Oracle® Secure Enterprise Search

Installation and Upgrade Guide

10*g* Release 1 (10.1.8) for HP-UX PA-RISC (64-Bit)

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

- Installing Oracle Secure Enterprise Search
- Upgrading Oracle Secure Enterprise Search
- Restarting Oracle Secure Enterprise Search
- What to Do Next?
- Additional Resources
- Documentation Accessibility

> **Note:** After installing Oracle SES, check to see if there is a patch set or critical patch update (CPU) available. 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 the Oracle Technology Network. Oracle SES 10.1.8 includes the October 2006 CPU for the underlying 10.1.0.5 database. If a later CPU is available, then install that. For more information about CPUs, see:
>
> `http://www.oracle.com/security/critical-patch-update.html`

Installing Oracle Secure Enterprise Search

This section contains the following topics:

- Pre-Installation Tasks
- Installation Tasks
- Silent Installation Tasks
- Post-Installation Tasks
- Uninstallation Tasks

Pre-Installation Tasks

Oracle SES can be installed on the following operating systems:

- HP-UX 11.11

- HP-UX 11.23

This section contains the following topics:

- General Requirements for Installing Oracle Software
- Checking the Software Requirements
- Checking the Hardware Requirements
- Configuring Kernel Parameters
- Installing on a Port Number Less Than 1024
- Changing the Oracle SES Middle Tier Port

General Requirements for Installing Oracle Software

The following sections describe the general requirements for installing Oracle software:

- Logging In to the System as `root`
- Required Operating System Group and User

Logging In to the System as *root*

Before you install Oracle software, you must complete several tasks as the `root` user. To log in as the `root` user, complete one of the following procedures:

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.

- If you are installing the software from an X Window System workstation or X terminal, then:

  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
     ```

  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 remote_host
     ```

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

     ```
     $ su - root
     ```

- If you are installing the software from a PC or other system with X server software installed, then:

Note: If required, refer to your X server documentation for more information about completing this procedure. Depending on the X server software that you are using, you may need to complete the tasks in a different order.

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
   ```

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 operating system group and user:

- Oracle Inventory group (typically, `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.

  Note: If Oracle software is already installed on the system, then the existing Oracle Inventory group must be the primary group of the operating system user that you use to install new Oracle software.

- Oracle software owner user (typically, `oracle`)

  You must create the Oracle software owner user the first time you install Oracle software on the system. This user owns all of the software installed during a given installation. This user must have the Oracle Inventory group as its primary group.

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

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 all subsequent Oracle software installations on that system. However, you can choose to create different Oracle software owner users for different installations.

Note: As an alternative to creating local users and groups, you can create the appropriate users and groups 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.

The following sections describe how to create the Oracle Inventory group and the Oracle software owner user:

- Oracle Inventory Group
- Oracle Software Owner User

Oracle Inventory Group

If Oracle software is already installed on the system, then the existing Oracle Inventory group must be the primary group of the operating system user that you use to install new Oracle software. This section describes how to identify an existing Oracle Inventory group and, if required, to create it.

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 if the Oracle Inventory group exists, enter the following command:

```
more /var/opt/oracle/oraInst.loc
```

If the output of this command shows the `oinstall` group name, then the group already exists.

If the `oraInst.loc` file exists, then the output from this command is similar to the following:

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

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

If the `oraInst.loc` file does not exist, then enter the following command to create the `oinstall` group:

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

Note: Oracle recommends that you use the group name `oinstall` for the Oracle Inventory group.

Oracle Software Owner User

You must create an Oracle software owner user if any of the following conditions is true:

- An Oracle software owner user does not exist; for example, if this is the first installation of Oracle software on the system.
- An Oracle software owner user exists, but you want to use a different operating system user.

Note: In this document, the Oracle software owner user is referred to as `oracle`.

To determine if an Oracle software owner user named `oracle` exists, enter the following command:

```
# id oracle
```

If the `oracle` user exists, then the output from this command is similar to the following:

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

If the user exists, then determine whether you want to use the existing user or create a new user. If you want to use the existing user, then ensure that the user's primary group is the Oracle Inventory group.

Note: If necessary, contact your system administrator before using or modifying an existing user.

If the Oracle software owner user does not exist or if you require a new Oracle software owner user, then create it as follows:

Note: In the following procedure, use the user name oracle unless a user with that name already exists.

1. To create the `oracle` user, enter a command similar to the following:

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

   In this command:

   - The `-g` option specifies the primary group, which must be the Oracle Inventory group, for example `oinstall`.
   - The `-G` option specifies optional secondary groups.

2. Set the password of the `oracle` user as follows:

   ```
   # passwd oracle
   ```

If the `oracle` user exists, but its primary group is not `oinstall`, then enter a command similar to the following, specifying the primary group using the `-g` option and any required secondary groups using the `-G` option:

```
# /usr/sbin/usermod -g oinstall -G dba oracle
```

Checking the Software Requirements

The system must meet the following minimum software requirements, depending on your HP-UX PA-RISC distribution and version.

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
- PHKL_25842: Thread Abort
- PHKL_25993: thread nostop 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:

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

Checking the Hardware Requirements

Oracle SES requires a minimum of 3 gigabytes of disk space. This includes 2 gigabytes to install and approximately .5 gigabyte 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 gigabytes disk space
- 1 gigabyte RAM

To index 1,000,000 documents:

- 20 gigabytes disk space
- 6 gigabytes 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/dmesg | 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.

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

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

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

Parameter	Recommended Formula or Value
ninode	(8*nproc+2048)
nkthread	(((nproc*7)/4)+16)
nproc	4096
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. However, UNIX operating systems require that only `root` users can bind to ports less than 1024. Follow these steps to install Oracle SES on a port number less than 1024:

1. During installation, specify a port greater than or equal to 1024 (for example, 7777).
2. After the installation is complete, follow the instructions in the following section, "Changing the Oracle SES Middle Tier Port", to change to a port number less than 1024 (for example, 80).

Changing the Oracle SES Middle Tier Port

To change the Oracle SES middle tier port, follow these 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`. (Make sure that the new port is not already in use.)
3. To change to a port less than 1024:
   a. Run `chgrp -R root $ORACLE_HOME/jdk`
   b. Log on as the root user and perform step 5.
4. To change from a port that was less than 1024 to a port that is greater than or equal to 1024:
   a. Log on as the root user.
   b. Run the following:

      ```
      chown -R <user> $ORACLE_HOME/search/opmn
      $ORACLE_HOME/oc4j/j2ee/OC4J_SEARCH/persistence
      ```

      where *<user>* is the user that installed Oracle SES
   c. Log off from root user and log on as the user that installed Oracle SES.
5. Start the middle tier with the following command:

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

Notes:

- 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.

Installation Tasks

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_DVDROM`. If your mount point is different, then substitute the correct mount point name for all references to `/SD_DVDROM`.

To start the installer:

1. Ensure that you have checked all the minimum requirements, as described in "Pre-Installation Tasks".
2. Log in to the computer as the user who will install Oracle SES. (Oracle SES must be installed by a non-root user.)
3. Insert the Oracle Secure Enterprise Search DVD.
4. If your computer does not have automount, then see "Mounting the DVD-ROM" for steps on mounting the DVD-ROM manually.
5. Start the installer:

   ```
   cd
   /SD_DVDROM/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.

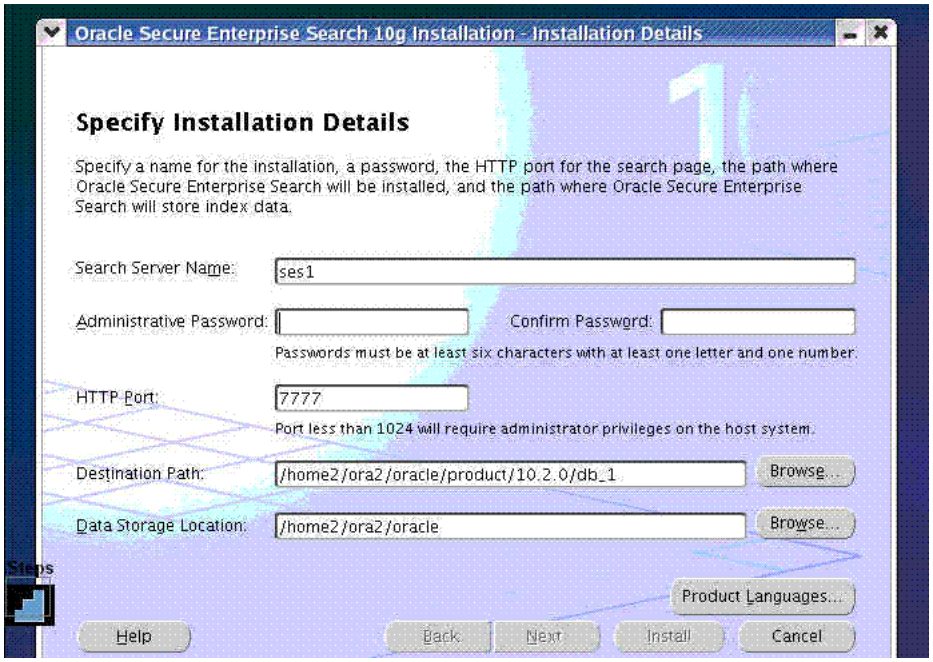
   In the Oracle Universal Installer, the only value that you must specify is the administrative password. The remaining values are set to a default, but they can be overridden. Following is the list of the installation parameters:

   - **Search Server Name**: Name for your search server. To connect multiple Oracle SES instances to the same directory (authorization) server, each instance must have a distinct name.
   - **Administrative Password**: The password that you will later use to log in 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`.

     See Also: "Installing on a Port Number Less Than 1024" on page 10

   - **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-ROM

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

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 /SD_DVDROM
```

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 /SD_DVDROM pfs-rrip xlat=unix 1 0
```

3. Mount the DVD by entering the following command:

```
# /usr/sbin/mount -F cdfs -o rr /dev/dsk/cxdytz /SD_DVDROM
```

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

4. Log out of the root account.

```
# exit
```

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 similar installations on more than one computer. Additionally, you can use silent installation when performing the Oracle SES installation from a remote location using the command line.

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.

The Oracle SES DVD provides the following templates for the Oracle Universal Installer response files:

Table 1 Response Files

Installation type	Response file
Oracle SES installation	`server.rsp`
Oracle SES upgrade	`upgrade.rsp`

Response files are located in the `/response` directory on Disk 1 of the Oracle SES DVD. You must edit the response file according to your requirements for silent installation.

To use a response file, first copy it from the DVD to your system. For example:

1. Go to the `/response` directory
2. Copy the `server.rsp` file to your system hard drive:

```
# cp server.rsp /private/ses/response/server.rsp
```

Editing the Response File

Use any text editor to edit the response file to include information specific for 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. Remove the comment from the variable values in the response file before starting the Oracle SES installation.

Specifying a Response File and Starting the Installation

Before you specify a response file, ensure that all the 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:

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

WARNING: During installation, response files may be copied to subdirectories in the Oracle home. When the installation completes successfully, these copies are removed. If the installation fails, however, these copies may not be removed. If you have provided passwords or other sensitive information in your response files, then delete any copies of the response files that remain in your file system.

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 $ORACLE_HOME/oraInventory/logs directory.

The silentInstall<Date_Time>.log file contains the following line if the installation was successful:

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

The corresponding installActions<Date_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, the installation fails.

Post-Installation Tasks

This section describes how to complete postinstallation tasks after you have installed the software.

The following URLs indicate a successful installation:

Search: `http://host:port/search/query/search`

Administration tool: `http://host:port/search/admin/index.jsp` (Log in using the password specified during installation.)

Certifications and Patches

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

The requirements and certifications included in this installation guide were current at the time this guide was published. See the certification matrix on the Oracle*Metalink* Web site for the most up-to-date information.

See Also: "Oracle Support Services" on page 19

Uninstallation Tasks

To uninstall 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 then 1024 and the middle tier ran as `root` user, then after uninstallation there could be files left under `$ORACLE_HOME`. After the uninstall completes, log in as the `root` user and delete those files.

Upgrading Oracle Secure Enterprise Search

This section contains the following topics:

- Pre-Upgrade Tasks
- Upgrade Tasks
- Silent Upgrade Tasks
- Post-Upgrade Tasks

See Also:

- Appendix A, "10.1.6 to 10.1.8 Upgrade" in the *Oracle Secure Enterprise Search Administrator's Guide*
- "Upgrade Issues" in the *Oracle Secure Enterprise Search Release Notes*

Pre-Upgrade Tasks

This section contains the following topics:

- Backing Up the Oracle SES 10.1.6 Instance
- Upgrading on a Port Number Less than 1024
- Moving QTA Jar Files

Backing Up the Oracle SES 10.1.6 Instance

There is no downgrade support from 10.1.8. Before upgrading, first shutdown Oracle SES, then back up the 10.1.6 `ORACLE_HOME` directory, the `oradata` directory, and the entire `oraInventory` directory to a different location. (The `oraInventory` directory is a central inventory of all Oracle homes. Its location is specified in `/var/opt/oracle/oraInst.loc`.)

For example:

```
$ORACLE_HOME/bin/searchctl stopall
cd ~
msu password
tar cvf ses.tar {$ORACLE_HOME}
tar cvf ses.tar {oraInventory}
tar cvf ses.tar {oradata}
```

If the upgrade should fail, then restore your 10.1.6 instance by cleaning up the `ORACLE_HOME`, `oradata`, and `oraInventory` directories and using the `tar` command to copy them back to the same location. For example:

```
tar xvf ses.tar {$ORACLE_HOME}
tar xvf ses.tar {oraInventory}
tar xvf ses.tar {oradata}
```

After your 10.1.6 environment is back, you can retry the 10.1.8 upgrade.

Upgrading on a Port Number Less than 1024

If the 10.1.6 installation is bound to a port number less than 1024, then first change the Oracle SES middle tier port to a port number greater than 1024. After the upgrade completes, you can change the Oracle SES middle tier port back to a port number less than 1024.

See Also: "Changing the Oracle SES Middle Tier Port" on page 10

Moving QTA Jar Files

For any custom query-time authorization (QTA) jar files in the 10.1.6 Oracle home directory, manually move them into the new Oracle home directory or into an entirely new location. Also, for any sources that used these QTA jar files, update the location in the **Jar File Name** field on the **Home - Sources - Authorization** page. This protects you from inadvertently deleting these jar files if you remove the old Oracle home directory after the upgrade process.

Upgrade Tasks

When the Oracle SES installation process detects an existing Oracle SES instance on the computer, it will give you the option of either upgrading the existing installation or creating a new installation.

If you choose to upgrade an existing installation, then simply follow the prompts to select the location where the Oracle SES 10.1.6 software is installed, the administrative password that was set with this existing installation, and the location where the new Oracle SES 10.1.8 software will be installed. The 10.1.8 location must be different than the 10.1.6 location; that is, you cannot install 10.1.8 inside the 10.1.6 Oracle home.

Silent Upgrade Tasks

A silent upgrade 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.

Response files are located in the `/response` directory on Disk 1 of the Oracle SES DVD. You must edit the response file according to your requirements for silent upgrade.

To use a response file, first copy it from the DVD to your system. For example:

1. Go to the `/response` directory
2. Copy the `upgrade.rsp` file to your system hard drive:

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

Use any text editor to edit the response file to include information specific for your system.

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:

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

WARNING: During upgrade, response files may be copied to subdirectories in Oracle home. When the upgrade completes successfully, these copies are removed. If the upgrade fails, however, these copies may not be removed. If you have provided passwords or other sensitive information in your response files, then delete any copies of the response files that remain in your file system.

Post-Upgrade Tasks

WARNING: The Data Storage Location specified in the Oracle SES installation is shared by both the 10.1.6 and the 10.1.8 installations. If this data storage directory is *inside* the 10.1.6 Oracle home, then be very careful *not to remove* this directory after upgrading to 10.1.8.

Migrating Federated Sources

To migrate federated sources in the 10.1.6 installation, you must edit each federated source in the 10.1.8 installation. On the **Home - Sources - Customize Federated Source** page, enter the Web services URL for the source.

After editing the source, you can have public federated search on the remote Oracle SES instances. For secure federated search, see the section "Setting Up Secure Federated Search" in the *Oracle Secure Enterprise Search Administrator's Guide*. If the remote Oracle SES instances are using the 10.1.6 installation, then they also need to be upgraded to 10.1.8 for secure federated search to work.

Migrating Single Sign-On Configuration

If the 10.1.6 Oracle SES instance had been configured to use a single sign-on URL to access the Oracle SES search page and administration tool, then do the following to migrate the configuration to 10.1.8:

1. Edit the `$ORACLE_HOME/oc4j/j2ee/OC4J_SEARCH/config/http-web-site.xml` file. In the element `web-site`, change the attribute `protocol` from `"http"` to `"ajp13"`:

   ```
   <web-site ... protocol="ajp13" ... >
   ```

2. Restart the Oracle SES middle tier using `searchctl restart`.
3. Configure `mod_osso` to protect the search with SSO. Add the following lines to `$AS_HOME/Apache/Apache/conf/mod_osso.conf` within the `IfModule` element:

   ```
   <Location /search/query/formlogin.uix>
     require valid-user
     AuthType Basic
   </Location>
   ```

4. Restart Oracle HTTP Server. On the OracleAS middle tier host, run the following command:

   ```
   $AS/opmn/bin/opmnctl restartproc process-type=HTTP_Server

   opmnctl: restarting opmn managed processes...
   ```

Changes in 10.1.8

- If 10.1.6 was connected to Oracle Internet Directory, then after upgrade, you may see "orclApplicationCommonName=oesEntity_ ... " in the user name on the **Global Settings - Identity Management Setup** page. This user was created implicitly by Oracle SES 10.1.6 when the instance connected to Oracle Internet Directory, and it was used internally for Oracle Internet Directory authentication and authorization. After upgrade, 10.1.8 continues to use the user for Oracle Internet Directory authentication and authorization.
- In 10.1.6, the jar files for custom crawler plug-ins were located in the `$ORACLE_HOME/search/lib/agent` directory. This directory does not exist in 10.1.8. These jar files from 10.1.6 were migrated to the `$ORACLE_HOME/search/lib/plugins` directory.

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 restartall`. Users are prompted for a password when running `searchctl` commands on UNIX platforms.

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:

- Read the *Oracle Secure Enterprise Search Administrator's Guide*, particularly *Appendix A, Upgrade Issues*.
- Follow the Oracle Secure Enterprise Search tutorial:

  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. 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.
- 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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