silent` parameter as follows:

```
./runInstaller -silent -responseFile absolute_path_and_filename
```

Caution: During installation, response files may be copied to subdirectories in the Oracle home. Oracle recommends that you do not hard-code passwords and confidential information in your response files. You should prompt the user to enter passwords and anything confidential or that might pose a security risk.

If you must provide passwords or other sensitive information in your response files, then for security purposes, delete them after completing and verifying the installation.

Silent Installation Log Files

The success or failure of silent installations is logged in the `installActions.log` file. Additionally, the silent installation creates the `silentInstall.log` file. The log files are created in the `/oraInventory/logs` directory. The

`silentInstallDate_Time.log` file contains the following line if the installation was successful:

```
The installation of Oracle Secure Enterprise Search was successful.
```

The corresponding `installActionsDate_Time.log` file contains specific information regarding installation.

Security Tips for Silent Installations

The response file contains the installation password in clear text. To minimize security issues, follow these guidelines:

- Set the permissions on the response files so that they are readable only by the operating system user performing the silent installation.
- If possible, remove the response files from the system after the silent installation is completed.

Error Handling

Values for variables that are of the wrong context, format, or type are treated as if no value were specified. Variables that are outside any section are ignored. If you attempt a silent installation with an incorrect or incomplete response file, or if Oracle Universal Installer encounters an error, such as insufficient disk space, then the installation will fail.

Postinstallation Tasks

This section describes the tasks to perform after installing Oracle SES and contains the following topics:

- [Check for Critical Patches](#)
- [Check for Additional Documentation and Support Services](#)
- [Change the Oracle SES Middle Tier Port \(Optional\)](#)
- [Define the Datasource for the Oracle Web Services Manager \(OWSM\) Template](#)

Check for Critical Patches

After installing Oracle SES, check for a patch set or critical patch update (CPU). A CPU is a collection of patches for security vulnerabilities. It also includes non-security fixes required (because of interdependencies) by those security patches. CPUs are cumulative, and they are provided quarterly on Oracle Technology Network. For more information about CPUs, see <https://support.oracle.com/>

Check for Additional Documentation and Support Services

Up-to-date Release Notes are posted on Oracle Technology Network (OTN). You must register online before using OTN. Registration is free and can be done at <http://www.oracle.com/technetwork/community/join/index.html>

If you already have a user name and password for OTN, then you can go directly to the documentation section of OTN at

<http://www.oracle.com/technetwork/indexes/documentation/index.html>

Change the Oracle SES Middle Tier Port (Optional)

If needed, you can change the Oracle SES middle tier port as described in this section.

To change the Oracle SES middle tier port

1. Shut down the middle tier with the following command:

```
$ORACLE_HOME/bin/searchctl stopall
```

See Also: ["Starting and Stopping Oracle Secure Enterprise Search"](#) on page 38

2. Open the file `$ORACLE_HOME/search/base_domain/config/config.xml`.

Note: Oracle recommends that you back up this file before you open it in this step.

- a. Search for the word "listen-port." The XML statement that specifies the port number looks like the following example:

```
<listen-port>33333</listen-port>
```

- b. Edit the value of the `<listen-port>` attribute. The following example changes the port to 44444:

```
<listen-port>44444</listen-port>
```

Note: Make sure that the new port is not already in use.

3. Edit `$ORACLE_HOME/bin/searchctl` and change the value of `WLS_LISTENER_PORT` to the new port value.
4. If you change the port from a number *greater* than or equal to 1024 to a number less than 1024, then perform the following steps:

- a. Start the database with the following command:

```
$ORACLE_HOME/bin/searchctl start_backend
```

- b. Log in as `root`.

- c. Grant `SQL*Plus EXECUTE` permission to `root`:

```
chmod o+x $ORACLE_HOME/bin/sqlplus
```

- d. Run the following command:

On Linux x86:

```
chgrp -R root $ORACLE_BASE/jrockit_160_14_R27.6.5-32
```

On Linux x86-64:

```
chgrp -R root $ORACLE_BASE/jdk6
```

- e. Start the middle tier with the following command:

```
$ORACLE_HOME/bin/searchctl start
```

5. If you change the port from a number *less* than 1024 to a number greater than or equal to 1024, then perform the following steps:

- a. Log in as `root`.
- b. Run the following commands:

```
chown -R <install user> $ORACLE_HOME/search/base_domain
chgrp -R <install user group> $ORACLE_HOME/search/base_domain
```

On Linux x86:

```
chgrp -R <original user group> $ORACLE_HOME/../../jrockit_160_14_R27.6.5-32
```

On Linux x86-64:

```
chgrp -R <original user group> $ORACLE_HOME/../../jdk6
```

where *install user* is the user installing Oracle SES.

- c. Log off the `root` user.
 - d. Log in as the Oracle SES installation user and perform step 6 of this procedure.
6. Start the middle tier with the following command:

```
$ORACLE_HOME/bin/searchctl startall
```

See Also: ["Starting and Stopping Oracle Secure Enterprise Search"](#)
on page 38

Define the Datasource for the Oracle Web Services Manager (OWSM) Template

This is a workaround for bug #9268418. After installing/upgrading to the Oracle SES 11.1.2.2, when you log in to the Weblogic Server, the status of the server is shown as `Critical` instead of `OK`.

To solve this issue, you need to define the datasource for the OWSM template.

To define the datasource for the OWSM template

1. Perform the following steps to create the database user and password for the OWSM connection pool.
 - a. Start SQL*Plus and connect as the `SYSDBA` user.
 - b. Run the following SQL statements:

```
SQL> create user owsmuser identified by welcome1;

SQL> grant connect, resource to owsmuser;
```
2. Log in to the WebLogic admin console (<http://host:port/console>).
3. Set the domain instance to **lock/edit** mode.
4. In the left navigation menu, select **Services > JDBC > Data Sources**.
5. Replace the value of **mds-owsm > Connection Pool > URL** with that from **EnterpriseSearchDS > Connection Pool > URL**.
6. In the **Properties** section, change the user name to `owsmuser` and enter its password.
7. Click **Save**.

8. Click **Activate Changes**.
9. Restart the middle tier with the following command:

```
$_ORACLE_HOME/bin/searchctl restart
```

Deinstallation Tasks

This section provides the procedure for deinstalling Oracle SES. Deinstallation of Oracle SES removes the contents of the `oradata` directory. Refer also to "[Removing the Oracle SES 10.1.8.4/11.1.2.0 Home](#)" on page 37 in this document.

To deinstall Oracle SES

1. Connect as the Oracle SES installation user.
2. Shut down the middle tier and the database.

```
$_ORACLE_HOME/bin/searchctl stopall
```
3. Run the deinstallation script as follows:

```
$_ORACLE_HOME/install/deinstall_ses
```
4. If the Oracle SES instance was bound to a port less than 1024 and the middle tier ran as the `root` user, then after deinstallation there could be files left under `$_ORACLE_HOME`. After the deinstall completes, log on as the root user and delete those remaining files.

Upgrading Oracle Secure Enterprise Search

This section provides the information and procedures for upgrading from previous releases of Oracle SES, that is Oracle SES 10.1.8.4 or Oracle SES 11.1.2.0, to Oracle SES 11.1.2.2. Also discussed are preupgrade and postupgrade tasks.

Note:

- If you are running a release of Oracle SES earlier than 10.1.8.4, then you must first upgrade to release 10.1.8.4.
 - For index optimization, this release sets smart defaults for clean installations. Since the user setting for upgrade scenarios cannot be modified, Oracle SES preserves the default settings in release 10g for the upgrade process.
 - After you upgrade to this release, the two identity plug-ins Oracle E-Business Suite release 11*i* and Oracle E-Business Suite release 12 are consolidated into one identity plug-in named Oracle E-Business Suite. Similarly, the two source types Oracle E-Business Suite 11*i* and Oracle E-Business Suite release 12 are consolidated into one source type named Oracle E-Business Suite.
-
-

This section contains the following topics:

- [Preupgrade Tasks](#)
- [Common Preupgrade Tasks](#)
- [Upgrade Tasks](#)

- [Silent Upgrade Tasks](#)
- [Postupgrade Tasks](#)

See Also: "Upgrade Issues" in *Oracle Secure Enterprise Search Release Notes*

Preupgrade Tasks

This section provides the information and tasks specific to preparing an upgrade from Oracle SES release 10.1.8.4/11.1.2.0 to Oracle SES release 11.1.2.2.

- [Confirm that Free Memory and Disk Space Requirements are Met](#)
- [Apply Mandatory One-Off Patches for Oracle SES 10.1.8.4](#)
- [Apply Mandatory One-Off Patches for Oracle SES 11.1.2.0](#)
- [Back Up the existing Oracle SES Instance](#)
- [Upgrade OracleAS Portal Server \(Optional\)](#)

Confirm that Free Memory and Disk Space Requirements are Met

Before performing the upgrade tasks for this release of Oracle SES, at least 2 GB of free RAM and 10 GB of free disk space must be available on the system.

Note: Depending on the number of documents to process and how many custom attributes are meta-tagged, extra space might be needed.

Apply Mandatory One-Off Patches for Oracle SES 10.1.8.4

The patches described in this section are required before performing the upgrade tasks for Oracle SES 10.1.8.4.

- Apply patch 5632264 to the Oracle SES 10.1.8.4 instance. Patch 5632264 updates the database time zone files to version 4. The time zone files for Oracle Database 11g must be version 4 or greater. After applying this patch, you must restart the Oracle SES 10.1.8.4 instance before upgrading to Oracle SES 11.1.2.2. Patch 5632264 is available on My Oracle Support (formerly *OracleMetaLink*) at <http://support.oracle.com>.

Important: If this one-off patch is not applied to the Oracle SES 10.1.8.4 instance, then the Oracle SES 11.1.2.2 upgrade will fail during Oracle Search Upgrade Assistant with the following error:

```
oracle.search.config.OESEException: Error while executing action:
"upgrade_all"
Caused by: oracle.search.config.OESEException:
Upgrade assistant failed.
Caused by: oracle.search.config.OESEException:
Fatal exception. Database upgrade failed.
```

- Apply patch 11798419 to the Oracle SES 10.1.8.4 instance. If this patch is not applied, then after deinstalling the Oracle SES 10.1.8.4 instance, the contents of the `oradata` directory get deleted, which makes the new upgraded Oracle SES instance non-functional. After applying this patch, you must restart the Oracle SES

10.1.8.4 instance before upgrading to Oracle SES 11.1.2.2. Patch 11798419 is available as a zip file 11798419_10184.zip and is present in the /Patches directory of the Oracle SES 10.1.8.4 software distribution.

Important: If this one-off patch is not applied to the Oracle SES 10.1.8.4 instance, then the Oracle SES 11.1.2.2 upgrade will fail after deinstalling the 10.1.8.4 instance. There is no way to recover from this failure.

Apply Mandatory One-Off Patches for Oracle SES 11.1.2.0

The patches described in this section are required before performing the upgrade tasks for Oracle SES 11.1.2.0.

- Apply patch 11798419 to the Oracle SES 11.1.2.0 instance. If this patch is not applied, then after deinstalling the Oracle SES 11.1.2.0 instance, the contents of the oradata directory get deleted, which makes the new upgraded Oracle SES instance non-functional. After applying this patch, you must restart the Oracle SES 11.1.2.0 instance before upgrading to Oracle SES 11.1.2.2. Patch 11798419 is available as a zip file 11798419_11120.zip and is present in the /Patches directory of the Oracle SES 11.1.2.0 software distribution.

Important: If this one-off patch is not applied to the Oracle SES 11.1.2.0 instance, then the Oracle SES 11.1.2.2 upgrade will fail after deinstalling the 11.1.2.0 instance. There is no way to recover from this failure.

Back Up the existing Oracle SES Instance

There is no downgrade support from Oracle SES 11.1.2.2, so you must create a backup copy of the existing Oracle SES installation in case you need to restore the 10.1.8.4/11.1.2.0 instance.

To back up Oracle SES using the copy command

- Create a copy of the following directories:
 - Oracle base: the Oracle SES 10.1.8.4/11.1.2.0 installation directory.
 - Oracle home: the Oracle SES 10.1.8.4/11.1.2.0 home directory.
 - oradata: the repository for data files, control files, and log files.
 - oraInventory: the central inventory of all Oracle homes. Its location is specified in /etc/oraInst.loc

To back up Oracle SES using the tar command

1. Shut down the Oracle SES instance.

```
$ORACLE_HOME/bin/searchctl stopall
```

See Also: ["Starting and Stopping Oracle Secure Enterprise Search"](#) on page 38

2. If you are not already logged in as root, then enter the following command to become the root user:

```
su - root
```

3. Change (cd) into the backup location of the operating system and execute the following commands:

```
tar cvf ses_orabase.tar {full path to Oracle base}
tar cvf ses_orahome.tar {full path to Oracle home}
tar cvf ses_orainv.tar {full path to oraInventory}
tar cvf ses_oradat.tar {full path to oradata}
```

Upgrade OracleAS Portal Server (Optional)

If you are using the portlet feature in Oracle SES Release 10.1.8.4/11.1.2.0, then you must upgrade to OracleAS Portal Server 10.1.4.2.0, and apply Patch Set Exception (PSE) 7560661 to OracleAS Portal Release 10.1.4.2.0.

Common Preupgrade Tasks

This section contains information and procedures for preupgrade tasks for all upgrades from previous releases of Oracle SES.

Important: Before following the procedures in this section, refer to ["Apply Mandatory One-Off Patches for Oracle SES 10.1.8.4"](#) on page 25 in this document.

This section contains the following topics:

- [Setting JOB_QUEUE_PROCESSES To Zero](#)
- [Ensuring Adequate Disk Space and Optimizing Indexes](#)
- [Ensuring Adequate Memory](#)
- [Upgrading Oracle Single Sign-On Server \(Optional\)](#)
- [Upgrading Oracle HTTP Server \(Optional\)](#)
- [Upgrading on a Port Number Less than 1024](#)

Setting JOB_QUEUE_PROCESSES To Zero

During upgrading of Oracle SES, scheduled jobs should not be started, and crawl and optimization processes should not be running in the background. To prevent scheduled jobs from executing, set the JOB_QUEUE_PROCESSES parameter to 0.

To set the JOB_QUEUE_PROCESSES parameter to 0

1. Start SQL*Plus and connect as the EQSYS user.
2. Check the current value of JOB_QUEUE_PROCESSES, so that you can later restore it. By default, JOB_QUEUE_PROCESSES is 10, but it may be set differently in this database. Execute this query to obtain the value of JOB_QUEUE_PROCESSES.

```
SQL> SELECT name, value from v$parameter WHERE name='job_queue_processes';
```

3. Execute this SQL statement to set JOB_QUEUE_PROCESSES to zero.

```
SQL> ALTER SYSTEM SET job_queue_processes=0 scope=both
```

Note: The postupgrade migration scripts must be run with `JOB_QUEUE_PROCESSES` set to 0. See ["Running Postupgrade Migration Scripts"](#) on page 31. After upgrading and running the postupgrade migration scripts, restore the original value as described in ["Restoring JOB_QUEUE_PROCESSES"](#) on page 33.

Ensuring Adequate Disk Space and Optimizing Indexes

You must confirm that multiple factors of free space are available before performing the upgrade processes. In addition to the disk space required for a second installation, you will need sufficient resources for postupgrade index migration and other space-intensive reconfiguration. To maximize performance, you can optimize indexes and reduce fragmentation to near 0% before upgrading.

Ensuring Adequate Memory

When upgrading, if you have changed the SGA size manually, then follow the steps in this section to confirm that Oracle SES has enough memory.

Note: You must allocate at least 2GB free memory for upgrading to Oracle SES release 11.1.2.2.

To confirm that available memory for Oracle SES meets the requirements

- Verify that Automatic Shared Memory Management is turned on by confirming that `SGA_TARGET` is greater than 0. If `SGA_TARGET` is set to 0, then you must restore the value to the original (which is smaller one either 40% of the physical memory size or 1536M). If you change the `SGA_TARGET` parameter value, then restart Oracle SES to reflect the change and to check if the Oracle SES instance can be started without any problem.
- Check the `SGA_TARGET` size with the following command:

```
SELECT name, value/1024/1024 || ' M'
FROM V$PARAMETER
WHERE name = 'sga_target';
```

Note: `SGA_TARGET` specifies the total size of all SGA components. If `SGA_TARGET` is specified as a number greater than zero, then several of the memory pools in the SGA are automatically sized. If any of those automatically tuned memory pools are individually set to nonzero values, then those values are used as minimum levels by Automatic Shared Memory Management. Other memory pools are not affected by Automatic Shared Memory Management.

Upgrading Oracle Single Sign-On Server (Optional)

If you previously configured Oracle SES release 10.1.8.4/11.1.2.0 with Oracle Single Sign-On, then you must upgrade to Oracle Single Sign-On 10.1.4.0.1 before you upgrade to Oracle SES release 11.1.2.2. After you complete the upgrade procedures for Oracle SES 11.1.2.2, you will need to reconfigure Oracle SES with Single Sign-On server. Schedule downtime accordingly during the upgrade process.

See ["Upgrading Oracle HTTP Server \(Optional\)"](#) for the correct version of Oracle HTTP Server to use with Oracle Single Sign-On.

Upgrading Oracle HTTP Server (Optional)

If you have enabled Oracle Single Sign-On for Oracle SES release 10.1.8.4/11.1.2.0, then ensure that the Oracle HTTP server is release 10.1.3 or 11g.

If you have enabled SSL for Oracle SES release 10.1.8.4/11.1.2.0, then ensure the Oracle HTTP server is release 11g.

Upgrading on a Port Number Less than 1024

This step is only necessary if the release of Oracle SES that you are upgrading is bound to a port number less than 1024. You must change the port to a number greater than or equal to 1024 before starting the upgrade. After the upgrade completes, you can change the port back to a number less than 1024. Follow the instructions in ["Change the Oracle SES Middle Tier Port \(Optional\)"](#) on page 22 in this document.

Upgrade Tasks

This section contains the procedures for upgrading Oracle SES 10.1.8.4/11.1.2.0 to release 11.1.2.2.

To upgrade Oracle SES

1. Ensure that the Oracle SES 10.1.8.4/11.1.2.0 instance is running.
2. Start the Oracle Universal Installer for Oracle SES 11.1.2.2.
3. When the installation process detects the existing Oracle SES instance on the computer, it will give you the option of either upgrading the existing installation or creating a fresh installation.
4. Choose to upgrade the existing installation.
5. Follow the prompts to select:
 - The location where the Oracle SES 10.1.8.4/11.1.2.0 software is installed
 - The administrative password that was set in the Oracle SES 10.1.8.4/11.1.2.0 installation
 - The location where the new Oracle SES 11.1.2.2 software will be installed. This location must be different from the release 10.1.8.4/11.1.2.0 location. You cannot install Oracle SES 11.1.2.2 inside the Oracle home for Oracle SES release 10.1.8.4/11.1.2.0.

Note: After the upgrade process is complete, do not uninstall the previous Oracle SES instance. The upgraded Oracle SES instance still refers to the control files present in the previous Oracle SES instance.

Restoring Oracle SES If Upgrading Fails

If the upgrade fails, then restore the previous Oracle SES release from your backup.

To restore Oracle SES from backup using the tar command

1. Delete the Oracle home, `oradata`, and `oraInventory` directories.

2. If you are not already logged in as `root`, then enter the following command to become the `root` user:

```
su - root
```

3. Execute the following commands using the full path to the Oracle SES release 10.1.8.4/11.1.2.0 home:

```
tar xvf ses_orabase.tar
tar xvf ses_orahome.tar
tar xvf ses_orainv.tar
tar xvf ses_oradat.tar
```

After restoring the previous release, you can retry the Oracle SES upgrade.

Note: If you use `zip` instead of `tar` for the backup, then create separate archives for Oracle base, home, inventory, and data directories.

Silent Upgrade Tasks

A silent upgrade has no graphical output and no input by the user. To perform a silent upgrade, you provide Oracle Universal Installer with a response file and specify the `-silent` flag on the command line. Response files are located in the `/response` directory of the Oracle SES 11.1.2.2 software distribution. You must edit the response file according to your upgrade requirements.

To use a response file

1. Go to the `/response` directory present in the Oracle SES 11.1.2.2 software distribution.
2. Copy the `upgrade.rsp` file to your system hard drive. For example:

```
cp upgrade.rsp /private/ses/response/upgrade.rsp
```

3. Using any text editor, replace each variable in the response file with the value specific to your system. The variables are clearly marked with the text `<Value Required>`. Each variable has an associated comment that identifies the variable type. For example:

```
string = "Sample Value"
Boolean = True or False
Number = 1000
StringList = {"StringValue 1", "String Value 2"}
```

Be sure to delete the comments before starting the silent upgrade.

4. Go to the installation directory.
5. Run Oracle Universal Installer with the following command:

```
./runInstaller -silent -responseFile absolute_path_and_filename
```

Caution: During upgrade, response files may be copied to the subdirectories in the Oracle home directory. If you provided passwords or other sensitive information in your response files, then delete any copies of the response files that remain in your file system.

Postupgrade Tasks

This section describes the procedures that must be performed after the upgrade process completes.

This section contains the following topics:

- [Running Postupgrade Migration Scripts](#)
- [Restoring JOB_QUEUE_PROCESSES](#)
- [Updating Configure Search Results List for CSS and XSLT \(Optional\)](#)
- [Configuring Secure Sockets Layer for Oracle SES \(Optional\)](#)
- [Configuring Oracle Single Sign-On for Oracle SES \(Optional\)](#)
- [Configuring Oracle SES Portlet \(Optional\)](#)
- [Updating Configure Search Results List for CSS and XSLT \(Optional\)](#)
- [Migrating to Secure Cache](#)
- [Removing the Oracle SES 10.1.8.4/11.1.2.0 Home](#)

Important:

- The scripts `enable_SES1112_improve.sql` (for 10.1.8.4 to 11.1.2.2 upgrade path) and `SES_11122_post_upgrade.sql` (for 11.1.2.0 to 11.1.2.2 upgrade path) must be executed immediately after the Oracle SES upgrade is completed. Do not start a crawl or an optimization before the execution of these scripts completes.
 - The **Data Storage Location** specified in Oracle SES installation is shared by the previous Oracle SES release from which you are upgrading. For example, the 10.1.8.4/11.1.2.0 and 11.1.2.2 releases of Oracle SES use the same data storage area. If this data storage directory is *inside* the release 10.1.8.4/11.1.2.0 Oracle home, then be very careful *not to remove* this directory after upgrading to release 11.1.2.2.
 - If index migration is interrupted and fails to complete, then Searchable Content Stats will be inaccurate. Failed or abandoned attempts to migrate an index and its data will result in inaccurate reporting about what is available for search in the Oracle SES instance. In this case, this is expected behavior until a proper cleanup is performed with `eq_idx_mig.cleanup`. See *Oracle Secure Enterprise Search Administrator's Guide* for procedures.
-
-

Running Postupgrade Migration Scripts

Oracle SES release 11.1.2.2 introduces new features over Oracle SES 10.1.8.4/11.1.2.0 that provide search performance improvements. These features are incorporated automatically in fresh installations of Oracle SES 11.1.2.2. To incorporate these features in Oracle SES 11.1.2.2 after upgrading from Oracle SES 10.1.8.4/11.1.2.0, you must run the following scripts in SQL*Plus as the EQSYS user.

Important: Before running the postupgrade migration scripts, ensure that the `JOB_QUEUE_PROCESSES` parameter is set to 0, as described in ["Setting JOB_QUEUE_PROCESSES To Zero"](#) on page 27. After the completion of running these scripts, set `JOB_QUEUE_PROCESSES` to the original value, as described in ["Restoring JOB_QUEUE_PROCESSES"](#) on page 33.

- **For 10.1.8.4 to 11.1.2.2 upgrade path** (Mandatory script)

enable_SES1112_improve.sql

Run this script after upgrading from Oracle SES 10.1.8.4 to Oracle SES 11.1.2.2.

Script location:

`$ORACLE_HOME/search/admin/scripts/enable_SES1112_improve.sql`

See the section ["enable_SES1112_improve.sql"](#) on page 32 for more information.

- **For 11.1.2.0 to 11.1.2.2 upgrade path** (Mandatory script)

SES_11122_post_upgrade.sql

Run this script after upgrading from Oracle SES 11.1.2.0 to Oracle SES 11.1.2.2.

Script location:

`$ORACLE_HOME/search/admin/scripts/SES_11122_post_upgrade.sql`

- **For both the upgrade paths** (Optional script)

enable_Japanese_bigram.sql

Run this script after upgrading from Oracle SES 10.1.8.4/11.1.2.0 to Oracle SES 11.1.2.2. This script activates search performance enhancements for Japanese text. Running this script is optional, that is, run this script only if your Oracle SES instance includes Japanese text, or if you anticipate future searches of Japanese text.

Script location:

`$ORACLE_HOME/search/admin/scripts/enable_Japanese_bigram.sql`

See ["enable_Japanese_bigram.sql"](#) on page 33 for more information.

enable_SES1112_improve.sql This script rebuild the index structures to support performance improvement features in Oracle SES 11.1.2.2 and implements a change to the internal text index structure, which improves query performance especially for custom attribute search.

This script may take several hours to run, depending on the size of the index, number of documents to be indexed, and the number of custom attributes. This script generates log files `enable_bigio.log` and `zone_to_field.log` in the `$ORACLE_HOME/ctx/log` directory. First, `enable_bigio.log` is generated, and then `zone_to_field.log` is generated.

Important: The script `enable_SES1112_improve.sql` has significant disk space requirements. You may need to allocate additional tablespace before you run this script. This script will give you a warning message if there is not enough free space. At that point, you can cancel, allocate additional space, and rerun the script. If there is insufficient temporary tablespace, the script will display an error message. If this should occur, you should add a temp file to OES_TEMP tablespace and rerun the script. To add a temp file to OES_TEMP tablespace:

```
SQL>ALTER TABLESPACE OES_TEMP
      ADD TEMPFILE 'filePath/OES_TEMP_02.dbf' SIZE 10M
      AUTOEXTEND ON;
```

For `filePath`, specify the path to `OES_TEMP_01.dbf`. You can find this path with the following query:

```
SQL> SELECT file_name FROM dba_temp_files
      WHERE tablespace_name = 'OES_TEMP';
```

enable_Japanese_bigram.sql This script enables bi-gram token generation for Japanese text. Bi-gram lexing improves the performance of Japanese document indexing. If there is no Japanese text in your Oracle SES instance, or if cache files are not preserved, the script updates index metadata to use the bi-gram lexer for future Japanese indexing.

The script checks if all the cached files exist for crawled Japanese documents. If there are missing files, a warning message is displayed with the number of missing cached files. If you choose to proceed, the script will re-index the cached files only. You cannot search Japanese documents while this script is running.

Important: The `enable_Japanese_bigram.sql` script will re-index Japanese documents *only if* cache files are preserved. Before running this script, you should ensure that cache files exist for all crawled Japanese documents and that the "clear cached files after indexing" crawling option is disabled. If cache files are not preserved and there are Japanese documents in your Oracle SES instance, you must run a full recrawl after the script completes. Otherwise Japanese search will not work. The script will list all the data sources that need a full crawl. Run a full crawl for these data sources. At the end of the script, you may be advised to check the `CTXSYS.CTX_INDEX_ERRORS` view to see if indexing encountered any errors. If some of your documents do not have cached files, then indexing raises **ORA-2288** and the error is logged in the view. However, you can ignore the error because these data sources need to be crawled again.

Restoring JOB_QUEUE_PROCESSES

To prepare for the upgrade process, the `JOB_QUEUE_PROCESSES` parameter was set to 0 before the upgrade. After you run the migration scripts, as described in "[Running Postupgrade Migration Scripts](#)" on page 31, you must restore the original value of the `JOB_QUEUE_PROCESSES` parameter. (You will need the original value of this

parameter that existed before the preupgrade steps in order to complete this procedure.)

To reset the `JOB_QUEUE_PROCESSES` parameter

1. Start SQL*Plus and connect as the EQSYS user.
2. Execute the following SQL statement, and specify the original value of `JOB_QUEUE_PROCESSES` for *n*.

```
SQL> ALTER SYSTEM SET job_queue_processes=n scope=both;
```

Note: If you do not restore `JOB_QUEUE_PROCESSES` after running the postupgrade scripts, crawling and optimization will fail.

Updating Configure Search Results List for CSS and XSLT (Optional)

This section describes how to modify your custom CSS and XSLT if you made changes in Oracle SES 10.1.8.4/11.1.2.0, or you want to enable advanced result configuration in Oracle SES 11.1.2.2.

In the **Configure Search Results List** section in the **Advanced Configuration** under **Global Settings**, the default CSS now includes the CSS classname `ses-results-list` at the beginning of each selector.

Note that in the following examples, the dot (.) before a name denotes a class selector in CSS. You will have to prepend the class `ses-results-list` to the beginning of each selector.

For example, if a CSS rule uses two selectors in Oracle SES 10.1.8.4/11.1.2.0 as in this example:

```
.infoSrcGroup,  
.infoSrcPath  
{  
    font-size: 12pt;  
}
```

then, in Oracle SES 11.1.2.2, each selector should have `.ses-results-list` prepended as follows:

```
.ses-results-list .infoSrcGroup,  
.ses-results-list .infoSrcPath  
{  
    font-size: 12pt;  
}
```

In addition, the default XSLT has been slightly modified in this release. The previous default XSLT content contained the following section:

```
<!-- Links link -->  
<a class="cacheUrl" href="{eqlinksurl}">  
    <xsl:call-template name="translate">  
        <xsl:with-param name="strKey" select="'LINKS'" />  
    </xsl:call-template>  
</a>
```

The new XSLT corrects the `class` attribute value, resulting in the following section:

```
<!-- Links link -->  
<a class="linksUrl" href="{eqlinksurl}">
```

```
<xsl:call-template name="translate">
  <xsl:with-param name="strKey" select="'LINKS'" />
</xsl:call-template>
</a>
```

Configuring Secure Sockets Layer for Oracle SES (Optional)

When Oracle SES is fronted by an Oracle HTTP Server, Oracle recommends that Oracle SES be configured to require Secure Sockets Layer (SSL) with client-side authentication for communication with the Oracle HTTP Server. If you have configured SSL for Oracle SES release 10.1.8.4/11.1.2.0, then you must manually reconfigure SSL for Oracle SES 11.1.2.2. You configure SSL through the admin console in WebLogic. The steps for configuring SSL are described in *Oracle Secure Enterprise Search Administrator's Guide*.

See Also: "SSL and HTTPS Support in Oracle Secure Enterprise Search" in *Oracle Secure Enterprise Search Administrator's Guide*

Configuring Oracle Single Sign-On for Oracle SES (Optional)

If you configured Oracle Single Sign-On (SSO) for Oracle SES release 10.1.8.4/11.1.2.0, then you must upgrade SSO before upgrading to Oracle SES 11.1.2.2, as described in "[Upgrading Oracle Single Sign-On Server \(Optional\)](#)" on page 28.

After upgrading, you must manually reconfigure SSO for Oracle SES 11.1.2.2. You configure SSO through the admin console in WebLogic. The steps for configuring SSO are described in *Oracle Secure Enterprise Search Administrator's Guide*.

See Also: "Configuring Secure Search with OracleAS Single Sign-On" in *Oracle Secure Enterprise Search Administrator's Guide*

Configuring Oracle SES Portlet (Optional)

If you configured a portlet on an Oracle SES release 10.1.8.4/11.1.2.0 instance that was registered and working with Oracle Application Server Portal (OracleAS Portal), then upgrade OracleAS Portal, as described in "[Upgrade OracleAS Portal Server \(Optional\)](#)" on page 27. After the upgrade, follow the configuration steps, which are described in "Configuring an OracleAS Portal for a Secure Portlet" in *Oracle Secure Enterprise Search Administrator's Guide*.

Migrating to Secure Cache

This applies to upgrade from Oracle SES release 10g (10.1.8.4) to Oracle SES release 11g (11.1.2.2). In Oracle SES release 10g, the document cache is stored in plain text in disk files managed by the operating system. In Oracle SES release 11g, the cache files are stored as LOBs within Oracle Database in the Secure Cache storage area. (One exception is the Mailing List data source, which still uses storage managed by the operating system.)

Important: The Mailing List data source uses storage on the operating system. Therefore, all new Mailing List sources must use the same cache location as the default parent Mailing List source.

The default location of the Secure Cache is the OES_ASSM2 tablespace. When you upgrade to Oracle SES 11g (11.1.2.2), the cache files for data sources created in Oracle SES 10g are *not* automatically migrated to the Secure Cache. Oracle SES continues to

store the cache for earlier data sources within the file system, but uses the Secure Cache for all new data sources. To migrate Oracle SES 10g data sources to the Secure Cache, you must run several migration routines. The migration process works on one data source at a time. During migration, crawling operations are suspended, but query services are uninterrupted. When migration is complete, the cache files for the data source are deleted from the file system.

To migrate to Secure Cache

1. You can use the `GET_CACHE_LOCATION` function to determine which data sources are cached in the file system and which are cached in the database Secure Cache. The function returns the cache location for a given data source. Supply the numeric identifier of the data source as an argument.

```
return_value := EQ_CACHE.GET_CACHE_LOCATION(dsid)
```

The return values of `EQ_CACHE.GET_CACHE_LOCATION` are:

Return Value (VARCHAR2)	Description
OS	The cache for this data source is in the file system.
DB	The cache for this data source is in the database Secure Cache.

2. Execute the `EQ_CACHE.PREPARE_MIGRATION` procedure to set up a migration status tracking table. This procedure must be called once for all cache migrations. You can query the migration status table to find the status of cache migration. The migration status table is described in [Table 1, "EQ\\$CACHE_MIGRATION Migration Status Table"](#) on page 37 in this document.
3. Stop the schedule for the data source you want to migrate.
4. Execute the `MIGRATE_TO_SECURE_CACHE` function to migrate a data source. Supply the numeric identifier of the data source as an argument.

```
return_value := EQ_CACHE.MIGRATE_TO_SECURE_CACHE (dsid)
```

The return values of `EQ_CACHE.MIGRATE_TO_SECURE_CACHE` are:

Return Value (NUMBER)	Description
0	The migration was successful.
1	This data source has already been migrated. No action is taken.
2	The schedule is running for this data source. No action is taken.

5. Repeat steps 3 and 4 for each data source that was created before you upgraded to this release of Oracle SES.
6. When all data sources have been migrated, run the `CLEANUP_MIGRATION` procedure to drop the status tracking table for cache migration.

The Migration Status Table The `EQ_CACHE.PREPARE_MIGRATION` procedure creates a table called `eq$cache_migration`, which contains status information about the migration process. The columns of the table are described in [Table 1](#).

Table 1 EQ\$CACHE_MIGRATION Migration Status Table

Column Name	Data Type	NULL?	Description
mig_id	NUMBER	NOT NULL	Migration sequence number
ds_id	NUMBER	NOT NULL	Data source ID
task_id	NUMBER		Task ID
task_desc	VARCHAR2(100)		Description of the task
status	VARCHAR2(30)		Status of the task
check_point	VARCHAR(50)		Checkpoint within a task. Default is NULL
error	VARCHAR2(1000)		Error message. Default is NULL
time_stamp	DATE		Timestamp of the record

Example 1 Migrate a Data Source to Secure Cache

Start SQL*Plus and connect as the EQSYS user. Execute the following SQL statements.

```
SQL> exec eq_adm.use_instance(1);

SET SERVEROUTPUT ON;
DECLARE
  status NUMBER;
  dsid NUMBER := 9;
BEGIN
  EQ_CACHE.PREPARE_MIGRATION;
  status := EQ_CACHE.MIGRATE_TO_SECURE_CACHE (dsid);
  DBMS_OUTPUT.PUT_LINE('migration returned with status '||status);
  EQ_CACHE.CLEANUP_MIGRATION;
END;
/
```

Removing the Oracle SES 10.1.8.4/11.1.2.0 Home

After you have verified that the upgraded Oracle SES release 11.1.2.2 instance is working, you may remove the Oracle SES release 10.1.8.4/11.1.2.0 home.

To remove the Oracle SES 10.1.8.4/11.1.2.0 home

- If `oradata` is not within the Oracle SES 10.1.8.4/11.1.2.0 home:
 1. Go to the Oracle SES 11.1.2.2 home and shut down the Oracle SES instance (to facilitate the execution of the deinstallation script).
 2. Go to the Oracle SES 10.1.8.4/11.1.2.0 home and run the `deinstall_ses` script in the `install` directory.

Important: For the upgrade from Oracle SES 11.1.2.0 to Oracle SES 11.1.2.2, do not manually remove the Oracle SES 11.1.2.0 directories `admin` and `flash_recovery_area` after running the `deinstall_ses` script.

- If `oradata` is within the Oracle SES 10.1.8.4/11.1.2.0 home:
 1. Go to the Oracle SES 10.1.8.4/11.1.2.0 home and enter this command from the `oui/bin` directory:

```
runInstaller -detachHome ORACLE_HOME=your_SES_10.1.8.4/11.1.2.0_ORACLE_Home
```

2. Run an operating system command to remove all the directories from the Oracle SES 10.1.8.4/11.1.2.0 home *except* the path that holds oradata.

Important: If oradata is located in the Oracle SES 10.1.8.4/11.1.2.0 home, then you should not remove the 10.1.8.4/11.1.2.0 home. Even after upgrade, the location of oradata does not change. Additionally, do not remove the Oracle SES 11.1.2.0 directories `admin` and `flash_recovery_area` after upgrading to Oracle SES 11.1.2.2.

Starting and Stopping Oracle Secure Enterprise Search

The command for starting and stopping the search engine in Oracle SES is `searchctl`. The executable is located in the `$ORACLE_HOME/bin` directory:

```
$ORACLE_HOME/bin/searchctl
```

The command syntax is as follows.

Command	Description
<code>searchctl start</code>	Start the Oracle SES middle tier
<code>searchctl startall</code>	Start the Oracle SES middle tier and the database
<code>searchctl stop</code>	Shut down the Oracle SES middle tier
<code>searchctl stopall</code>	Shut down the Oracle SES middle tier and the database
<code>searchctl restart</code>	Restart the Oracle SES middle tier
<code>searchctl restartall</code>	Restart the Oracle SES middle tier and the database

On Linux and UNIX platforms, you must supply the Oracle SES administrative password when running `searchctl` commands. If you have shut down both the database and the middle tier with the `searchctl stopall` command, then to successfully start them both, run `searchctl startall`. If the Middle Tier Port is less than 1024, then the following commands must be run by the root user:

- `searchctl start/stop`
- `searchctl startall`
- `searchctl stopall`
- `searchctl restartall`

Note: The root user must belong to the DBA group to properly run the `searchctl startall/stopall/restartall` command.

Deprecated Connectors

The following connectors are deprecated in this release, so that maintenance will be provided only when issues are raised by existing customers. No active development, testing, or certification will be provided for any of these connectors.

- FileNet Image Server

- FileNet P8 Content Engine
- Open Text LiveLink Enterprise Server
- Hummingbird DM
- IBM DB2 Content Management

What To Do Next

To become familiar with Oracle Secure Enterprise Search, Oracle suggests that you complete the following tasks:

- Follow the Oracle Secure Enterprise Search tutorial at:
<http://st-curriculum.oracle.com/tutorial/SESAdminTutorial/index.htm>
- Log on to the Oracle SES administration tool using the user name and password set in the installation. Click the **Help** link in the top right corner of any page in the administration tool for context-sensitive help. With the administration tool, you can:
 - Define sources to search
 - Configure and schedule the crawling of the sources
 - Monitor the status and performance of crawling and search
- In a production environment, where a load balancer or other monitoring tools are used, Oracle SES can also be monitored through the following URL:
<http://host:port/monitor/check.jsp>. The URL should return the following message: **Oracle Secure Enterprise Search instance is up**. If Oracle Secure Enterprise Search is not available, then the URL returns either a connection error or the HTTP error code 503.

Additional Resources

To download free release notes, installation documentation, white papers, or other collateral, visit Oracle Technology Network (OTN). You must register online before using OTN. Registration for OTN is free and can be done at

<http://www.oracle.com/technetwork/community/join/index.html>

If you already have a user name and password for OTN, then you can go directly to the documentation section of OTN at

<http://www.oracle.com/technetwork/indexes/documentation/index.html>

Oracle Support Services

If you purchased Oracle Product Support, you can call Oracle Support Services for assistance. Oracle Support Services include phone assistance, version updates, and access to our service offerings. You have access to phone support 24 hours a day, 7 days a week. In the U.S.A., you can call Product Support at **1-800-223-1711**.

Make sure you have your CSI (CPU Support Identifier) number ready when you call. Keep the CSI number for your records, because it is your key to Oracle Support Services. The Oracle Store sends the CSI number to you in an e-mail alert when it processes your order. If you do not have your CSI number and you are in the U.S.A.,

you can look up your CSI number by accessing our online Order Tracker, which provides detailed order information. Go to the Oracle Store and click on Order Tracker located above the top navigation bar.

For Oracle Support Services locations outside the U.S.A., call your local support center for information about how to access support. To find the local support center in your country, visit the Support Web Center at

<http://www.oracle.com/support>

At the Support Web Center you will find information on Oracle Support Services, such as:

- Contact information
- Instructions on how to access electronic services
- Helpful Web sites
- Support resources
- Oracle Support Portfolio
- Oracle Support Services news

With Oracle Product Support, you have round-the-clock access to My Oracle Support (formerly Oracle*MetaLink*), the Oracle Support Services Premier Web Support offering. My Oracle Support (formerly Oracle*MetaLink*) offers you access to installation assistance, product documentation, and a technical solution knowledge base.

It has technical forums, where you can post questions about your Oracle products and receive answers from Oracle Technical Support Analysts and other Oracle users. The questions and answers remain posted for the benefit of all users.

My Oracle Support (formerly Oracle*MetaLink*) options include:

- Service Request (SR) access
- Patch downloads
- Bug database query access
- Product life-cycle information

You can access My Oracle Support (formerly Oracle*MetaLink*) at

<http://support.oracle.com>

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at

<http://www.oracle.com/us/corporate/accessibility/index.html>.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/support/contact.html> or visit <http://www.oracle.com/accessibility/support.html> if you are hearing impaired.

Copyright © 2006, 2011, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable:

U.S. GOVERNMENT RIGHTS Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle America, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark licensed through X/Open Company, Ltd.

This software or hardware and documentation may provide access to or information on content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

