

Oracle® Secure Enterprise Search

Quick Installation Guide

10g Release 1 (10.1.6) for Solaris Operating System (SPARC 64-Bit)

B28688-03

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This document describes how to install Oracle Secure Enterprise Search (SES). It includes the following sections:

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System Requirements

Following are the software requirements:

1. Oracle SES can be installed on one of the following operating system versions:
 - Solaris 8, 64-bit
 - Solaris 9, 64-bit
 - Solaris 10, 64-bit
2. The following packages must be installed:
 - SUNWarc
 - SUNWbtool
 - SUNWhea
 - SUNWlibm
 - SUNWlibms
 - SUNWsprot
 - SUNWsprox
 - SUNWtoo
 - SUNWi1of
 - SUNWi1cs
 - SUNWi15cs
 - SUNWxwft
3. The following patches must be installed:

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- Patches for Solaris 8:

All of the patches included in the J2SE Patch Cluster for Solaris 8:

- 108528-23, SunOS 5.8: kernel update patch
- 108652-66, X11 6.4.1: Xsun patch
- 108773-18, SunOS 5.8: IIIM and X I/O Method patch
- 108921-16, CDE 1.4: dtwm patch
- 108940-53, Motif 1.2.7 and 2.1.1: Runtime lib. patch for Solaris 8
- 108987-13, SunOS 5.8: Patch for patchadd and patchrm
- 108989-02, /usr/kernel/sys/acctctl & /.../exacsys patch
- 108993-18, SunOS 5.8: LDAP2 client, libc, libthread ... lib. patch
- 109147-24, SunOS 5.8: linker patch
- 110386-03, SunOS 5.8: RBAC Feature Patch
- 111023-02, SunOS 5.8: /kernel/fs/mntfs and ... sparcv9/mntfs
- 111111-03, SunOS 5.8: /usr/bin/nawk patch
- 111308-03, SunOS 5.8: /usr/lib/libmtmalloc.so.1 patch
- 111310-01, SunOS 5.8: /usr/lib/libdhcagent.so.1.patch
- 112396-02, SunOS 5.8: /usr/bin/fgrep patch

The following additional patches:

- 111721-04, SunOS 5.8: Math Library (libm) patch
- 112003-03, SunOS 5.8: Unable to load fontset in 64-bit Solaris 8 iso-1 or iso-15
- 112138-01, SunOS 5.8: usr/bin/domainname patch

- Patches for Solaris 9:

- 112233-11: SunOS 5.9: Kernel Patch
- 111722-04: SunOS 5.9: Math Library (libm) patch

To ensure that the system meets these requirements, perform the following steps:

1. To determine which version of Solaris is installed, enter the following command:

```
# uname -r
5.8
```

2. To determine whether the required packages are installed, enter a command similar to the following:

```
# pkginfo -i SUNWarc SUNWbtool SUNWhea SUNWlibm SUNWlibms \
SUNWsprot SUNWsprox SUNWtoo SUNWilof SUNWilcs SUNWl15cs SUNWxwfnt
```

3. To determine whether an operating system patch is installed, enter a command similar to the following:

```
# /usr/sbin/patchadd -p | grep patch_number
```

If an operating system patch is not installed, then download it from the following Web site and install it:

<http://sunsolve.sun.com>

Oracle SES requires a minimum of 2 GB of disk space. This includes 1 GB to install and approximately 500 MB to create the initial Oracle SES index.

Additional Oracle SES requirements are based on the amount of data that you need to search. Here are some configuration examples:

To index 100,000 documents:

- 4 GB disk space
- 1 GB RAM

The system must meet the following minimum hardware requirements:

- 512 MB of physical RAM
- 1 GB of swap space (or twice the size of RAM)

On systems with 2 GB or more of RAM, the swap space can be between one and two times the size of RAM.

- 400 MB of disk space in the /tmp directory
- Between 1.5 GB and 3 GB of disk space for the Oracle software, depending on the installation type and platform.

To ensure that the system meets these requirements, perform the following steps:

1. To determine the physical RAM size, enter the following command:

```
# /usr/sbin/prtconf | grep "Memory size"
```

If the size of the physical RAM installed in the system is less than 512 MB, you must install more memory before continuing.

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

```
# /usr/sbin/swap -s
```

3. To determine the amount of free disk space available in the /tmp directory, enter the following command:

```
# df -k /tmp
```

4. To determine the amount of free disk on the system, enter the following command:

```
# df -k
```

To index 1,000,000 documents:

- 20 GB disk space
- 6 GB RAM

For installation help, including pre-installation tips, see the Oracle SES tutorial:

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

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

- Firefox 1.0, 1.0.1, 1.0.6, 1.0.7, 1.5
 - Internet Explorer 6.0
 - Netscape 7.1, 7.2
 - Mozilla 1.7.3
-
-

Configuring Kernel Parameters

Verify that the following kernel parameters are set to values greater than or equal to the recommended value shown:

Parameter	Recommended Value
noexec_user_stack	1
semsys:seminfo_semmni	100
semsys:seminfo_semmns	1024
semsys:seminfo_semmsl	256
semsys:seminfo_semvmx	32767
shmsys:shminfo_shmmax	4294967296
shmsys:shminfo_shmmin	1
shmsys:shminfo_shmmni	100
shmsys:shminfo_shmseg	10

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

The following parameters are obsolete in Solaris 9:

- shmsys:shminfo_shmmin
 - shmsys:shminfo_shmseg
-
-

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

1. To view the current values of these parameters, enter the following commands:

```
# grep noexec_user_stack /etc/system
# /usr/sbin/sysdef | grep SEM
# /usr/sbin/sysdef | grep SHM
```

2. If you must change any of the current values, follow these steps:

- a. Create a backup copy of the `/etc/system` file, by using a command similar to the following:

```
# cp /etc/system /etc/system.orig
```

- b. Open the `/etc/system` file in any text editor, and if required, add lines similar to the following (edit the lines if the file already contains them):

```
set noexec_user_stack=1
set semsys:seminfo_semuni=100
set semsys:seminfo_semmns=1024
set semsys:seminfo_semmsl=256
set semsys:seminfo_semvms=32767
set shmsys:shminfo_shmmax=4294967296
set shmsys:shminfo_shmmni=1
set shmsys:shminfo_shmuni=100
set shmsys:shminfo_shmseg=10
```

- c. Enter a command similar to the following to reboot the system:

```
# /usr/sbin/reboot
```

- d. When the system restarts, log in and switch user to root.

Installing on a Port Number Less Than 1024

Oracle SES must be installed by a non-root user. On UNIX platforms, only root users can bind to ports less than 1024. To install Oracle SES on a port number less than 1024, follow these steps:

1. During installation, specify the port (for example, 80).
2. After the installation is complete, log in as the root user.
3. Run the following commands:

```
chgrp -R root $ORACLE_HOME/jdk
$ORACLE_HOME/bin/searchctl start
```

Note:

- The `searchctl start` command must be run by a root user. However, the `searchctl stop` command can be run by either a root user or the user who installed Oracle SES.
 - `$ORACLE_HOME` represents the directory where Oracle SES was installed.
-
-

If your installation completes on a port greater than 1024 and you want to change to a port less than 1024, then take the following steps:

1. Shutdown the middle tier with the following command:

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

2. Edit the value for the port attribute in `$ORACLE_HOME/oc4j/j2ee/OC4J_SEARCH/config/http-web-site.xml`. (Ensure that the new port is not already in use.)
3. Log in as the root user.
4. Run the following commands:

```
chgrp -R root $ORACLE_HOME/jdk
```

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

Installing Oracle Secure Enterprise Search

For easy instructions on installing Oracle SES, see the Installation Tips tutorial:

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

In the following instructions, the disc mount point is referred to as `/SD_CDROM`. If your mount point is different, then substitute the correct mount point name for all references to `/SD_CDROM`.

To start the installer:

1. Ensure that you have checked all the minimum requirements, as described in "[System Requirements](#)".
2. Log in to the computer as the user who will install Oracle SES.
3. Insert the Oracle Secure Enterprise Search CD-ROM.
4. If your computer does not have automount, then see "[Mounting the CD-ROM](#)" for steps on mounting the CD-ROM manually.
5. Start up the installer:

```
prompt> cd
prompt> /SD_CDROM/runInstaller
```

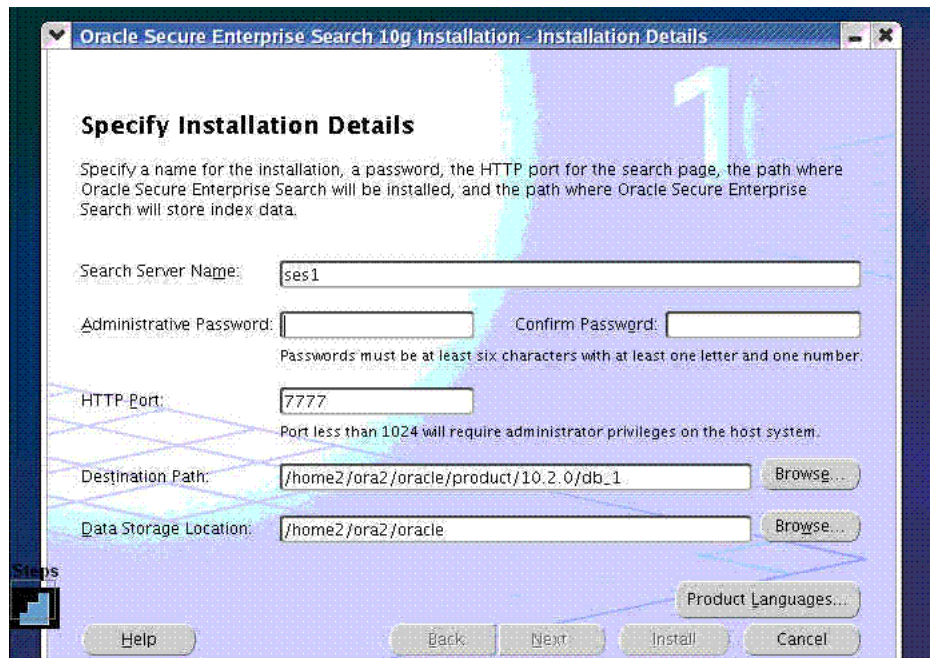
This launches Oracle Universal Installer.

Note: Do not run the installer from the mount point directory. The `cd` command changes your current directory to your home directory, so you do not start the installer from the mount point.

In the Oracle Universal Installer, the only value that you must specify is the administrative password. The remaining values are set to a default, but they can be overridden. Following is the list of the installation parameters:

- **Search Server Name:** Name for your search server.
- **Administrative Password:** The password that you will later use to log on to the administration tool.
- **HTTP Port:** The port on which the Oracle SES middle tier will listen. For example, if you installed Oracle SES on host `myhost.oracle.com` and you specify port 7890, then your search page URL will be `http://myhost.oracle.com:7890/search/query/search`.
- **Destination Path:** The location where Oracle SES software is installed
- **Data Storage Location:** The location where Oracle SES will store its data.

The following screenshot shows the Oracle Universal Installer screen.



Installation Warning only on Solaris 10

During installation on Solaris 10, the following warning message is displayed:

SUNWsprx package not installed

This message can be ignored. Press **Continue** to resume the installation.

Mounting the CD-ROM

Follow these steps if your computer does not automount the CD-ROM:

1. Insert the CD-ROM.
2. Log in as the root user:

```
prompt> su
Password:
```

3. Create the CD-ROM mount point directory:

```
# /bin/mkdir -p /media/cdrom
```

4. Mount the CD-ROM drive on the mount point directory:

```
# /usr/sbin/mount -r -F hsfs /dev/dsk/cxydzs2 /media/cdrom
```

In the preceding example, /media/cdrom is the disc mount point directory and /dev/dsk/cxydzs2 is the device name for the CD-ROM device.

5. Log out from the root user.

```
# exit
```

Removing Oracle Secure Enterprise Search

To remove Oracle SES, run `$ORACLE_HOME/install/deinstall_ses` as the user who installed Oracle SES.

Note: If the Oracle SES instance was bound to a port less than 1024 and the middle tier ran as root user, then after removal there could be files left under `$ORACLE_HOME`. After the removal completes, log in as the root user and delete those files.

Restarting Oracle Secure Enterprise Search

The tool for starting and stopping the search engine is `searchctl`. To restart Oracle SES after rebooting, navigate to the `$ORACLE_HOME/bin` directory where Oracle SES is installed and run `searchctl startall`.

For detailed steps, see the Startup / Shutdown lesson in the Oracle SES tutorial:

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

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:
<http://st-curriculum.oracle.com/tutorial/SESAdminTutorial/index.htm>
- Log in to the Oracle SES administration tool, using the user name and password set in the installation. 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.

Click the **Help** link in the top right corner of any page in the administration tool for context-sensitive help.

- Read the *Oracle Secure Enterprise Search Administrator's Guide*.
- In a production environment, where a load balancer or other monitoring tools are used to ensure system availability, Oracle SES can also be easily 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.**

Note: This message is not translated to other languages, because system monitoring tools may need to byte-compare this string.

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 is free and can be done at

<http://www.oracle.com/technology/membership/>

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/technology/documentation>

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