

Oracle® Secure Enterprise Search

Quick Installation Guide

10g Release 1 (10.1.6) for HP-UX PA-RISC (64-Bit)

B28816-01

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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:
 - HP-UX 11.11
 - HP-UX 11.23
2. The following patches must be installed:
 - For HP-UX 11.11:
 - PHCO_28123: cumulative SAM patch
 - PHKL_29198: Psets Enablement Patch; top(1)
 - PHNE_28476: Cumulative STREAMS Patch
 - PHNE_28923: LAN product cumulative patch
 - PHSS_28871: ld(1) and linker tools cumulative patch
 - PHSS_28880: HP aC++ -AA runtime libraries (aCC A.03.50)
 - PHCO_26331: mountall cumulative patch, Dev IDs enabler
 - PHCO_29109: Pthread enhancement and fixes
 - PHKL_25468: eventport (/dev/poll) pseudo driver

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- PHKL_25842: Thread Abort
- PHKL_25993: thread nstop for NFS, rlimit, Ufalloc fix
- PHKL_25994: Thread NOSTOP, Psets Enablement, Ufalloc
- PHKL_25995: ufalloc;VxFS3.5;SPP fragmentation
- PHKL_26468: Shared synchronization performance support
- PHKL_28489: copyin EFAULT, LDCD access type
- For HP-UX 11.23:
 - PHNE_30580 (HMP)
 - PHSS_31072
 - PHSS_30771
 - PHSS_30795
 - PHCO_31820
 - PHSS_31849
 - PHSS_31852

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

1. To determine the version of HP-UX installed, enter the following command:

```
# uname -a
HP-UX hostname B.11.11 U 9000/800 109444686 unlimited-user license
```

In this example, the version of HP-UX 11i is 11.11.

2. To determine whether the HP-UX 11i Quality Pack is installed, enter the following command:

```
# /usr/sbin/swlist -l bundle | grep GOLD
```

If the Quality Pack is not installed, or if the date is before June 2003, download the latest Quality Pack from the following URL and install it:

http://www.software.hp.com/SUPPORT_PLUS/qpk.html

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

```
# /usr/sbin/swlist -l patch | grep PHSS_28880
```

Alternatively, to list all installed patches, enter the following command:

```
# /usr/sbin/swlist -l patch | more
```

If a required patch is not installed, download it from the following URL and install it:

<http://itresourcecenter.hp.com>

Oracle SES requires a minimum of 3 GB of disk space. This includes 2 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
- 64-Bit system architecture

To ensure that the system meets these requirements, follow these steps:

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

```
# /usr/sbin/dmefg | grep "Physical:"
```

If the size of the physical RAM installed in the system is less than 256 MB, you must install more memory before continuing.

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

```
# /usr/sbin/swapinfo -a
```

If necessary, see your operating system documentation for information about how to configure additional swap space.

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

```
# bdf /tmp
```

If there is less than 400 MB of disk space available in the /tmp directory, complete one of the following steps:

- Delete unnecessary files from the /tmp directory to achieve the required disk space.
- Set the TEMP and TMPDIR environment variables when setting the oracle user's environment (described later).
- Extend the file system that contains the /tmp directory. If necessary, contact your system administrator for information about extending file systems.

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

```
# bdf
```

This command displays the disk space usage on all mounted file systems. To complete the installation, identify a file system with sufficient disk space.

5. To determine whether the system architecture is 64-bit, enter the following command:

```
# /bin/getconf KERNEL_BITS
```

This command should return the following output. If you do not see the expected output, you cannot install the software on this system.

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 either to the formula shown, or to values greater than or equal to the recommended value shown:

Parameter	Recommended Formula or Value
ksi_alloc_max	(nproc*8)
max_thread_proc	256
maxdsiz	1073741824 (1 GB)
maxdsiz_64bit	2147483648 (2 GB)
maxssiz	134217728 (128 MB)
maxssiz_64bit	1073741824 (1 GB)
maxswapchunks	16384
maxuprc	((nproc*9)/10)
msgmap	(2+msgmni)
msgmni	4096
msgseg	32767
msgtql	4096
ncsize	(ninode+vx_ncsize)
nfile	(15*nproc+2048)
nflocks	4096
ninode	(8*nproc+2048)
nkthread	((nproc*7)/4)+16
nproc	4096

Parameter	Recommended Formula or Value
semmap	(semmni+2)
semmni	4096
semmns	(semmni*2)
semmnu	(nproc-4)
semvmx	32767
shmmax	The size of physical memory (0X40000000) or 1073741824, whichever is greater.
shmmni	512
shmseg	120
vps_ceiling	64

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.

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

1. Optionally, set the DISPLAY environment variable to specify the display of the local system:

- Bourne, Bash, or Korn shell:

```
$ DISPLAY=local_host:0.0 ; export DISPLAY
```

- C shell:

```
% setenv DISPLAY local_host:0.0
```

2. Start System Administration Manager (SAM):

```
# /usr/sbin/sam
```

3. Choose the **Kernel Configuration** area, then choose the **Configurable Parameters** area.

4. Check the value or formula specified for each of these parameters and, if necessary, modify that value or formula.

If necessary, see the SAM online help for more information about completing this step.

5. Exit from SAM.

If you modified the value specified for any static parameter, you must rebuild the kernel and reboot the system.

6. If necessary, 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 DVD.

4. If your computer does not have automount, then see ["Mounting the DVD"](#) for steps on mounting the DVD manually.
5. Start up the installer:

```
prompt> cd  
prompt> /dvd/runInstaller
```

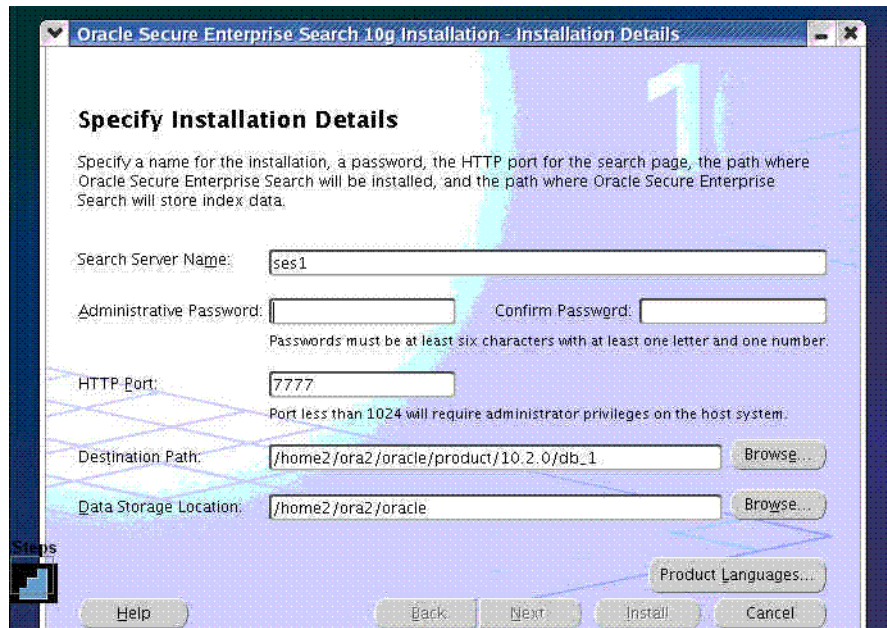
This launches Oracle Universal Installer.

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.



Mounting the DVD

Mount the first DVD of the appropriate installation to begin. Mount the subsequent disk or disks, if required. Follow these steps to mount the Oracle DVD manually:

1. Place the DVD in the DVD drive.
2. Log in as the root user and create a DVD mount point directory, if one does not already exist, by using the following commands:

```
$ su root
# /usr/bin/mkdir dvdrom_mount_point_directory
```

Note: Use the following command to determine the device name:

```
$ ioscan -fun -C disk
```

The output is similar to the following:

```
disk 10 10/12/5.2.0 sdisk CLAIMED DEVICE TOSHIBA DVD-ROM XM-5701TA
/dev/dsk/c0t6d0 /dev/rdsk/c0t6d0
```

If there is no entry in the `/etc/pfs_fstab` file for your DVD device, then you must add one. As the root user, use a system editor to add a line to the `/etc/pfs_fstab` file following this format:

```
device_file mount_point filesystem_type
```

In the preceding format, the first entry is the DVD device and the second entry indicates the mount point. The *device_file* in this example is `/dev/dsk/c0t6d0`. For a DVD device with the path `/dev/dsk/c0t6d0`, enter the following:

```
/dev/dsk/c0t6d0 /dvd pfs-rrip xlat=unix 1 0
```

3. Mount the DVD by entering the following command:

```
# /usr/sbin/mount -F cdfs -o rr /dev/dsk/cxdydz /dvd
```

In the preceding example, `/dvd` is the disc mount point directory and `/dev/dsk/cxdydz` is the device name for the disc device, for example `/dev/dsk/c0d6t0`.

4. Log out of the root account.

```
# exit
```

If you run Oracle Universal Installer while the current working directory is on the DVD, then follow these steps to mount the next DVD:

1. Change to the system root directory and log in as the root user:

```
$ cd /
$ su root
```

2. To unmount the DVD, use the following command:

```
# /usr/sbin/umount /dvd
```


3. Remove the DVD from the DVD drive.
4. If required, insert the required DVD in to the DVD drive and mount it using the following command:

```
# /usr/sbin/mount /dvd
```

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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Quick Reference

Resource	Contact Information or Web Site
<i>OracleMetaLink</i>	https://metalink.oracle.com
Purchase additional products, full-use licenses, version updates, and documentation in the U.S.A.	http://oraclestore.oracle.com
Access technical resources for developers	http://www.oracle.com/technology/index.html
Access information about technical support	http://www.oracle.com/support
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